of thoracic phthisis. Indeed, I am not exaggerating I affirm that they are almost always practically ignored ether, even when the changes are of a pronounced kind, are of much consequence from a clinical point of view y remark in passing that no value whatever can be hed to certain phenomena supposed to be related to isis such as the presence of chloasma or undue ular irritability over the chest. A peculiar hypertrophy p or both mammary glands has been described, especially ales, due to a chronic mammitis, but I cannot remember ng noticed it in any of my cases The following are the tions of the chest walls to which I desire to draw cular attention as practical factors in relation to thoracic isis, in different cases and they are often more or less died.

The *superficial tissues* and *muscles* are usually more or wasted and this wasting may attain such a degree, even tients previously well covered, stout, or muscular, that ely anything but skin is left, all fat and even muscle ng practically disappeared The intercostal muscles are often much atrophied. Sometimes the muscles are more ed on the side of disease when it is unilateral. Surely portance of such a condition of things clinically is self nt, both in relation to symptoms and physical signs.

Another condition to be noted, of very common rence, is *abnormal rigidity* of the bony and cartilagi- framework of the chest, which may reach an extreme ee, so that the walls are practically immoveable. This tion is naturally most frequent and pronounced in elderly nts, and is often quite independent of the phthisis, but it no means uncommon in comparatively young subjects I believe may be definitely associated with a chronic sical process. In any case, when present, it is a change h always demands due recognition and an endeavour ld be made to estimate its degree and effects

Apart from an originally small and contracted, or so- d "phthinoid" or "alar" chest, the *changes in its shape capacity* produced by intra-thoracic morbid processes manifested externally in its walls, should also in my ion, be regarded as an important pathological factor in a of phthisis This region as a rule comes to present con able deviations from the normal as regards size and rmation, with marked irregularities on the two sides, the thorax may ultimately become practically a ned one These changes are naturally most pronounced ung and delicate subjects, whose ribs and cartilages are and yielding, but they also occur later and it is very rkable what a wreck an originally fine chest may ately become

In those cases where phthisis supervenes on previous *rmities of the chest,* these of course should always be n into account They may be of different kinds but are cially [illegible] nt when they have resulted from caries of spine [illegible] g to angular curvature and its associated itions, which cause serious embarrassment of the intra- acic structures at the best but when these structures are lved in phthisical changes, extensive it may be, the culties are proportionately increased.

The implication of the walls of the chest themselves *uberculous* lesions could hardly be overlooked and course they may be of considerable importance In ll instances they are obviously associated with the ks or cartilages Occasionally one meets with cases re there has been more or less extensive tuber ous disease of the absorbent glands in the super- al structures, some of which may still remain, while ers have caseated and suppurated, leaving behind un lthy scars, ulcers, or sinuses. Very rarely a kind of erculous infiltration of the tissues is met with, and in a ent case of rapidly progressive tuberculosis within the st with which I am acquainted, the mischief made its y externally through the walls and definite tuberculous nifestations were subsequently observed in connexion with soft structures

The rare condition—*subcutaneous emphysema*—must be ntioned as a possible complication in a case of thoracic thisis, in relation to the superficial tissues. It may not y follow mediastinal emphysema but has resulted very eptionally from the rupture of a pulmonary cavity into superficial tissues, as well as from perforation of a yngeal ulcer When present it can hardly be overlooked.

In this connexion it may be noticed also that morbid nges affecting the *diaphragm* may be associated with [illegible] phthisis which, though difficult to recognise or demonstrate during life, certainly in some cases contribute to the clinical phenomena, and it is well to bear in mind the possibility of their existence.

Variations in morbid conditions — The pathological changes which I have thus comprehensively sketched differ widely in their exact nature in individual cases of thoracic phthisis, as regards the structures actually involved, the extent and distribution of the mischief, the mode of progress of the lesions, and their combinations In some instances they are essentially destructive and progressive, especially when acute or subacute, and no attempt at arrest or repair appears to be made. Even in acute cases, however, the active changes may cease, things settling down into a chronic type of phthisis, or a practical cure may ultimately be effected In a large majority of cases the morbid processes are more gradual and slow in their advance, though progressive, while in others they remain unchanged for long periods, being often confined to a limited area, or reparative changes become a prominent feature, the fibroid element being then usually marked. While, as a rule, the thoracic conditions in phthisis are fairly simple and easily understood by anyone who has taken the trouble to study them and to gain a comprehensive knowledge of their possible nature, in not a few instances they become highly complicated, especially when the progress of the disease has been very chronic. The lungs themselves often present combinations of morbid changes sufficiently complex, from their character and extent; but when in addition, as is commonly the case, the other structures mentioned become more or less involved in different ways, whilst, it may be, independent but associated diseases affecting the chest are also present, the state of things is likely to be highly embarrassing, both from the pathological and clinical point of view. Moreover, some acute or accidental complication may at any time alter the complexion of a case very considerably and add to its difficulties.

With regard to the lungs, it may be stated generally that in the ordinary run of cases of phthisis different changes exist in different parts of the same organ, which are not only evident on post mortem examination but can be recognised during life. Thus it is usual to have one or more, it may be several, cavities in the upper part, with fibrotic changes not uncommonly, with further down areas of tuberculous and pneumonic consolidation undergoing caseation and softening, while the lower lobe exhibits miliary tubercles, scattered or in groups, which may be extensively distributed and are often firm or sclerosed Sooner or later both lungs are more or less involved, and the disease is more frequently bilateral at an early period, according to my experience, than is usually supposed. In very chronic cases both lungs may present remarkable appearances, associated with extensive or general pleuritic adhesions, of which I have here interesting specimens from cases which have occurred at University College Hospital within a recent period.

Pathological effects of phthisical and associated changes — Under this head it may be well to indicate briefly what are the chief practical effects of the various lesions met with in cases of thoracic phthisis, and they may be thus summarised —

1 Temporary interference with the action and functions of the respiratory organs, by consolidation and associated changes or by pleural effusion, which afterwards clear up. These may occur at an early period or during the course of a case and for the time being are often serious The heart may also be more or less disturbed in its action by such conditions.

2. Absolute destruction and consequent uselessness, either of a limited area or of extensive tracts, of the pulmonary tissues, thus permanently impairing in various degrees the respiratory function. Even when the phthisical process is arrested after cavities have formed, and fibrosis has taken place, the involved portion of the lung can be of no further service, though other parts of the organ may take on compensatory work.

3. The formation of morbid products of different kinds, often purulent and of a wasting or exhausting nature, and usually discharged as expectoration. Any kind of pleural effusion which has to be removed again and again, as well as empyema, also deserves mention under this head.

4 The formation and absorption of toxins or other deleterious products—associated with tubercle bacilli tubercle and its changes pneumonia, suppuration, &c. It

the well within a few hours of commencement of cesspool emptying. But there are other circumstances to be taken into account before a decision is arrived at. From the plan it will be seen that *the hole freshly made in the garden for the reception of cesspool contents was dug against a wall that runs toward and within three or four feet of the particular well, and that nearly midway between this hole and the well the suction pipe of pump No. II. passes immediately beneath the foundation of the wall on its way to the well.* It cannot be doubted that we have here special facilities for rapid passage of foul fluid from the recently removed cesspool contents to the particular well. Fluid matters poured against the wall would travel towards lower ground most readily and quickly along the foundation of this wall and could be thus led in the direction of the well; and, further, upon reaching a spot nearly midway between this starting-point and the well, such liquid matters could gain access to the trench in which the suction pipe of pump No. 2 had originally been laid, and following this new course alongside that pipe would be conducted directly into the well. Whether or not the above was the course actually taken by foul liquid matters soaking from the cesspool deposit hole to the well cannot now be determined. Mr. Freeman sought to put this surmise also to the test, but he failed for the reason that the plumber who had meanwhile been employed in laying on the Norwood Water Company's supply to the terrace had removed the suction pipes of the wells. In removing the suction-pipe of pump No. 2 the interval of ground between the cesspool deposit-hole and the well had become so greatly disturbed that trustworthy evidence on the above point was not to be had."

In 1883 Mr. W. H. Power (now the chief medical officer of the Local Government Board) made an important report on an outbreak at Hitchin on which Dr. Buchanan makes the following remarks in his report as chief medical officer: "In a report by Mr. Power on an epidemic prevalence of enteric fever at Hitchin fresh illustration is given of the now well-known fact that the distribution of enteric fever often follows, both in place and time, the distribution of impure water in such a way that the water cannot but be regarded as conveying the infection of the fever. The particular interest of the Hitchin outbreak arises from the circumstances that it was the water-supply of the sanitary authority which had become thus infected and that the impurity, certainly connected (as Mr. Power's report shows) with the fever, yet had not been recognised as the cause of the fever until his inquiry. In these respects and knowing the ability of cholera to be conveyed by water in the same manner as enteric fever, the case of Hitchin is of particular value to the present report." Mr. Power's description is as follows:—The public water-supply of Hitchin having come thus under suspicion, the facts already recorded as showing various risks to the water on its passage to the service reservoir appeared of graver import, and now an additional and exceptional risk to the water, not as yet defined, demanded especial consideration. This further opportunity for pollution of the public water-supply consisted in the circumstances that at the pumping station an eight-inch overflow pipe, contrived to convey surplus water from the receiving tank and pumping well into the river Hiz, permitted on occasion reflux of the river water into the tank. Discovery of this defect in January last was not only startling but was in a way satisfactory to the sanitary authority, for it went far to explain a difficulty that had for some time troubled persons concerned with the waterworks—viz., that without obvious cause, suddenly and at uncertain intervals, the water in the pumping well had been apt to become turbid. Along with identification of the cause of this occasional turbidity of the water service came recognition also that coincidence of two separate conditions was requisite for back flow of the river into the tank. These were slight rise in the level of the water in the river and a reduction by pumping operations of the level of the water in the tank and pumping-well to the extent of arresting overflow to the river from the tank through the overflow pipe. How often in times past these conditions have been coincident it is impossible to say, since the occasions of turbidity of the water-supply have not been recorded. But in the winter just passed, under circumstances of admittedly exceptional liability of the river to flood, and with modification last November of the routine of the engine-man's labours bringing about a doubling on pumping days of the hours of pumping, opportunities for coincidence of the conditions requisite for pollution of the pumping-well have seemingly been more frequent, and unquestionably during this winter turbidity of the water in the pumping-well has occurred on several occasions. The defect of the overflow pipe here noted was, it should be stated, rectified on Jan. 13th, since which no further turbidity of the water-supply has been observed. It would perhaps be difficult to over-estimate the gravity of the above defect in the water service apparatus. For the Hiz, which in its course throug the town is hardly more than a ditch a few feet in widt receives refuse matter cast into it from poorer dwellings abutting on it, and the river water, therefore, is liable contain some of the most dangerous qualities of sewage. O one occasion of cursory inspection of the river I mysel observed littered on the edge of the stream, just above th point of entrance to it of the overflow pipe from the wat works and ready to be carried there by the first rise in le of the river, diarrhœal excrements cast out from the ba windows of dwellings on its banks. It would seem, ther fore, that given the existence of enteric fever in Hitchin a the not rare chance of excrement from fever patients gettin into the river, with the liability of the river water to occasion supplement the public water-supply, there shou be no difficulty, if the water service has really been i fault, in getting some more precise explanation of th epidemic diffusion of the fever in the town than h yet been afforded. Accordingly I sought to ascertai whether or not—having regard to a two weeks' int (or thereabouts) such as usually elapses with enteric fe between the occasion of infection of an individual an the first beginning of his illness—there had been any observe occasions of turbidity of the public water-supply that cou have been related to outbursts of fever in the There was, however, difficulty in ascertaining this, for, has been mentioned, no record has been kept at Hitchin the occasions of turbidity of the water service. In the en was able to fix the date of one only of such occasion arriving at it in the following fashion. The outburst fever in mid-January, which was most recent, and the fac about it most likely therefore to be remembered, was ta as a test case, so to speak, of ability of the water service spread fever, and information was sought as to turbidity the town water two weeks previously—viz., about the end December—with the following result. On the afternoon Saturday, Dec. 30th, a day on which a heavy rainfall 0·67 inches was registered in Hitchin, very general complai had, it turned out, been made to the waterworks man that the water delivered by the public mains was thick turbid; and examination forthwith undertaken by the wat works people revealed the fact that the water in the pumping well and in the service reservoir also was in like conditio Seemingly, it was the amount on this occasion of turbidi and its close sequence on the rainstorm that raised among people concerned about the waterworks suspicion as to origin and which led eventually to detection of the offe ing overflow pipe. Now, so far as I could learn, water in the Hiz on Dec. 30th, rose suddenly rapidly, and it could at once have passed back, and in siderable volume, through the overflow pipe into the ing-well, for in view of the storage of water necessary f Sunday's consumption pumping operations had by 4 P.M. Saturday lasted nine hours, thus reducing to a comparativel low level the 'spring water' in the pumping-well, an leaving the pipe intended to conduct surplus water from th pumping-well into the river to serve as a conduit for bac flow of river water into the pumping-well. In the face the above evidence it is impossible not to admit that in probability there has been direct relation between the ci cumstances of pollution on Dec. 30th of the public wat service and the outburst of fever in mid-January. As the outburst in mid-December, however, like causation not, in the absence of like positive evidence, be quite confidently affirmed. But looking to the very simila behaviour of the two outbursts, and to the other evi that has been adduced tending to convict the water servic as responsible for the observed distribution of the fever, i is easy to credit for this, the first outbreak, similar dir relation to the public water service. And in this connexio may be noted some facts or coincidences that are interestin though not perhaps worthy to be classed as evidence. regard to both outbursts there were matters connected wi the water supply that, on a hypothesis of water causatio might have been concerned on each occas [illegible] the oth wise unexplained rapid declination and [illegible] ruary, ou of the outburst. As regards the second [illegible] burst, discovery of the defaulting overflow pipe and in mid-January of this source of pollution of the public water service was followed some two weeks later by sudden cessation of the fever, and similarly complete emptying and thorough cleansing on Dec. 14th of the storage or service reservoir (which, for the purpose of the present hypothesis, may be regarded as having been the storage reservoir of fever material also) was followed again in about two weeks by well-nigh complete disappearance of all fever that can be considered as related to any common cause of the December outburst."

In 1889 Dr. J. Ashburton Thompson, chief medical inspector of the Board of Health of New South Wales, issued a report on an outbreak of typhoid fever at Balranald which he traced to pollution of water in a certain tank which was supplied with rain-water and was sunk in the marly clay and not known to be puddled outside; near it were several cesspits. It was shown that 14 households, in all 124 persons, were supplied with this water, and an analysis of the cases in those 14 households in which that water was regularly drunk, in comparison with that of households the people of which are not known to have drunk it, gave the result that of 124 persons who regularly drank the water 34 per cent. suffered; while of 476 persons whose relation to the water cannot be defined (that is, who were not known to have drunk it) only 5·2 per cent. suffered.

I am indebted to my friend Professor Brouardel, for many years Doyen of the Faculty of Medicine of Paris, for the particulars of three outbreaks of typhoid fever which he investigated and reported on in 1887. The first occurred at Pierrefonds. In August and September, 1886, 24 persons from Paris and Versailles went to live in three adjoining houses at Pierrefonds; 20 of these persons contracted typhoid fever more or less severely, and four of them died. It was ascertained that cases of enteric fever had occurred in these houses before, one of them having been visited five times by this fever between 1874 and 1883. The water-supply in the houses on both sides of the street was from wells which communicated with one another through the very porous soil. This was proved by the fact that a few years before a fruiterer who kept one of the houses on the other side of the street let fall a can of oil into his well, and three or four days afterwards the oil appeared in the well of one of the houses in question. The subsoil water supplying these wells passed either alongside of, or below, the cesspools of the different houses. These cesspools were not watertight, being constructed of small stones without any cement. One of them, with which two of the infected houses were connected, had a small drain from its lower part discharging into the neighbouring stream. This drain at the time of inspection was blocked, the cesspool had not been emptied for 30 years, and it was almost full of hard deposit which had to be removed with a spade. The wells for the two houses were dug at distances of 9 and 20 metres respectively from this cesspool and in such a position that the level of the bottom of the cesspool was a little above that of the surface of the water in the wells. To increase the danger the rain-water from the roofs was also discharged into the cesspool, so that whenever there was a heavy shower the water washed the fæcal matters into the subsoil and thence into the wells. A specially interesting observation was made with regard to the dates of attack. In one house five persons out of seven were attacked, all on August 27th or 28th. In another seven persons out of nine were attacked between Sept. 17th and 22nd except one domestic who was attacked on Sept. 10th, whereas in the third house all the members of the family were attacked between Sept. 25th and 28th, so that each family was attacked at a different time, but all the members of one family were attacked at about the same time. Dr. Brouardel points out an interesting explanation of this in the fact that there were heavy rains on August 2nd, 22nd, 23rd, and 24th, and Sept. 3rd, and that the attacks at these three houses were in each case about from 20 to 25 days after these rains. He also adds that the difference in the distance of the wells from the cesspools no doubt had some relation with the difference of the dates of the attacks. Samples of water from these wells were bacteriologically examined by Dr. Chantemesse, the director of the Bacteriological Laboratory at the Faculty of Medicine of Paris, and by M. Widal, and they obtained from one of them (a month after the outbreak of the disease) cultivations of the Eberth-Gaffky bacillus which they identified by comparison with cultivations obtained from the blood of the spleen of a person suffering from typhoid fever. The water was also chemically examined but it was found that the organic matters in solution in it had been almost completely oxidised. Of this Dr. Brouardel remarks: "This is an observation of which the importance is easily understood in the discussion of the question of the purification by the soil of sewage water charged with excremental matters. It shows that the soil destroys organic matters which come in contact with it; they undergo nitrification in it; but it is not the same for the germs of typhoid fever. They persist a long time in the earth; they lived for more than a month in the water of one of the wells of Pierrefonds." He then goes on to show that a case of enteric fever had been imported from Paris into one of those houses at Pierrefonds at a remote period. As is very usual in such cases the intensity of the disease varied very much among the persons attacked. Of this Dr. Brouardel says: "Of 24 persons 20 were attacked. Of these four died; six recovered after a well-characterised attack of typhoid fever; six others suffered from *états fébriles typhiques*; two others from short attacks called *embarras gastriques*, apparently not specific; and two had violent attacks of fever. The character of these different manifestations only obtains its true significance because they were simultaneously developed among the same surroundings." "If these morbid conditions had not burst out in the same focus their nosologic value would certainly have been misunderstood." On this point he quotes P. Lorain, "De la Température du Corps Humain et de ses Variations dans les Divers Maladies." "Perhaps there is a *typhoidette* as there is a *varioloid*. There is no reason why one should not admit this hypothesis, but it is a hypothesis." Of this Dr. Brouardel says: "That which Lorain considered as a hypothesis seems to me to-day absolutely proved, and I demand that one should admit in nosology this name of *typhoidette* which has the great advantage of recalling, more than the names actually used, the source from which some of these gastro-intestinal conditions originate." Dr Brouardel then attacks the interesting question of immunity and asks whether these mild forms of the fever infection afford a relative immunity from a fresh attack of the disease. "Does the *typhoidette* differ from typhoid fever as the varioloid does from variola?" He considers that it does so and that it is to this cause that we must assign the relative immunity which the inhabitants of countries often visited by typhoid fever enjoy, and I may add here that this very fact has been observed among the Boers during the present war.

The second outbreak, which took place at Clermont-Ferrand, prevailed from September to December, 1886, and was investigated by Dr Brouardel and Dr. Chantemesse. This outbreak was "more severe and more generally spread in the southern portion of the town which includes the best quarters." There were two separate outbreaks, not only at Clermont-Ferrand but at Mont-Ferrand, towns two kilometres apart. These outbreaks "had the same course in the two towns and their maximum height was almost on the same days." On the other hand, the outbreak did not attack Royat and Chamalières, two little towns equally near to Clermont-Ferrand, yet the explanation was found in the fact that Clermont-Ferrand and Mont-Ferrand are supplied with the same water, while Royat and Chamalières have each a separate and independent source of supply. It was observed that the persons in the two infected towns who drank only boiled water or mineral water were not attacked, and that in a convent at Clermont Ferrand, supplied by a special fountain in its park there was only one case of typhoid fever and that occurred in the case of a person who had visited her parents and had drunk of the town water-supply. The first outbreak appears to have been caused as follows. In August a woman suffering from typhoid fever lodged in a villa at 35 metres from the water conduit; the cesspool of the house was not watertight and there was a washhouse which discharged its water into a stream passing over the water conduit, but the landlord stated that the visitors' washing was done in the public laundry at Royat, close to which was a water conduit for Clermont-Ferrand, the pipes of which were "made of earthenware in such bad condition that eight days after our inspection at the end of December the municipality of Clermont has thoroughly replaced the earthenware pipes by iron ones." 20 days afterwards typhoid fever broke out in the town, appearing in nearly all quarters at once. The second outbreak, on the other hand, appears to have been caused by the excretal matters of two typhoid fever patients having been thrown out in the street in the month of October "on this soil of lava cracked with fissures of 20 to 25 metres in depth either at the point where the water of Clermont is obtained or close to it." The second outbreak took place at Clermont-Ferrand and at Mont-Ferrand at the beginning of November and especially towards the middle of the month. The typhoid bacillus was found in the water in the cistern of a house where there had been typhoid fever during the second outbreak. This cistern had not been cleaned for two years and a young girl who drank water from it had an attack of typhoid fever.

The third report, kindly forwarded me by Dr. Brouardel, was on an investigation made by himself and Dr. Chantemesse in 1887 into some outbreaks of the disease in the barracks of the Marines at Lorient. They reported that while the fever raged among the troops the civil population remained almost intact, while during the cholera epidemic in 1866 the population was attacked and the soldiers almost all escaped. It appears that the inhabitants of Lorient and the troops drank water coming from two different places. The causes of the outbreak were stated to be as follows: "The principal cause is the intermittent infection of the drinking-water; the secondary cause is defective installation of the latrines in the barracks. It appears that the excremental matters of the town are collected in moveable pails in which they are carried outside the town and spread upon the fields as manure twice a year, in the beginning of February and during August. This is regularly done by the farmer of the fields, under the surface of which the waters which supply the arsenal collect. The springs under these fields are produced by the rain-water which falls on the neighbouring hills and in the valley above the fields. Sometimes the level of the underground water which forms the spring is only separated from the surface of the soil by a bed of pebbles of a few centimetres in thickness. These waters, which at their point of collection are already polluted, arrive at the arsenal in old pipes which are not watertight. The principal conduit traverses the subsoil of heavily manured meadows and of the garden of the hospital on which the excreta of all the patients are constantly being thrown. In the passage of this conduit across that garden the conditions are such that it is not possible that the drinking-water should not be sometimes polluted. The secondary cause of propagation of the fever is the infection of the air due to the installation of latrines which are mere wooden tubs placed immediately under the windows of the barrack-rooms. As soon as these latrines are infected by typhoid excreta they can spread around the germs of the disease. On the first and second floor of the barracks one window is more particularly situated immediately above the tubs; the three beds placed by the side of this window on the first and second floors have been occupied by soldiers who have all been attacked with typhoid fever. Around them in the same messes of the barracks the victims of the disease were much more widely separated. Thus twice a year human excrement is thrown upon the meadows where the source of water which supplies the barracks of the arsenal springs and twice a year an epidemic of typhoid fever bursts forth. The manuring takes place first in January and February and then in August; the epidemics appear in March and in October or November. The rain is the bond which closely unites these two facts, the manuring of the land and the explosion of typhoid fever." Further proof, if any were necessary, is to be found in the fact that "for some time past in order that the recruits may avoid the dangers of living in the barracks of the arsenal they have been made to encamp on their arrival at the 'Polygone de Lorient' supplied by the town water. While typhoid fever has raged in the arsenal at its ordinary periods there has not been a single case of it among the recruits."

Among instances of the pollution of the water of deep wells are the following. In 1879 (ninth report of the medical officer of the Local Government Board) is a report by Dr. Thorne Thorne of an outbreak of enteric fever at Caterham and Redhill which Dr. Buchanan summarised as follows: "(*b*) Dr. Thorne's investigation of a strongly-marked outbreak of enteric fever at Caterham and Redhill resulted in conclusive proof of the manner of its distribution and was of singular interest as demonstrating how limited a quantity of infective material may suffice under favouring circumstances to do wide-spread mischief. In one of the wells of the local water company a new adit was being formed and among the workmen was one who during his occupation in the adit suffered from a slight attack, at the time unrecognised, of enteric fever. He, when pressed by diarrhœa, used for his relief a bucket that was provided for raising to the surface the chalk dug from his workplace underground. It was found to be certain that the well-water could thus have become contaminated and there was no suggested way of its contamination by any other means. For the rest, quite satisfactory evidence connected the supply of water from this well with the prevailing epidemic that extended beyond Caterham to Redhill and other localities supplied by the company's water."

In 1889 Dr. Gresswell reported on the prevalence of typhoid fever at Cradley (Worcestershire). He traced the disease to water from a particular well in the sandstone, near which there was an old brick and mortar culvert receiving drainage of houses, while only 20 yards from the further end of a heading in the well and on ground rising somewhat steeply therefrom there was the churchyard. He showed that the defective culvert had received enteric fever discharges and that no doubt by leakage from it the well became infected. (Nineteenth report of the medical officer of the Local Government Board.)

In 1889 Dr. David Page reported on an outbreak of typhoid fever at Houghton-le-Spring (Durham), the cause of which is of exceptional interest. He traced the epidemic to the water of a well or staple sunk to a depth of 330 feet into sandstone strata of the coal measures, and the investigation is of such importance that I quote at length from the end of the report: "In looking around beyond the immediate vicinity of the well for possible opportunities of contamination I had visited early in my inquiry the farmhouse of Herrington Hill. This is situated about three-quarters of a mile to the south of Herrington Colliery on rising ground and about 150 feet above the level of the surface of the well. The farmhouse and buildings are upon the magnesian limestone, the beds of which dip towards the north. Owing to subsidences caused by the colliery workings below fissures extending to the surface exist in this locality. The drainage of the farm buildings, of a cottage, and of the farmhouse itself (in which latter there is a water-closet) is conveyed to a tank. The overflow from this tank escapes and disappears down an adjoining fissure in the ground. To determine whether a connexion existed between this fissure (three-quarters of a mile from the well) at Herrington Hill farm and the water-bearing strata supplying the 'staple' I suggested that common salt should be dissolved and thrown down the fissure. Instructions were given to this effect and two tons of salt were accordingly thrown down on May 11th. At this date the discovery of the 'feeder' in the 'staple' had not been made and testing of the water as pumped from the well did not give any conclusive indication of increase of chlorides. On the discovery of the 'feeder' a week later a clue to the excess of chlorides shown by it (as compared with the body of water in the well) was apparently furnished and, as will presently appear, the source of the chlorides was in the end conclusively demonstrated. From May 24th a series of daily testings of the relative amounts of chlorine in the water of the reservoir and of the 'feeder' were made. The chlorine in the water of the reservoir varied from 2·3 to 2·8 grains per gallon. On May 29th, with a view of placing beyond doubt whether the increase of chlorine thus shown was due to the salt thrown down the crevice at Herrington Hill, five tons of salt were washed down the crevice with a hose-pipe running for twelve hours, during which time it was estimated that some 100 tons of water were discharged. On the following day the chlorine present in the water of the 'feeder' rose to 15 grains per gallon. The testing was continued for a few days longer and on June 5th the chlorine reached the maximum amount of 24 grains per gallon. During the next few days it fell again to the former amount. The connexion between the two localities, the farm tank and the 'staple,' was thus conclusively established and the source of excremental contamination of the water-supply demonstrated. Specific contamination of the sewage from the farmhouse could not, however, be made out, no illness of a character resembling enteric fever having been known to occur at the farm during recent years. It remains to add that since the discovery of the 'feeder' arrangements had been made by Mr. Lishman for the supply to the affected district of water for drinking purposes from wholesome sources. Warnings had been issued to the people against resorting to the tap-water for drinking purposes and it was further decided to abandon the Herrington water as a source for domestic supply. To meet the immediate exigencies of the case and to guard against danger from a continued distribution of this water the Houghton service was turned on and distributed through the Herrington mains for two hours night and morning. But as this supply was insufficient to meet the requirements of the whole of the district arrangements were made and actually carried out for boiling the supply pumped from the Herrington well before it entered the reservoir. Engine boilers, which were fortunately at hand, were erected and adapted to this purpose, and on June 2nd these arrangements were completed and in operation On the occasion of my final visit to the district on June 7th I witnessed the remarkable and unique instance of the delivery to the mains of a water-supply which had been actually submitted to a boiling temperature " To fill the water mains of a town with water which had been all boiled was indeed a remarkable and unique experience.

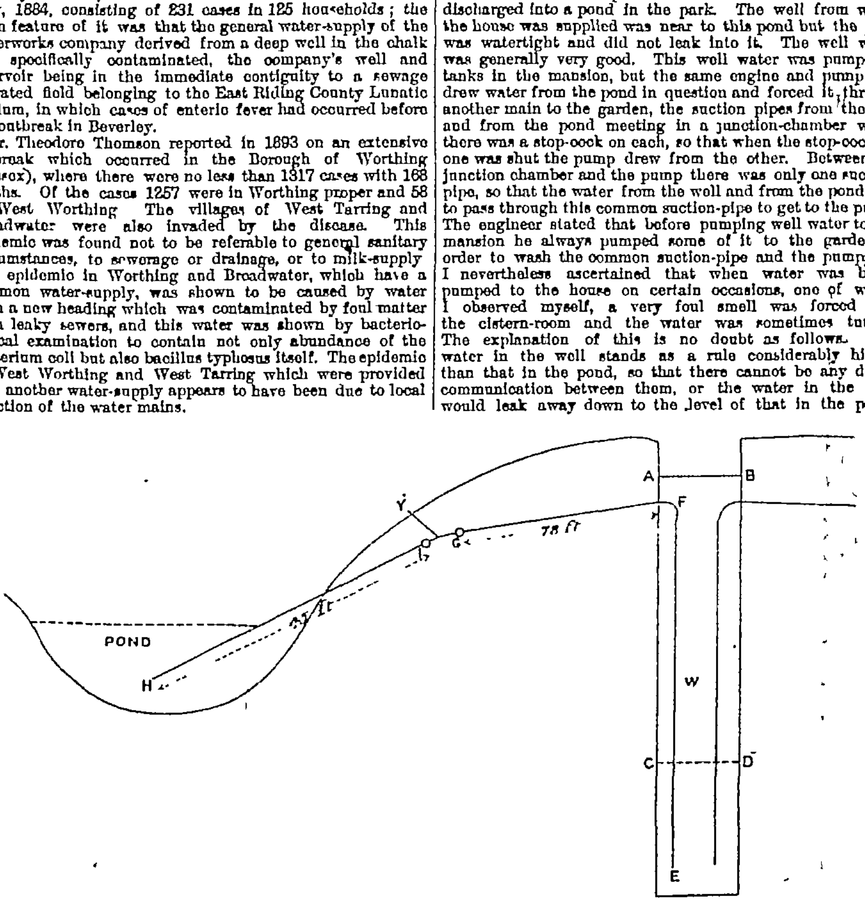
Beverley (Yorkshire)—Water-supply chiefly from borings into chalk which are occasionally found to be polluted by defective drains in their neighbourhood (there were 165 houses supplied by a private waterworks company); other sanitary defects; an outbreak of enteric fever occurred in July, 1884, consisting of 231 cases in 125 households; the main feature of it was that the general water-supply of the waterworks company derived from a deep well in the chalk was specifically contaminated, the company's well and reservoir being in the immediate contiguity to a sewage irrigated field belonging to the East Riding County Lunatic Asylum, in which cases of enteric fever had occurred before the outbreak in Beverley.

Dr. Theodore Thomson reported in 1893 on an extensive outbreak which occurred in the Borough of Worthing (Sussex), where there were no less than 1317 cases with 168 deaths. Of the cases 1257 were in Worthing proper and 58 in West Worthing The villages of West Tarring and Broadwater were also invaded by the disease. This epidemic was found not to be referable to general sanitary circumstances, to sewerage or drainage, or to milk-supply The epidemic in Worthing and Broadwater, which have a common water-supply, was shown to be caused by water from a new heading which was contaminated by foul matter from leaky sewers, and this water was shown by bacteriological examination to contain not only abundance of the bacterium coli but also bacillus typhosus itself. The epidemic in West Worthing and West Tarring which were provided with another water-supply appears to have been due to local infection of the water mains.

In 1894 Dr. Thomson also reported on simultaneous outbreaks of typhoid fever and of fever of less definite sort at various places in the Borough of Newport, Isle of Wight. He found that these outbreaks were referable to a public water-supply common to all the invaded places. This water-supply was derived from a well in the chalk at Carisbrook and was found to be open to dangerous contamination from the leaky drains of houses near the waterworks and standing on the chalk, and also from a filthy mill-pond. There was, moreover, serious risk of dangerous pollution of the water in the deeper strata of the chalk supplying the wells, from the existence of numerous cesspools within the area drawn upon by the two wells.

In 1895 Dr. Bruce Low reported on an epidemic of typhoid fever at Raunds (Northamptonshire). There were two distinct groups of cases, each group being "associated with use of water from a different public well that had become specifically polluted The closing of these two wells, one after the other, was followed by a marked subsidence of the outbreak."

A most interesting and remarkable case of the pollution of a deep well water has come under my notice recently. In a large country house where there had been a case of typhoid fever I found that the main sewer leaked badly into the land drains of the park. A number of these land drains discharged into a pond in the park. The well from which the house was supplied was near to this pond but the pond was watertight and did not leak into it. The well water was generally very good. This well water was pumped to tanks in the mansion, but the same engine and pump also drew water from the pond in question and forced it through another main to the garden, the suction pipes from the well and from the pond meeting in a junction-chamber where there was a stop-cock on each, so that when the stop-cock on one was shut the pump drew from the other. Between the junction chamber and the pump there was only one suction-pipe, so that the water from the well and from the pond had to pass through this common suction-pipe to get to the pump The engineer stated that before pumping well water to the mansion he always pumped some of it to the garden in order to wash the common suction-pipe and the pump, but I nevertheless ascertained that when water was being pumped to the house on certain occasions, one of which I observed myself, a very foul smell was forced into the cistern-room and the water was sometimes turbid The explanation of this is no doubt as follows. The water in the well stands as a rule considerably higher than that in the pond, so that there cannot be any direct communication between them, or the water in the well would leak away down to the level of that in the pond, which is not the case. When, however, the level of the well water has been considerably reduced by pumping, as is frequently the case, if it so happens that both of the stop-cocks are left open, the two suction-pipes must act as a siphon and the water from the pond be sucked over into the well, and there can be no doubt that the water in the well



When the water level in the well W is at A, B, if the valves G and I are open water runs from the well by pipe E, F, H into the pond, but if the water level is lower than that in the pond, as at C, D, and both valves are left open, the suction pipe and pump Y being sound, the water in the pond would be siphoned into the well has not been infrequently contaminated in this way. (See Diagram.)

Dr. Pistor of Berlin has kindly forwarded me two reports on polluted well waters. One, that of Dr. Mewius of Cosel (Silesia), on an outbreak of typhoid fever which occurred in that town in October, 1899, and was traced to the use of polluted water from the well of one of the hotels in the town[2]; and the other by Dr. Bloch of Beuthen (Silesia) on a serious outbreak of the same disease which took place in that town from June to October, 1897, and was traced to the pollution of the town supply by excremental matters from the mines which filtered through the soil into the wells of the public water-supply after a heavy flood which swamped the mines and washed the fæcal matters out of the pails in the mines before they could be removed.[3]

My friend Professor Kuborn, M.D., of Seraing, Liège, the President of the Royal Society of Public Health of Belgium, has kindly forwarded me a number of reports to the Minister of Agriculture by the provincial medical commissions of that country, from which I find that the spread of typhoid fever there is due (Report for 1891) "for many places to the pollution of the water-supplies, for some to importation and to direct contagion; in these the relations of cause and effect are precise. Lastly, in a more vague sort of manner overcrowding, moisture, and want of cleanliness are alleged causes." That it is due to polluted well-water is not to be surprised at considering that the following is given as a description of the wells supplying the working classes in one of the great towns: "A well surrounded with privies, heaps of manure, and goat-stables furnishes water to all the inhabitants. These come there to obtain the water with vessels which have served for all sorts of purposes. Most of the inhabitants are workpeople employed in the city—a fact which explains the rapid spread of the disease." In another report we are informed that while the water is at fault in some places in others "it is the houses which are at fault, whether by overcrowding or by filth."

In Luxembourg I find from the report of works carried out during 1892 an account of an outbreak at Marcour, "which has for the last 15 years had a public water-supply and which during that time has not been visited by typhoid fever, but the water-supply to the inhabitants was completely spoilt on account of the drought which had laid dry the open end of one of the main pipes drawing water from a stream; various animals having found their way into this pipe died there and the decomposition of their bodies polluted the whole of the water-supply. As soon as this cause of pollution was withdrawn a stop was put to the epidemic. And in another place called Bastogne, where there had not been a single case of fever since 1887, when the public water-supply was established, "the drought having diminished the quantity of water available, the communal authority allowed resort to be made to old wells, recommending the people by placards not to use the water for drinking. But a certain number of the inhabitants took no notice of this warning; 20 days after the reopening of the wells there were 30 cases of typhoid fever; a month later 100 cases, of whom 10 died."

Again, in the report for 1893 we are told that "in the great majority of cases it has been possible to trace the origin of the disease and the causes of the same, which were found almost always indicated. The most frequent by far consists in the pollution of the drinking water due to the defective construction of wells, the filtration of organic matters through their walls, the mixture of spring or river waters with waste waters in a state of putrefaction, of manure deposited on the fields or in the proximity of houses, especially after heavy rains have washed the country, cleansed the streets, and made the cesspits and the water-courses overflow. Next to this came the importation of the disease by individuals, most frequently workmen coming home from an infected locality; direct contagion operating habitually between persons of the same family or living together in small apartments; emanations from foul sewers; and the want of disinfection of the stools of typhoid patients." In the report for 1900 I find it stated that "sometimes typhoid fever is also spread by means of the bad habit which farmers have of throwing typhoid excreta on the dung-heaps. It has resulted that in the spring while spreading the manure on the fields the workmen who had carted the winter manure were infected by the bacilli which had been deposited in the autumn. The manure in preserving its temperature, its humidity, and also certain salts and albuminoids, supplies them with an excellent cultivating medium."

Water-supplies have sometimes been shown to be polluted at or near their springs by infiltration into them of excremental matter, and outbreaks of typhoid fever have taken place when such matter is specifically polluted. Among these are the following.

Bricksworth (Northamptonshire).—Dr. Thorne in 1874 reported that this fever was habitually prevalent and that the water was liable to surface and excremental pollution.

Dr. Hubert Airy reported on an outbreak of enteric fever at Blackburn in Lancashire in 1881 as follows: "This water-supply of Blackburn runs the risk of pollution at its several sources. There is risk at the gathering ground above Pickup Bank; there is risk at the White Birk colliery of some accident similar to that which befell the Caterham well; and there is risk at the well on Revidge, for houses are pretty numerous round about and the soil is a porous sandstone rock. Moreover, as regards the water from Pickup Bank there is risk at very many points along the route by which it is conveyed to the town. The stone culvert ...... is of rough construction, built of the ragstone of the district in rude wedge-shaped lumps, fitted together without mortar or cement, but well bedded in thick puddle; and remembering that this culvert has lain for more than 30 years, only three or four feet deep, on the slope of the hillside, with a constant tendency to increase of pressure on the upper side, and lessening of pressure on the lower side, it can hardly be supposed that the structure is still sound throughout. Indeed, on one or two occasions at different points the crown of the arch has fallen in, and probably at a hundred points it has yielded more or less, so as to admit a leakage of sub-surface water on the upper side." After pointing out that there is danger from the manuring of the ground over the culvert he goes on to say: "There is also the sewage and ordure of Belthorn, the village on the crest of the hill, above the line of the culvert, to be taken into account. At the time of construction of the waterworks Belthorn had no sewer or cesspool, but disposed of its slops and excreta close around the dwellings. Of late years the house-slops have been received in a roadside sewer delivering into a watercourse which formerly was impounded in a little 'lodge' close above the culvert and used to supplement the supply from Pickup Bank. Even to the time of my visit the conduit remained open at this point, but the lodge had long before been emptied by a pipe carried under the culvert. Still, it has occasionally happened that this pipe has been choked with rubbish or with snow and the water has half-filled the lodge before it has been possible to clear the pipe again. 'The water bailiffs, however, declare that the water in the lodge under these circumstances never reached the open conduit. Again, there are one or two other points *where sewage from Belthorn has to pass over or under the culvert* and where the accident of a defective joint might admit impure water to the latter. The drainage from one row of houses goes into a cesspool on the hill slope. The cesspool sometimes overflows and the liquid runs down a lane and enters a drain which passes under the culvert. Even in the last 20 yards of its course before it discharges into the Guide reservoir the culvert is in manifest danger of receiving soakage from the neighbourhood of a row of cottages (Shorrock's-row) in the village of Guide."

After describing how he found a place where water was leaking into the culvert he continues: "On opening the ground at a corresponding point in the pasture above the men struck upon an old stone land drain which was then traced some distance back and appeared to run obliquely across the meadow from the upper side. Approaching the culvert it ran within nine yards of the last of a row of privy pits which lay outside the bounding wall of the back yards of Shorrock's-row, accessible from the meadow, for the convenience of the farmer who took the manure. The farmer assured me that he spread this manure only on the land below the culvert, never above, but there were signs of the overflow from the privy pits having been conducted on to the pasture above the culvert. The impression left upon my mind, though I could not positively prove the fact, was that there was a probability of soakage from these privy pits and from the slop gutter in front of Shorrock's-row affecting the purity of the water in the culvert. I have dwelt somewhat at length on these dangerous conditions along the line of the conduit because I shall have to show that the chief outbreak of enteric fever in Blackburn followed close upon, and possibly was caused by, the occurrence of enteric fever at Belthorn and Shorrock's-row. The water on leaving the culvert, just within the wall of the reservoir enclosure, runs in an open enclosure for 20 or 30 yards before discharging into the reservoir. An empty can or two lying in this channel showed that it was exposed to casual additions and I noticed just within the gate of the enclosure and immediately over the mouth of the culvert the remains of human ordure. In the side of the open channel is a gate-sluice which, when desired, can be set open so as to divert the stream, or part of it, into an open by-channel which runs down between the Guide embankment and the public road and is finally turned into the lower (Fishmoor) reservoir. In its course it receives the contents of a ditch which, when traced back, *is found to take origin* at the back of some dwellings in the upper part of Guide village, whence it comes along a cartway trodden and befouled by cattle, past a farmyard, and through a field, exposed in its whole length to the risk of pollution. I heard tales also of mischievous fellows throwing 'nast' (filth) into the reservoirs themselves. The six-foot enclosure wall is easily climbed."

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[2] Zeitschrift für Meidzinalbeamte, Heft 19, 1901.

[3] Deutsche Vierteljahrschrift, 1898.

Dr. Airy then shows how one of the privies had been shortly before the outbreak infected by the stools of a man, Aspden, who had typhoid fever and goes on to say: "This case was not visited by the medical officer of health nor by the inspector of nuisances; the danger to the public health *attending the presence of a case of enteric fever so near the main artery of the water-supply was overlooked.* An unskilled labourer who works under the nuisance inspector was sent to the house with some carbolic acid powder. Aspden states that this disinfectant was used to discharges which were then thrown into the privy, one of the row of privies that have their pits opening to the meadow through which the water-culvert passes. Slops and rinsings of vessels undisinfected were thrown down a sink in the backyard or thrown into the roadside gutter in front of the house. Either channel would carry them, as already described, immediately over the water-culvert, at points where it was evident on internal examination that fluid was in the habit of oozing into the culvert. Any such admixture, supposing it to occur, would be infinitesimal in comparison with the quantity of water flowing in the culvert, and that again, in comparison with the whole body of water in the reservoir which received it, would be but as a river flowing into the sea. It certainly taxes the imagination to suppose that so minute a portion of infected matter would suffice to give a poisonous taint to so large a body of water, unless it possessed the property of self-multiplication." (Eleventh report of the medical officer of the Local Government Board, 1881.)

At Rotherham (Yorkshire) and two adjoining districts typhoid fever and "fever of a less definite sort" was again prevalent in 1891–92, and Dr. Theodore Thomson reported that it was "not due to sewerage or drainage, nor to excrement disposal, nor to milk-supply, but to a public water-supply common to the invaded parts of each district" and to the high-level section of it, which section was shown to have been similarly related to fever prevalence in previous years. In a subsequent report Dr. Thomson shows that this water was contaminated by being collected from gathering grounds which "contained a great deal of cultivated ground which is manured not only with farmyard but also with privy midden refuse, and sewage from villages as well as from detached houses finds its way into the water-supply, more especially on the high-level gathering grounds."

In 1898 Dr Bruce Low reported on an outbreak of fever at Penrhynside (Carnarvon) The nature of this disease was "at first obscure; some cases resembled typhus, others cerebro-spinal fever, and a few influenza; ultimately malady regarded as true enteric fever; infection imported. The water-supply was from an extension of the Llandudno water-mains. At the time of the outbreak the pipes were encrusted and partially blocked. There was no evidence of pollution of this public water-supply The service was scanty and intermittent, "causing the villagers to seek temporary supplies from springs and spouts on slopes of hillside below village Some of these temporary supplies were most probably polluted by washing of surface filth from village down the slopes by heavy rainfall; hence the spread of the disease"

In 1897 Dr. Bruce Low reported on an outbreak of typhoid fever in the Horsforth Urban District (Yorks.). He found that the gathering ground for the water company was high-lying pasture land dressed freely with stable manure and night-soil and that the sewage from farmhouses and also road washings reached the feeders of supply. "Sand filtration was provided, but in summer months as well as at other times it has been customary to turn on unfiltered compensation water to the town mains to augment supply. Following use in September, 1898, of this unfiltered water there occurred a sudden outbreak of enteric fever in October, attributed by the medical officer of health to polluted water of company's service."

In 1898 he also reported on a sudden outbreak of typhoid fever in December, 1899, in the town of Camborne (Cornwall) and an adjoining parish and village. The only condition common to these three places was their water-supply. "One of the two sources of this supply was from *some springs at Boswyn, to augment which section of the* supply a pipe had been laid from the brook to the service tank. The brook was *fed freely by surface water* from a hillside on which, in a cottage, four cases of enteric fever occurred in October and November, 1897. The bowel discharges of these cases reached a pond close to the house which had no privy. In wet weather the pond overflowed and the water from it ran down a channel to the brook, entering at about 100 yards above the intake pipe of the Camborne Company In mid-November the rainfall was excessive and the flood-water washed out the pond and carried the pollution to the brook and thence to the service reservoir. After the removal of the pipe connecting the brook with the reservoir, and after cleansing the service tank and flushing the mains, the epidemic abruptly ceased."

In 1897 Mr. J. S Davy, Dr. Theodore Thomson, and Mr G. W. Willcocks were appointed by the Local Government Board to inquire into an epidemic of typhoid fever at Maidstone. This had been already investigated by Mr. M. A. Adams, the medical officer of health, who had come to the conclusion that it was caused by the pollution of some of the springs supplying the water company's water by the excremental matters from a colony of hop-pickers. The arguments used against this view were that there were cases of typhoid fever in Maidstone before the hop-pickers came at all, that many of the public sewers and house-drains and other sanitary appliances were in an extremely defective condition, so that contaminated air from them gained access to the houses, and that after the suspected water was cut off and a further period of 16 days allowed for incubation of any subsequent cases 357 more cases occurred in the town, which could not have been caused by the water—a contention which the inspectors say in their judgment is "in the main a just one," and that therefore the causes which operated to produce them might produce the whole epidemic, a condition which the inspectors admitted "is probably in some degree admissible." Nevertheless, the inspectors came to the conclusion that the epidemic was caused "by the pollution of the water supplied by the Maidstone Company *from their Farleigh sources.*"

(To be continued.)

RESULTS OF THE VACCINATION OF 1060 ADULTS.[1]

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VACCINATION statistics are amongst the commonest and best known statistics on medical subjects, yet most vaccination statistics are founded on cases which are seen but twice by the vaccinator It is somewhat rare for a practitioner to have an opportunity of observing the whole clinical course of vaccination in every individual whom he vaccinates; therefore the results obtained recently at the Metropolitan Asylum, Leavesden, may be of interest, especially at the present time.

It may first be pointed out that only adults (of ages varying from 16 to 95 years) are dealt with, and that most of the cases are revaccinations This paper dwells more particularly on the clinical aspect of vaccination itself, and little reference will be made to the relationship between small-pox and vaccination. The figures given apply only to the *female* staff and female patients, a total of 1060 individuals No very unusual phenomena were observed, but the cases were sufficiently numerous, perhaps, to enable some conclusions to be drawn as to the frequency of occurrence of some of the common complications and sequelæ.

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[1] A paper read before the Windsor and District Medical Society.

Of the material constituting the greater part of these cases it may be said that an asylum population should not be compared with a general one. It is true that, speaking broadly, the patients show to a marked degree a distinct deficiency in their sensory systems, and thus may give little or no evidence of slight disorders; but this is outweighed by the fact that they are remarkably prone to epidemic diseases, and that such diseases amongst them are usually of severe type. On the whole, therefore, it is probable that the results given below will not differ much from those obtained in ordinary practice.

The first important fact noted was the want of uniformity in the potency of different strains of lymph. Much has lately been written upon this subject, and our experience at Leavesden fully confirms the complaints which have been recently appearing in the medical press. Lymph was used from three different sources; lymph from source A proved to be almost inert, lymph B was not much better, but lymph C gave such excellent results that it was at once made the standard supply.

The figures for the female staff are given first separately, chiefly because they serve to illustrate very well the variable potency of lymph A and lymph C. Table I. was compiled after all doubtful cases and failures had been vaccinated at least three times.

TABLE I.—*Showing the Results of Vaccination among the Female Staff.*

	Cases.	Successful.	Unsuccessful.	Percentage of successes.
Primary vaccinations... ...	2	2	0	100
Once vaccinated	82	81	1	98·7
Twice vaccinated	17	14	3	82·3
More than twice vaccinated.	4	4	0	100
Totals...	105	101	4	96·2

The inertness of lymph A was well shown by vaccinating 49 nurses with it; there were only eight successes, 16 being doubtful and 25 complete failures. The 16 cases which were "doubtful" were revaccinated with lymph C, and in every case good vesicles were obtained. The 25 cases of failure were also revaccinated with lymph C when 21 successes were obtained, only four being failures. The potency of lymph C was confirmed by the next 41 vaccinations of the staff with it, all of which were successful.

At the outset a very important question had to be decided—namely, on what grounds should it be deemed advisable not to vaccinate a patient. Small-pox existed in the metropolis and the object of the general vaccination was to prevent the disease making its appearance in the asylum. The important safeguard of stopping the regular visiting to the patients had already been taken, but there still remained the every-day traffic between the asylum and the metropolis and the visits of the friends of those patients who were seriously ill. The weakest patients, therefore, were just those patients who came most in contact with London and were consequently most exposed to possible infection. On these grounds it was decided to vaccinate every patient with one exception—that of a patient who had obviously only a few days to live. It is pleasing to report that the vaccination of these weakly patients produced no untoward effects.

TABLE II.—*Showing the Results of Vaccination among the Female Patients.*

Total cases.	Successful.				Fair or doubtful.		Failures.
	Four vesicles.	Three vesicles.	Two vesicles.	One vesicle.	Four vesicles.	One, two, or three vesicles.	
	890	3	2	1	42	9	
955	896				51		8

Adding the totals of staff and patients together the results are that out of 1060 vaccinations, 997, or 94 per cent., were successful; 51, or 4·8 per cent., were doubtful; and 12, or 1·2 per cent., were failures.

An attempt was made to ascertain the numbers of those who had never previously been vaccinated, and also of those who had suffered from small-pox.

TABLE III.—*Giving the Cases in which there was no Evidence of Previous Vaccination.*

Cases.	Successful.	Failures.	Percentage of successes.
89	87	2	97·7

TABLE IV.—*Giving the Cases of Revaccination only.*

Cases.	Successful.	Doubtful.	Failures.
971	910 (93·7 per cent.)	51 (5·2 per cent.)	10 (1 per cent.)

TABLE V.—*Giving the Cases in which there was Evidence of Small-pox previously.*

Cases.	Successful.	Doubtful.	Failures.
45	40 (88·8 per cent.)	1 (2·2 per cent.)	4 (8·8 per cent.)

With regard to the great majority of the cases nothing more need be said than that they ran a perfectly typical course. Cases of acceleration and retardation of the pocks were observed but unfortunately records of them were not kept. Dealing first with what may be called preventable sequelæ, papules from irritation from the dressings, acne, boils, abscesses, and carbuncles were met with. Such sequelæ depend largely upon the personal cleanliness of the patient; it need hardly be pointed out that in many of the patients personal neglect is the rule, and that such patients, in spite of the vigilant attention of the nurses, will be prone to septic conditions of the skin.

Papules from irritation from the dressings.—These occurred in 24 cases, or 2·2 per cent., and in some the papules became pustular. They began as a rule close to the vaccinated area; another favourite site was over the deltoid, where the skin was rubbed by the bandage. All the cases quickly yielded to simple treatment.

Acne or pustules spreading beyond the vaccinated area.—This condition occurred in six cases. Two began on the tenth day after vaccination, one of which cases involved only the vaccinated arm; in the other case the arm and the leg on the vaccinated side were affected. One case began on the twelfth day when acne appeared on the arms and the trunk. One case began on the fourteenth day with pustules on the arms, the elbows, and the buttocks, and another on the seventeenth day with pustules on the arm and the trunk. All yielded to treatment in from seven to 14 days.

Boils.—These were late sequelæ and were noted in 21, or 2 per cent., of the cases The earliest case appeared on the tenth day, one appeared on the sixteenth day, four on the twenty-second day, one on the twenty-fifth day, two on the twenty-seventh day, two on the twenty-eighth day, four on the twenty-ninth day, three on the thirtieth day, and three on the thirty-fifth day after vaccination. It is interesting to note that 13 of the cases occurred in the epileptic ward, and the epileptic patients include some of the dirtiest and most troublesome patients in the asylum. None of these patients were taking bromides. As a rule the boils were small and they were nearly all situated on the vaccinated arm and shoulder.

Carbuncles.—Carbuncles occurred in a phthisical patient of very dirty habits. She developed several boils on the back on the twenty-eighth day after vaccination. These she was continually scratching and rubbing, and in a week's time she had one large and two small carbuncles on the back, which required incisions.

Abscesses.—These occurred in four cases. One appeared 20 days after vaccination in the lower half of the posterior triangle of the neck. It was an ill-defined abscess and was

TABLE VI.—GIVING PARTICULARS OF 23 CASES IN WHICH ERYTHEMA FOLLOWED VACCINATION.

Simple Erythema (Four Cases).

No.	Years of age	Date of the appearance of the rash.	Nature of the rash.	Distribution of the rash.	Duration of the rash.	Condition of the arm.	General symptoms.
1	—	Tenth day after vaccination.	A diffuse blush.	On the arms, the chest, and the legs.	48 hours.	Good vesicles; the arm slightly inflamed.	Temperature 99° F.; pains all over.
2	55	Thirteenth day after vaccination.	A bright-red blush.	On both elbows.	36 ,,	Good vesicles; the arm not inflamed.	None.
3	44	Third day after vaccination.	An erythematous blush.	On the arm and the wrist.	24 ,,	Arm not inflamed; the pocks matured normally.	,,
4	40	Thirteenth day after vaccination.	A bright blush.	On the arms.	36 ,,	Good vesicles; the arm not inflamed.	,,

Erythema of Punctate Type (Three Cases).

No.	Years of age	Date of the appearance of the rash.	Nature of the rash.	Distribution of the rash.	Duration of the rash.	Condition of the arm.	General symptoms.
1	45	Eleventh day after vaccination.	Closely set vivid red spots of about the size of a pin-head.	On the forearms and the legs	48 hours.	Good vesicles; the arm not inflamed.	None.
2	25	Thirteenth day after vaccination	Finely punctate rash; the spots closely set and slightly raised.	On the abdomen and the groins.	36 ,,	Good vesicles; the arm rather inflamed.	,,
3	60	,,	Bright-red punctiform erythema.	On the buttocks, the back, and the elbows.	48 ,,	Good vesicles; the arm not inflamed.	,,

Erythema of Papular or Urticarial Type (Six Cases).

No.	Years of age	Date of the appearance of the rash.	Nature of the rash.	Distribution of the rash.	Duration of the rash.	Condition of the arm.	General symptoms.
1	26	Sixteenth day after vaccination.	A profuse crop of pale flattened papules	On the chest and the back.	36 hours	Good vesicles; the arm not inflamed.	None.
2	—	Eighth day after vaccination	Small red discrete papules, some surrounded by an erythematous area.	On the arms, the hands, and the legs.	4 days.	Good vesicles; the arm rather inflamed.	Headache and malaise.
3	—	Twelfth day after vaccination	Fugitive urticaria.	On the arms, the legs, and the trunk.	5 ,,	The arm took very slightly and was not inflamed.	Temperature 103° F.; malaise, itching.
4	—	Eighth day after vaccination.	Discrete red papules.	On the forearm and hand of the vaccinated arm.	48 hours.	Good vesicles (primary vaccination); the arm much inflamed.	Malaise and headache.
5	71	,,	Flat, discrete, pale red papules.	On the elbows, the forearms, and the shoulders.	48 ,,	Good vesicles; the arm not inflamed.	None.
6	73	,,	Flat discrete papules.	On the arms and the shoulders.	48 ,,	,,	,,

Erythema Multiforme (10 Cases).

No.	Years of age	Date of the appearance of the rash.	Nature of the rash.	Distribution of the rash.	Duration of the rash.	Condition of the arm.	General symptoms.
1	60	Tenth day after vaccination	Irregular blotches of bright red erythema, fading on pressure.	On the arms, the legs, and the buttocks.	48 hours	Good vesicles; the arm not inflamed.	None.
2	44	Eighth day after vaccination	Large irregular patches of brilliant erythema, diffuse, duller red and not *fading on pressure on the* legs.	On the arms, the shoulders, the trunk, and the legs.	4 days.	Good vesicles; the arm moderately inflamed.	Malaise for 24 hours.
3	71	Ninth day after vaccination.	Bright red blotches.	On the arms, the body, and the legs.	48 hours.	Good vesicles; moderately inflamed.	Slight malaise.
4	61	Eleventh day after vaccination	Brilliant red irregular blotches; next day a dull punctiform rash.	On the arms and the legs.	,,	Good vesicles; not inflamed.	None.
5	60	,,	Diffuse vivid red erythema; in parts large irregular blotches.	On the trunk, the arms, and the legs.	,,	,,	,,
6	69	,,	Brilliant red papules on the legs; a diffuse red blush on the arms; next day a dull, red erythema on the limbs and fresh papules, on the next day areas of erythema circinata spreading over the trunk.	On the trunk, the face, the arms, and the legs.	6 days	,,	Loss of appetite; malaise; temperature 100° F.
7	80	Ninth day.	Blotches of bright-red erythema, with slightly raised and well-defined margins.	On the trunk.	48 hours	,,	None.
8	58	Tenth day after vaccination.	Irregular patches of bright red erythema and a few papules.	On the elbows, the wrists, and the knees.	48 ,,	Good vesicles; moderately inflamed.	,,
9	64	,,	Vivid red blotches with well-defined and sinuous margins. Fading on pressure.	On the trunk, the legs, and the arms.	48 ,,	Good vesicles; the arm inflamed.	Slight malaise.
10	26	,,	Irregular red patches.	On the arms and the trunk.	36 ,,	Good vesicles; the arm not inflamed.	,,

accompanied by loss of appetite and malaise. In another case a subcutaneous abscess appeared between the pocks on the twenty-fourth day. In another case a few boils appeared on the arm on the twenty-ninth day; these were followed by cellulitis of the arm and suppuration. Lastly, a small superficial abscess occurred in the axilla of a patient on the thirty-second day. All the cases healed rapidly and well after incision.

Reappearance of old skin trouble.—This was noted in a woman who had been long subject to psoriasis. A small patch appeared on the trunk on the thirteenth day; it cleared up in a week.

Eczema.—There were three cases in which eczema appeared. One was that of a nurse in whom a crop of papules appeared on the wrists and forearms on the tenth day after vaccination; the papules rapidly became vesicular. There was no constitutional disturbance and the rash cleared up in a week. In the other two cases a papular eczematous rash appeared 28 and 36 days respectively after vaccination, but lasted a few days only.

Herpes.—In one case a patch of herpes rather larger than a shilling appeared on the cheek 18 days after vaccination. It rapidly cleared up.

Erythemata.—These occurred as simple erythematous blushes, as finely punctate erythemata, as erythema of papular or urticarial type, and as erythema multiforme. In all there were 23 cases, or 2·1 per cent. of the total vaccinations. The erythematous rashes occurred in these cases as a rather later phenomenon than is stated by Acland in Clifford Allbutt's "System of Medicine." He gives the time of occurrence of the erythematous rashes as from the third day up to the time of maturation of the pock. In these cases one appeared on the third day, five on the eighth day, two on the ninth day, five on the tenth day, four on the eleventh day, one on the twelfth day, four on the thirteenth day, and one on the sixteenth day after vaccination. All ages were liable, four cases occurring in patients over 70 years of age. As a rule there was a little constitutional disturbance, but in several of the cases the patients made no complaint. In only one case was there severe constitutional disturbance and that patient recovered rapidly when the rash faded. The average duration of the rash was about 48 hours, but in the severe case above mentioned it lasted six days. Rashes occurred in patients whose arms ran a perfectly aseptic course; they were therefore regarded as a true vaccinial complication—a conclusion, however, which can only be accepted with reserve, as septic absorption gives exactly similar rashes. The rash looked much more alarming than the actual condition of the patient warranted, for in several cases with most vivid rashes there was practically no disturbance of the general health of the patient.

Auto-inoculation.—In five cases there was auto-inoculation. In three there was a small vesicle about one inch distant from the nearest inoculation. In one case there was an outlying vesicle two and a half inches from the nearest inoculation and in another there were two vesicles half an inch away from the nearest original insertion. These vesicles matured at the same time as the original inoculations.

Generalised vaccinia.—Of this condition there was one case in a patient, aged 31 years. Four good vesicles were inspected on the eighth day. On the next day additional vesicles appeared on the arms, the face, and the chest. The vesicles were not compound, were oval in shape, about a quarter of an inch long, and contained pale turbid lymph. Each was surrounded by a slight inflammatory areola and there was some malaise. A few more vesicles appeared in successive crops during the next three days, then they cleared up quickly and well, leaving no scar.

The very slight disturbance of the general health of the patients by vaccination was very noticeable. It was found convenient to vaccinate all the patients in a pavilion on the same day. It therefore happened that there were under observation from 120 to 150 patients in each pavilion and all in the same stage as regards their vaccination. Speaking broadly, it may be stated that the appetites of those vaccinated remained good, the patients looked well, and those of them who were usually engaged in the domestic work of the asylum were able, with very few exceptions, to perform their duties without difficulty. Of the nurses three were sent off duty, one of them being a case of primary vaccination and another was a rheumatic subject whose indisposition was possibly as much rheumatic as vaccinal. The effect produced in the minds of all who observed the cases was that the consequences of vaccination had been unduly magnified by alarmists. Cases, of course, occurred in which there was considerable constitutional disturbance, with headache, pains all over, lassitude, and pyrexia, but they formed a very small proportion of the whole number of cases.

With regard to what may be called the preventable septic complications of vaccination, most will agree that the figures are not unduly high, yet it must be remembered that many of the patients are dirty rather than cleanly in their habits, and are therefore predisposed by their habits to such complications. In ordinary practice these figures should come out very much lower.

It does not require any very vivid imagination to picture the state of an institution such as Leavesden Asylum if small-pox broke out amongst the patients, but no one would have guessed from an ordinary inspection of the asylum that the whole of the patients were down with vaccination. It is very satisfactory to be able to report that although the feeble and the aged patients were all vaccinated yet no unfavourable results followed.

Table V. is of interest in showing the high percentage of successful vaccinations among those persons who had previously had small-pox, a fact which tends to show that vaccination is a better protection against small-pox than small-pox is against vaccination.

With regard to the lymph used, it is important to note that a staphylococcus was grown from it. In spite of this the majority of the arms showed only the inflammatory reaction of vaccinia, so that it is probable that those arms which were much inflamed were infected subsequently to the vaccination. In a few cases, however, it was thought possible that the staphylococci in the lymph were responsible for an inflammatory blush which appeared on the third day at the seat of inoculation and which was accompanied by enlargement and tenderness of the axillary glands and œdema of the arm. The inflammatory symptoms in these few cases subsided before the pock matured and the vaccination afterwards ran a normal course in them. It is most unsatisfactory to know that there is useless lymph on the market—a source of very grave danger both to the public health and to the reputation of vaccination. It should be our duty as medical men to guard jealously the fair fame of vaccination from the slanders of the anti-vaccinationist, and to do this we must vaccinate efficiently. This is not the place to discuss the question of efficient vaccination, but it will suffice to assert that it is possible for revaccination to produce vesicles as typical as those of primary vaccination and in such cases the individual may be regarded as efficiently vaccinated. For this efficient vaccination a potent lymph is essential, and it should be our duty to produce a lymph which we can be sure will always give good vesicles except in those cases protected by previous vaccination, by small-pox, or by natural immunity. The bacteriologist has still to discover the specific active agent of vaccinia; when that has been discovered it may then be possible to use a standardised lymph free from extraneous micro-organisms. It is surely not improbable that in the future there will be vaccinia units injected in known doses and with as little fear of septic complications as there is at present in the injection of antitoxins. The complications of vaccination after all are chiefly due to neglect of surgical principles, and the vast majority of bad arms with their accompanying malaise are preventable.

At this particular season the slight constitutional disturbance caused by an aseptic vaccination cannot be too strongly emphasised, and even weakly people can therefore be told that with suitable care they may be safely vaccinated.

King's Langley.

BRISTOL ROYAL INFIRMARY.—The annual meeting of the governors of this institution was held on March 25th, under the presidency of Sir Charles Cave. The medical report stated that 3246 in-patients had been admitted during 1901, against 2986 in 1900; the out-patients numbered 38,617, compared with 38,671 in the previous year. 410 maternity cases had been attended at the patients' own homes and 417 patients had been sent to the Queen Victoria Jubilee Convalescent Home. The financial statement showed that the total ordinary income for the year amounted to £11,467 and the total ordinary expenditure to £15,252. The total unfavourable balance of the infirmary now amounts to £9332. The committee has made arrangements for the introduction of the Finsen light treatment for lupus. The chairman made a strong appeal for increased financial support.

THE SURGERY OF NON-MALIGNANT GASTRIC ULCER AND PERFORATION.

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(Concluded from p 887)

General observations on certain gastric troubles such as perforation and on some operative methods applied in their treatment were published in The Lancet of March 29th, p. 884 An analytical table was appended. It now remains to describe in detail such of the cases as are not reported elsewhere

Case 1 *So-called "spontaneous" rupture of the stomach, excision of the strictured pylorus and the adjacent part of the stomach, which was the site of the rupture, three and a half hours afterwards, recovery* —The patient, a man, aged 42 years, when admitted on Dec. 16th, 1899 was suffering from severe pain in the epigastrium. The pulse was good but the respirations were rather rapid. The abdomen was moving slightly with breathing, but it was tender all over, especially in the region of the stomach. Liver dulness was present. The patient had suffered from "indigestion" for months, with attacks of vomiting, but he had never brought up blood He had, however, passed dark coloured motions (melæna ?) and he had suffered from piles. At noon on the day of admission, when lifting something heavy, the patient was seized with a momentary sharp pain in the epigastrium and severe vomiting He walked indoors and drank some bovril. The pain then became excruciating and it spread all over the abdomen. Dr A. H. W Clemow saw him and, diagnosing gastric perforation, gave a quarter of a grain of morphia hypodermically and sent the patient into hospital for operation *Mr Keetley saw the case at 3.30 P M* and operated immediately

Operation.—A four inch epigastric incision parallel to, and to the left of, the middle line exposed the stomach, which showed a transverse tear three-quarters of an inch long on the anterior surface close to the pylorus, which was itself evidently cicatricially contracted. There was a considerable amount of fluid in the peritoneal cavity (probably bovril, mucus, and serum) The pylorus was slit up longitudinally, when its lumen was found to be narrowed to one-quarter of an inch in diameter There was no ulceration but cicatricial tissue had taken the place of the muscular coat Partly because this had led to the rupture and partly because of the possibility of its being malignant it was resolved to excise the pylorus. No enlarged or hard glands were discoverable. The part torn was not obviously diseased at all. The stomach was emptied by passing a rubber tube through the rent and then handed to an assistant. A temporary rubber tube was passed round the duodenum. Excision was performed freely on the stomach side so that the gastric opening was larger than the duodenal. Its superfluous part was sutured up and the remainder was united to the duodenum by interrupted fine silk sutures (sero-muscular only) Before the suturing the abdominal cavity was dried and cleansed by swabs and all its recesses were douched out with hot neutral saline, chiefly by means of a tube passed in through a hypogastric counter-opening A large drainage tube was left in a counter-opening in the right loin and shortened from time to time until at last it was removed.

Recovery was uneventful. There was no rise of temperature except on the eighteenth day and again on the twentieth day The patient was discharged five weeks after admission and was seen to be in good health some months afterwards. The patient was shown at the West London Medico-Chirurgical Society (The notes are by Dr J Matthews Duncan)

Case 2. *A patient treated in hospital for chlorosis and gastric ulcer is discharged apparently well but returns in three days with a perforation, laparotomy 24 hours afterwards, complete recovery, health and digestion still apparently good five months after operation.*—The patient, a girl, aged 17 years, was admitted into the West London Hospital on March 31st, 1901, with the following history She had been discharged from a medical ward only three days before, where she had been treated by milk diet, rest, iron, aloin, and sulphate of magnesia, for chlorosis with possibly gastric ulcer The brief notes recorded "uninterrupted improvement, abdominal tenderness disappeared" The notes on the blood during this stay were "hæmoglobin, 45 per cent., red cells, 3,490,000, white cells, 7000" The patient had never vomited up to that time but had had pain in the stomach after food for seven weeks. On March 30th, after taking a light tea, she went out. Two doors from home, being seized with a violent pain in the left side (gastro-splenic region) and with difficulty in breathing she returned home and went to bed. She shivered and felt cold. Mr J Hepburn gave her a small dose of opium. She slept and "felt better the next morning" She lived opposite to the hospital and Dr Otto F F Grünbaum went over to see her at 3.30 P M the next day She would not then acknowledge any abdominal tenderness, but her respirations were rapid, of the so-called hysterical type, her pulse was 104, of good volume and tension, and the liver dulness was diminished in intensity, its lower limit being one or two centimetres above the costal margin. The abdomen, though not distended, "felt firm" "Some collapse" (?) In the left flank there was some dulness, its anterior margin varying with the position of the patient. The temperature was 98·4° F and the pulse was 108. Taking these facts and the history into consideration Dr Grünbaum diagnosed perforation of a gastric ulcer At 5.30 P M the breathing was more rapid, the pulse was 110 and not of such good volume as before, the temperature was 102°, and there was slight evidence of free fluid in the abdomen. At 6.30 P M laparotomy was performed.

Operation.—Dr. Grünbaum gave an anæsthetic—gas and air, and later oxygen, with occasionally "a few whiffs of ether as a stimulant.' A median incision was made above the umbilicus. A few bubbles of inodorous gas or air escaped There was great distension of both the stomach and the colon, especially of the latter, so great as to necessitate puncture of both in order to make room for further procedures. On passing the fingers between the anterior wall of the stomach and the liver *sero-purulent fluid* escaped The anterior wall of the stomach, all along the lesser curvature, from near the pylorus to as far as the œsophageal opening and for a breadth of several inches was plastered over with recent lymph and had evidently been loosely adherent to the liver, encapsuling the fluid which I had just let out The perforation was not seen, it was probably hidden beneath the lymph which it was not thought advisable to disturb roughly However, all these parts were carefully swabbed and cleansed and a thin iodoform gauze drain or tampon was spread out a little and passed well back, so as to cover the lymph coated area. A suprapubic incision was then made, pus was found in the pelvis and that cavity was carefully swabbed out. Serous or sero purulent fluid was found in the left flank but not in the right flank. Three rubber drains, each about as thick as the little finger, were placed in the pelvis and through two special lateral incisions in the splenic and right hepatic fossæ of the peritoneum respectively The right was removed in three days and the others were gradually shortened in a few days more Feeding by the mouth was not commenced till the twelfth day, but the convalescence was uninterrupted. The gastro-hepatic gauze tampon was removed every two days, several times, on each occasion being replaced by a smaller piece The tubes were removed and shortened at the same time. On the sixth day the nutrient enemata were returned and the bowels acted in the bed A pint of hot water was henceforth injected into the rectum an hour before each nutrient enema. All the water was retained. The temperature which was 102° on admission was 101 4° at 6 P M the day after operation, and it sank quickly to normal where it remained after the fifth day The patient remained for five months afterwards free from indigestion or other gastric troubles but still rather anæmic. (The notes are by Dr O Inchley)

Case 3. *Perforation of gastric ulcer, operation 26 hours afterwards, recovery* —The patient, a female, aged 21 years, was seen by Dr D Fairweather of Wood Green on Dec 26th, 1901 He immediately sent for Dr C O Hawthorne and a surgeon and after a consultation between those gentlemen Dr R. S Dickson, Mr E. J Eedle, and myself operation was performed without delay The perforation had occurred more than 24 hours before. The whole of the lesser cavity of the peritoneum was full of thick lymph patches and fluid the right flank and the pelvis were full of sero-purulent fluid and a little lymph, and there was one patch of lymph on the anterior wall of the stomach. After careful swabbing four iodoform gauze drains and one long rubber drain (pelvic) were inserted. Two incisions—epigastric and hypogastric—were made. Recovery was uneventful and the patient is now apparently quite well (12 weeks after operation). This case will be published in full.

CASE 4. *Perforation of a gastric ulcer; operation 26 hours afterwards; recovery.*—The patient, a young woman, aged 24 years, was admitted into the Chislehurst and Cray Valley Cottage Hospital on the morning of Jan. 22nd, 1902, under the care of Mr. Hugh Lawson, and was operated upon on the same afternoon with his assistance and that of Dr. T. M. Callender more than 24 hours after perforation. This case resembled greatly the preceding one, except that the perforation was in the anterior wall, near the lesser curvature, and a little towards the cardiac end. It was closed by two rows of fine silk Halsted's sutures. Swabbing was employed, followed by gauze drains, &c., as in the preceding case. The course of the case was uneventful. The patient is now (six weeks after operation) up and on solid food and is free from pain. This case also will be published at greater length.

CASE 5. *Perforation of a gastric ulcer; peritonitis; operation on the fifth day; afterwards perforation of a second ulcer; parotitis; perihepatic abscess; pleurisy; death on the thirteenth day.*—The patient, a female, aged 23 years, was admitted to hospital on the medical side on Dec. 2nd, 1899, complaining of abdominal pain. On the previous night she had been attacked with severe pain in the left side of the abdomen and she vomited a little brandy which was given. She was sent to bed. She had had dyspepsia off and on for some years but never vomited blood. Next day (Dec. 3rd) the patient did not look ill, except that she was anæmic. There was tenderness in the epigastrium in the middle line. The abdomen was not distended and it moved well. The tongue was clean. The temperature, which on the previous day had been 101·4° F., was on this day 101° in the evening and on the 4th it was 99·8°. But on these two days the patient was getting worse. The abdomen was more distended and tympanitic. The tongue was dry and the pain was worse. The bowels had not been opened since admission. On Dec. 5th Mr. Keetley was asked to see the case and he operated at once.

Operation.—There was a large escape of gas on opening [illegible] peritoneal cavity. A small perforation was found in the [illegible]erior wall of the stomach which was covered by a good [illegible]l of lymph. The lower margin of the great omentum was [illegible]dherent to the anterior abdominal wall in such a way as to have apparently cut off and protected the pelvis and small intestine from infection, the peritoneum above being covered with lymph. The ulcer was excised and closed by sutures, perforating all coats and tied with the knots inside (through a small incision made on purpose close by and afterwards itself closed). The right flank over the kidney and under the liver was examined with a sponge but no fluid was found. A thin layer of iodoform gauze was placed on the sutured stomach surface and, with a rubber drain, brought out of the wound. Nutrient enemata were ordered. On the day after the operation (Dec. 6th) the gauze was removed. As the skin sutures looked tense some were removed and boric acid fomentations were applied. On the 7th the pulse was rapid. Milk was taken by the mouth as well as by the rectum. The tongue was very dry and cracked. On the 8th the bowels were moved six times through the night (the first motions since before the perforation occurred). The nutrient enemata were stopped and an enema of starch and five grains of Dover's powder was given. "Dressed to-day and condition of abdomen good." On the 12th the patient had developed parotitis on the right side. The mouth was being frequently cleaned with glycerine of borax. The general condition was worse but there was no pain or tenderness in the abdomen. There was a dirty discharge from the wound, seeming to contain bile. There was pain on the right side; a friction rub was heard. There was some dulness at the right base. A subphrenic abscess was suspected but the patient's condition seemed to be too bad for any operation. The pulse was 140, the respirations were 48, and the temperature was 102°. The patient died on the 13th.

Post-mortem examination.—There were an abscess around the right end of the right lobe of the liver and *a second perforation of the anterior wall of the stomach.* There was pus in Douglas's pouch. The intestinal coils on the right side of the abdomen were infected and there was a good deal of lymph between them. In the left flank they were free from peritonitis. That part of the anterior wall of the stomach which was the site of the two perforations was bathed with dirty-looking discharge and covered with lymph. Both openings leaked and the one which was sewn up at the operation had sloughing edges.

Remarks.—When two days before death a dirty, bilious-looking discharge was observed in the wound I ought immediately to have opened it up and searched for the cause. I was held back by one of the two reasons which prevented me from searching for a subphrenic abscess—viz., the bad general condition of the patient who was unfit to take a general anæsthetic or to go through what might prove to be an extensive operation under local anæsthesia. The second perforation certainly took place after the operation, because all that part of the stomach wall in which it occurred was well seen and examined. I think the leakage from it led to the fatal termination by polluting the whole wound and perhaps by percolating down into the right suprarenal fossa. The pus in the pelvis may have been secondary to either the first or the second perforation. It must not be forgotten that this case was not operated on until four days after the first perforation. (The notes are by Dr. Matthews Duncan.)

CASE 6. *A large, ragged perforation of the posterior wall of the stomach; general suppurative peritonitis of both greater and lesser cavities; the patient first seen when moribund on the fifth day; the peritoneal cavity drained and douched with neutral saline solution every two hours; artificial anus (ileum); death 34 hours afterwards.*—The patient, a female, aged 23 years, was admitted into the West London Hospital on Sept. 26th, 1900. The patient was brought into the theatre from outside the hospital in a moribund condition, presenting the appearance of a patient with suppurative peritonitis. The abdomen was as hard as a board. The pulse was 140.

Operation by Mr. Keetley.—The patient was put lightly under ether. An incision was made in the middle line three inches long from the umbilicus down, with two sweeps of the knife. There was no bleeding, only a slight oozing at the venous points. A tube of rubber was put deep down into the pelvis. On either side, at the most dependent part between the ribs and the iliac crest a like incision was made. From the flank wounds to the hypogastric wound drainage-tubes were pulled through by large Spencer Wells forceps till they emerged at both ends. A fourth incision was now made at McBurney's point through which a loop of ileum was drawn, opened, and the edges then sutured to wood-wool pads. The peritoneal cavity was then irrigated with five pints of warm neutral saline solution and the patient was removed to a ward. She was put on milk, soda-water, barley-water, or beef-tea to two ounces hourly, gradually increased to three ounces. There was no vomiting after the operation and flatus was passed both through the artificial anus and the rectum. At intervals of two hours three pints of warm saline solution were irrigated through the drainage-tubes and the dressings were changed. There was no improvement in the pulse, the temperature (about 102°), or the respiration. At 12.30 P.M. the patient started singing for a short time. After that she became rapidly worse, breathing more rapidly, with the pulse running and uncountable. This was 33 hours after operation. The temperature rose to 106·2°, and after death, at 1.30 A.M., to 107·3°.

Post-mortem examination.—The abdominal cavity was filled with foul and purulent fluid. The liver and stomach were covered with the material. Other organs had been partially cleaned by the irrigation. The perforation, which was found on the posterior surface of the stomach near the lesser curvature and nearer the pylorus than the cardiac end, was of the size of a halfpenny, with thick edges. There was a large amount of shreddy material attached to the under side of the diaphragm, just opposite to the corresponding site of the ulcer. There were pleural adhesions over the lower surface of the left lung.

Remarks.—This patient's acute troubles had begun four days before she was seen by me. After warning her friends of the practical hopelessness of the case I had her removed at once to the hospital and I operated as above. She was quite unfit to stand any search for the cause of the peritonitis. The drainage, the douching, and the artificial anus relieved the patient for the time and *might* have saved her had not the mischief been so great around the liver and in the lesser peritoneal cavity and the perforation so large. This is a type of cases which occur every day and are sacrificed by not calling in the surgeon at the first to clear up the diagnosis. It should be contrasted with Cases 1 and 2. It was a mistake to feed the patient by the mouth, but we were tempted to do it by her depressed state and by the readiness with which she took and retained liquids. (The notes are by Dr. J. Catto.)

CASE 7. *Perforation (?) and hæmorrhage; rest and rectal feeding; improvement for 10 days; then death from sudden and severe hæmorrhage.*—The patient, a married woman, aged 28 years, was under the care of Dr. C. F. L. Dixson of Brentford. She had been treated for dyspepsia for some time. After retiring late on April 6th, 1900, she awoke with "agonising pain" in the abdomen and great collapse. She rallied from this, but as the pain and tenderness continued Dr. Dixson got me to see her the next day. We had her removed to the Brentford Cottage Hospital, but eventually refrained from operation partly on account of her own unwillingness and partly because she steadily improved and because also the symptoms suggested at the worst a strictly localised peritonitis. There was no abdominal or thoracic dulness, only moderate distension and no vomiting. The facial expression became good and the patient became cheerful. She was fed strictly per rectum with three ounces of peptonised milk, strengthened by plasmon, every four hours. Hot fomentations were applied to the left side of the abdomen, where the pain was localised. She seemed to be improving for 10 days. She then "had severe hæmorrhage per rectum and died soon after, conscious to the very end," at 11.40 P.M. on April 16th. There was no post-mortem examination, but there can be little or no doubt that this was a case of perforation of a gastric ulcer occurring while the patient was lying in bed with a nearly empty stomach and causing a strictly localised adhesive peritonitis with little or no extravasation. No signs of abscess or of fluid in any part of the abdomen or the thorax were found in spite of repeated examination, and there is a possibility that the perforation may have been duodenal and altogether extra-peritoneal. Doubtless some large vessel was opened either by progressive ulceration or by sloughing and the patient died, as above related, with copious hæmorrhage from the rectum.[1] (The notes are by the matron of the Brentford Hospital. The temperature chart was accidentally destroyed.)

As this record of my experience of non-malignant gastric cases seen in the last four years is meant to be complete the following case should be mentioned.

CASE 8. *Perforation with the stomach probably empty; refusal of operation by the patient; medical treatment; death ultimately with signs of subphrenic abscess and left pleuro-pneumonia.*—A single woman, about 30 years old, was seen by me about three years ago. She had suffered for some time from chronic indigestion. Soon after the preceding midnight she had been seized with great pain in the abdomen and had collapsed. She had had no food since tea-time, about seven or eight hours previously. After a time she rallied but before the breakfast hour she became worse and collapsed again. A medical man was fetched who placed her under my care. I saw her some hours afterwards. She had then rallied once more but she presented symptoms which convinced me that perforation of, fortunately, a probably empty stomach had occurred. I urged her strongly to permit operation but she obstinately refused. I directed her to be fed wholly per rectum and thought that the case might come to nothing worse than a subphrenic abscess, by which time she might be willing to submit to surgical treatment. She ceased to be under my care. In a few days I learned that she seemed so much better that feeding by the mouth was commenced. In a day or two more the temperature began to rise and she eventually died with signs of subphrenic abscess and pleurisy of the left side and without surgical intervention.

CASE 9. *Chronic abscess or fistula in the left anterior abdominal wall traced to beneath the diaphragm and probably having originated in the perforation of a gastric ulcer, erasion, &c., and drainage; cure.*—The patient, a single woman, aged 30 years, was admitted into the hospital on Oct. 26th, 1896. Five years before she had had an attack which was diagnosed as biliary colic and she was said to have passed gall-stones. Chronic indigestion and anæmia had been present ever since. A second attack of "biliary colic" had occurred some months previously. One week after this (June, 1896) peritonitis came on, and towards the end of the same month "some quarts" of pus escaped from an opening at or near the navel. Six weeks previously (September) the discharge had nearly ceased but what was believed to be rheumatic fever supervened. The fever abated and about the same time or a little afterwards the abscess burst open again, discharged freely, and had done so ever since. The patient had "always" suffered from anæmia and at times from "very severe indigestion and neuralgia." The personal and family history otherwise was unimportant. On admission the patient was seen to be pale and thin. The orifice of the umbilical sinus was exceedingly small. There was an area of dulness to the left of, and below, it. The temperature was normal. The patient was now seen by Dr. L. Dobson who immediately placed her under me.

Operation.—On Oct. 27th I proceeded to operate. A sinus or cavity was traced, extending from two and a half inches to the left of and below the umbilicus, underneath the rectus up to the lower surface of the diaphragm as far as the fingers would reach beneath the edge of the ribs. It contained granulations and much foul-smelling pus. The left rectus was divided and after its anterior wall had been freely slit up the cavity was scraped, swabbed, and douched. Finally, a low counter opening was made and three rubber drains were inserted, two between the stomach and the diaphragm and one from the umbilicus to the counter opening.

With regard to the after-history of the case, there was no pain, the wounds gradually completely healed, and the patient put on weight. She was discharged well on Feb. 3rd, 1897. (The notes are by Mr. Ellacombe.)

CASE 10. *History suggestive of old perforation of the stomach; more or less recovered from without operation; but the patient not really well several years afterwards.*—I may mention that I have had in the period covered by these hospital cases a private case with Mr. H. Scott Elliott and Mr. F. W. Way of Southsea in which the history and symptoms point to a perforation of a gastric ulcer 14 months before with localised peritonitis and left pleurisy. The patient cannot be said to be really well yet, although there is nothing now which would quite justify operation. She suffers a great deal from a recurrent skin rash and has occasionally pain and discomfort in the gastric region. It is now four years since the first onset.

CASE 11. *Gunshot (revolver) perforation of the liver and stomach in an infant suffering from rickets and whooping-cough; a sloughing burn on the heel; laparotomy; death on the eighth day.*—The patient, an infant, aged 14 months, was admitted into the hospital at 9.45 A.M. on May 5th, 1901. At 8.30 A.M. his mother, playing with him, accidentally shot him through the abdomen with a revolver, placed close to him. The bullet was found in the bed by Mr. Herbert W. Chambers who cleaned and dressed the wounds and sent the child into the hospital at once. The child was admitted crying and slightly collapsed. The pulse was 168, the temperature was 96·2° F., and the respirations were 40. He was markedly rachitic and had whooping-cough. The collapse increased and was combated by various usual means, including oxygen inhalation. There were two abdominal wounds, one in the middle line below the apex of the ensiform cartilage, and small, the other large and ragged and in the middle of the left flank. This was plugged with a piece of omentum of the size of a florin. At 11 A.M. the patient vomited blood.

Operation.—At 11.30 A.M. on the day of admission operation was proceeded with. Just sufficient anæsthetic (A.C.E.) was given to allow the abdomen to be opened. The child was placed upon two rubber warm-water bottles and his legs were well wrapped in wool. The surface of the abdomen was cleaned and sterilised. A four-inch incision parallel with the left costal margin and starting from the aperture of the entrance was made. There was blood in the peritoneum and a perforation of the liver (left lobe) was still oozing. This was now temporarily plugged with cyanide gauze. The stomach was brought freely into the wound. It showed a small perforation anteriorly, near the pylorus, and a large one of the size of a shilling and very ragged posteriorly, close to the spleen and greater curvature. The omentum was severely bruised but it showed no visible wound. The gastric wounds were each closed by two rows of Lembert's sutures. The stomach was almost empty and nothing which could be distinctly identified as food could be seen in the peritoneal cavity, but I think that there was an appearance as of a little mucus and half-digested milk mixed with the blood found and removed. The prolapsed omentum reduced itself and was carefully cleaned. Counter openings having been made in the splenic and suprapubic regions large drainage-tubes were temporarily inserted and the whole peritoneal cavity was douched with hot sterilised neutral saline solution. The peritoneal wound was closed with fine silk and the muscle and skin were sutured with silkworm gut. The operation lasted just under 45 minutes. An enema of four ounces of peptonised milk was given and the child was put back to bed and well warmed with water-bags. The pulse was 160. At 1.30 P.M. the pulse was 144. The child was warmer and presented a better colour. At 2·30 and at 4.30 P.M. the patient was "doing very well"; the pulse was 130. At 11 P.M. the respirations were 44 and the temperature was 100°. The child was very restless but otherwise he was better. On the 6th the patient was restless but he slept at intervals. The temperature rose to 101·2°, the pulse was 132 and the respirations were 40. The temperature soon sank again to 97·6°. Some "trembling fits" now occurred. Two drachms of milk were administered every hour by the mouth. On the 7th the patient was less restless, there was no vomiting, and he appeared to be comfortable. The temperature was 99°, the pulse was 136, and the respirations were 42. At night the respirations were only 32. The child seemed to be cold and was wrapped in cotton-wool. Whooping-cough returned in the afternoon. On the 8th the patient had had no sleep. The temperatures were 100·2°, 99·2°, and 99·6°, the pulse was 124, and the respirations were 28. The abdomen was soft and not tender. Milk was taken with avidity. On the 9th the patient had passed a quiet night but had had no sleep. The bowels were opened, a partly-formed motion being passed. There were a bad cough and occasional whooping. The temperature was 98·6°, the pulse was 132, and the respirations were 30. The shoulders were raised on a pillow. Another stool—dark and containing a blood-clot—was passed. A nutrient enema which had been administered at five o'clock was returned. After a wash out other enemata were retained. A large blister was discovered on the right heel, probably caused by hot-water bottles, with which he had been carefully warmed since his admission. Great care had generally been taken to wrap them thickly in flannel, but the child's restlessness may have counteracted this. On the 10th a little sleep was gained at intervals. The bowels were opened twice. There was no more blood. There had been no vomiting since the operation. The temperature went up to 102° at 2 A.M.; at 6 A.M. it was 99·4°, the pulse was 128, and the respirations were 32 At 2 P.M. the temperature was 102·2° and the pulse was 154 No coughing had taken place so far on this day. A blister was applied to the heel and the slough was incised beneath. Boric fomentations were employed. On the 11th the patient had slept a good deal but the temperature at 2.30 A.M. had been 104 2°, the respirations 56, and the pulse 140. The child was quiet and he looked as usual except that he was a little paler. At 6 A.M. the temperature was 101·4°; at 12 noon, it was 103·6°, the pulse was 138, and the respirations were 34. At 1.30 P.M. a convulsion occurred. The temperature was 102·8°, the pulse was 160, and the respirations were 52. The convulsions and the rises of temperature were repeated at intervals during the day several times. After 3 P.M. these did not recur. On the 12th the patient was quiet till 7.30 A.M. But then the respirations began to be frequent and at 9 A.M. they were 64, the temperature being 99·6°, and the pulse 132. There were now slight "trembling attacks" and squints were observed. Oxygen inhalations improved the breathing. The abdomen was soft and was moving well. At 10.13 A.M. the child became unconscious and soon afterwards, at 10.50 A.M., he died.

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[1] This case ought to have been published with the four cases of severe hæmorrhage in THE LANCET of June 8th, 1901, p. 1597; but it was forgotten, doubtless because it was not operated upon. With a case now under the care of Dr. J. Allan of Chislehurst and myself, it makes a total of six *severe* gastric (or duodenal) hæmorrhage cases seen by me in the last two or three years, of which three were not operated upon and in which the patients died, while all the three patients operated on recovered.

Necropsy.—The organs of the head and chest were normal, except the lungs, which were slightly congested at the base, and the bronchi were rather catarrhal. Examination of the abdomen showed that the intestines were healthy and there was no general peritonitis. The gastric wounds were healthy-looking. There was no leakage. The left lobe of the liver was perforated one and a half inches above and slightly to the left of the notch. The liver otherwise was normal. The whole of the omentum was gathered up into a thick bunch, matted closely to the greater curvature and adjacent to part of the anterior wall of the stomach and adherent at the ends, also to the liver and the spleen respectively. The transverse colon was drawn up close to the lower border of the matted omentum. In the interior of this bunched omentum and in a small cavity of the size of a florin, apparently formed by the adhesion of the omentum to the stomach, was a thin layer of greenish purulent lymph. All the other organs and regions of the abdomen were normal. The slough in the right heel extended down to the bone. (The notes are by Mr. H. H. Stiff.)

CASE 12. *Five years' history of gastric troubles; repeated treatment by rest and rectal feeding followed by relapses; subphrenic abscess drained and cured; slight attacks of hæmatemesis frequently repeated; very depressed condition; gastro-jejunostomy; death.*—The patient, an unmarried woman, aged 28 years, unhealthy and depressed-looking, anæmic, and with much acne on the face, was admitted on Feb. 18th, under the care of a medical colleague, suffering from tenderness in the epigastrium. There was a long history (five years) of pain immediately after food which was relieved by vomiting. Three years previously an abscess appeared below the lower border of the ribs on the left side, and it was drained with tubes in the Windsor Hospital. The patient had been several times subjected in hospital to a six-weeks' course of rectal feeding (once to an eight-weeks' course). On each occasion she was relieved for from seven to nine months. She had vomited blood first six weeks previously and six times since, on one occasion half a pint. There was habitual constipation. The periods were scanty and irregular. She was now fed (per rectum chiefly) for 37 days on peptonised milk, beef-tea, barley-water, and occasionally a little brandy and soda-water, also a quarter of a grain of opium three times a day. During all this time she vomited nearly every day, often several times; one day 10 times. The vomit was, as a rule, blood-stained. There was a good deal of pain. The temperature was usually normal; once it went up to 100° F. About 10 days before the end of this period I was asked to see her; but I felt reluctant to operate owing to the depressed and unhealthy-looking appearance of the patient which differed considerably from the aspect of a person suffering only from gastric ulcer and its usual consequences. However, on March 27th it seemed that something surgical must be done, as the patient continued to be in pain and to vomit daily as much as ever.

Operation.—An anterior gastro-jejunostomy was performed. The note says: "Stomach small. Veins were varicose or dilated as if some portal obstruction. No ulcer or thickening or adhesion felt." On opening the abdomen I found the transverse colon distended with solid fæces in large lumps to such a degree as to prove to be a mechanical obstruction to the proceedings of the operation and possibly afterwards to the passage of the contents of the jejunum when a loop of that bowel was brought over and fixed to the stomach.[1] And, further, contrary to my usual custom, I sutured the mucous membrane of the stomach to that of the intestine with a continuous (glover's) suture. To these two factors (one or both) I am inclined to attribute the unfortunate course of the case—vomiting for two days followed by collapse and death.

Post-mortem examination.—An abscess was found between the layers of the stomach wall (an "intramural abscess") around the gastro-enterostomy wound, and spreading from the same centre a localised, adhesive, but probably septic peritonitis in the adjacent part of the abdomen. The anastomosis is vividly described as "looking tight and admirable." The entire colon was full of dry formed fæces—packed. The sequence of events was, I think, as follows. The gastro-enterostomy wound was, like all or nearly all other gastro-enterostomy wounds, not absolutely aseptic, because the stomach cannot be perfectly asepticised. But the close glover's suture of the mucous membrane prevented it from draining either into the stomach or the intestine. A collection of bloody serum formed in the stomach wall. Matters were aggravated by the want of rest caused by the constant vomiting and the vomiting itself was kept up by the suppuration, and possibly also by mechanical obstruction of the jejunum due to the colon being distended with fæces. No ulcer was found post mortem in spite of a careful search by several observers. Perhaps free purging and even a colotomy would have done this patient more good, not only than gastro-enterostomy but also than opium and rectal feeding. (The notes are by Dr. M. V. Dee.)

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[1] The entire colon and rectum were found to be packed with fæces post mortem.

CASE 13 *Severe recurrent hæmatemesis; gastro enterostomy with Murphy's button; recovery.*—The patient was a middle-aged woman, a patient of Dr. James Allan of Chislehurst, the subject of severe recurrent hæmatemesis. With the help of Dr. Allan and of Mr. A. S. St. John (anæsthetising) gastro-enterostomy was performed on Sept. 6th, 1901, with Murphy's button. The Murphy's button was passed per anum, and the patient writes (six months after operation): "I shall come and see you and then you will see how well I look."

CASE 14.—This was a case with an old history of gastric ulcer and of very severe hæmatemesis years before, of chronic dilatation of the stomach, and of *tetany*. Death took place before the surgeon could arrive. It was recorded briefly in THE LANCET of June 22nd, 1901, p. 1789.

CASE 15. *Five years' history of gastric trouble suggesting ulcer; repeated treatment by rest and rectal feeding; temporary benefit; relapse; gastro enterostomy; retention of the button; its removal by gastrotomy; cure up to date.*—The patient, a girl, aged 15 years, was admitted on Dec 7th, 1900 She was anæmic but was well nourished. She had first suffered from pain in the stomach five years previously. She was put to bed for one month and was kept on milk diet and she got quite well and remained so for a month Then a relapse was treated in the same way and the cure lasted for a year. She went into service one year previously to admission. After a time the abdominal pain and vomiting recurred In August, 1900, she was admitted on the medical side of the hospital and was treated for "gastric ulcer," by rectal feeding for 18 days and was discharged after another week on "half diet;" "free from all pain since the fourth day after admission." After another month's domestic service she had her first menstrual period, but her second only a week previously to admission. When admitted she appeared to be well nourished but rather anæmic. She had no appetite and the sight of food caused nausea. Pain came on in the epigastric region immediately after food and lasted for several hours. She had only once raised blood, then she also "coughed up a small clot the size of a finger-nail." Tenderness was marked at two points, both in a line drawn upwards and outwards from the umbilicus, one just under the edge of the ribs and the other midway between the ribs and the umbilicus. On liquid diet the patient lost her pain but when a fortnight after admission she was allowed solids the pain returned severely.

Operation.—The operation, which was performed on Jan. 1st, 1901, comprised a median epigastric incision and an anterior gastro-enterostomy with Murphy's button, the jejunum being opened 20 inches from its proximal end. The pylorus was thickened and was one inch to the right of the middle line. The mucous membrane of the stomach was bright-red in colour. No search was made for an ulcer except in the part of the stomach which easily presented itself. *There none could be felt from without.* The desire was to make the operation as simple and uncomplicated as possible. On Jan. 2nd during the night there was altered blood in the vomit. Sips of hot water were allowed by the mouth. From then no more vomiting occurred and after the fourth day no pain until the patient was allowed to get up on the 29th. Afterwards pain and tenderness were felt in the epigastrium. The presence of the button in the stomach was suspected. A skiagram was taken but it showed nothing Ultimately the shadow of the button was plainly seen on the screen and it was removed by gastrostomy. It was found to be still fixed in the gastro-enterostomy opening.

Removal of the button, May 7th.—An aperture was made in the anterior stomach wall and the gastric half of the button was unscrewed and taken out. The jejunal half could only be extracted by a good deal of manipulation, assisted by notching the opening. The process of extraction left the wall of the gastro-enterostomy opening so thin on one side that a few Lembert's sutures were inserted to back it up The first aperture was mostly closed by three sutures penetrating all the gastric coats and tied with the knots inside the stomach. The rest was closed by Halsted's suture. The cause of the retention of the button was probably its not having been screwed up quite tight enough. (The notes are by Mr. Stiff.)

The patient was seen recently and she described herself as feeling quite well. She looked bright though she was still rather anæmic.

Three cases of hydrochloric acid poisoning.—These cases form the subject of a paper read before the Royal Medical and Chirurgical Society and published in THE LANCET of Nov 17th, 1901, p 1328. Two were suicidal and both of the patients died, one because the case was too advanced for operation and one from progressive ulceration of the œsophagus and gangrene of the lung, about six weeks after I had performed a gastro-enterostomy, which relieved her for a time. The third patient made an admirable recovery after Loreta's operation which removed intense emaciation and other disagreeable and dangerous symptoms due to an enormously dilated stomach. I am convinced that the safety of such cases lies in very early operation combined with special treatment described in the paper referred to.

Four cases of severe gastric hæmorrhage were reported in THE LANCET of June 8th, 1901, p. 1597.

The above 22 gastric cases include all that I have been consulted on *for non-malignant gastric troubles* in the past four years. Gastric symptoms have also been present in cases in which there were adhesions of the omentum, &c., secondary to hernia, or to inflammatory affections of the gall-bladder, or of the pelvic organs. In these cases the prime disease has been treated operatively with success. Incidentally I have seen a few patients with symptoms of gastric ulcer who came to me with lateral curvature of the spine. In these spinal cases the indications for treatment of the stomach seemed to be purely medical and hygienic, combined with attention to the spinal curvature.

Correction.—In the table on page 886 (THE LANCET, March 29th), last column, opposite Case 16, for "gastrostomy" read *gastroenterostomy*.

Grosvenor-street, W

THE SUPPOSED INFECTIVITY OF DESQUAMATION IN SCARLET FEVER.[1]

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ONE of the many points in connexion with the natural history of scarlet fever calling for further investigation is the supposed infectivity of the desquamation which is so marked a feature of the disease From the point of view of fever hospital administration the question is one of the first importance, for the prolonged detention of scarlet fever patients which is still enforced in so many hospitals is largely out of deference to the prevailing belief that the presence of any trace of desquamation is evidence of continued infectivity. The view that desquamation is infectious was authoritatively endorsed by the committee appointed by the Clinical Society of London "to investigate the periods of incubation and contagiousness of certain infectious diseases." Its report was published in 1892 and in the conclusions as to scarlet fever it is stated. "(2) ...... Infection certainly persists so long as there is any desquamation and may still be active at the end of eight weeks" The evidence, however, upon which this emphatic and unqualified statement was presumably based was of the scantiest and most inconclusive description. Out of 209 cases received in evidence in connexion with scarlet fever, only three had the slightest bearing upon the question of the infectivity of desquamation. Indeed, I think I am right in saying that only in these three cases was desquamation even referred to. These cases were as follows —

CASE 24 (communicated by Dr. Murchison in 1878).—On April 1st, 1878, Master P. left school at Wimbledon, on the fortieth day of an attack of scarlatina, for his home at Brighton. Before leaving, desquamation had to all appearances quite terminated, the feet having desquamated twice. Also he had had repeated carbolic acid baths and he had left all his infected clothes behind. After reaching Brighton his face and feet desquamated again and four days after his arrival his mother fell ill with scarlet fever.

CASE 58 (communicated by Dr. Whitelegge).—B., a girl, aged 19, slept one night with a cousin who was undergoing a second desquamation on the feet eight weeks after the original attack. B. had scarlet fever rash four days subsequently.

CASE 64.—A girl desquamating after scarlet fever went to live in a household and a boy, aged five years, had scarlet fever rash five days later.

The details given in the above cases are so meagre that it is quite possible that there may have been a simple explanation of the conveyance of infection quite independent of the desquamation. It is unnecessary to assume this, however, because it is well known that infection is often carried after prolonged periods of isolation, when there is no discoverable lesion whatever. The committee itself admitted this, for it stated :—"It is, however, well shown ...... that a patient who is completely convalescent—so far, at any rate, as would appear on a cursory examination—may yet be, in some way, capable of infecting others." Whilst fully recognising the very valuable and scientific nature of this report as a whole, it is difficult to avoid thinking that the committee's "conclusion" was, in this case, rather the expression of a preconceived opinion than a genuine conclusion arrived at from the evidence examined. Whether or not, however, the committee was justified in coming to this conclusion, there can be no doubt that it was supported in the view which it took by the vast majority of the medical profession.

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[1] Abstract of a paper read before the Epidemiological Society on Feb. 21st, 1902.

So firm is the belief that a desquamating patient is necessarily still infectious that actions at law have repeatedly been based upon it as if it were a settled fact. Parents have frequently been prosecuted by corporations and convicted; and, on the other hand, corporations have been sued by parents and mulcted in heavy damages. The most glaring example of vexatious litigation in connexion with this subject is probably that of Jameson *v.* the Metropolitan Asylums Board which occurred in 1896. In this case, according to the report which appeared in the press, a claim was made against the Metropolitan Asylums Board by the secretary of a training school for girls for £13 for expenses in consequence of one of the girls being sent back from hospital still desquamating. The expenses were incurred owing to some of the boarders having to be sent home and the whole house having to be disinfected over again. No one else contracted the disease but a general practitioner had given it as his opinion that the girl was still infectious. The facts proved in evidence were that the patient was discharged after being in hospital 16 weeks. 17 days later she was found to be desquamating on the fingers and toes and was sent again to the hospital on the following day. She was then isolated for a further period of six weeks. The judge said that it was impossible to say that there was carelessness on the part of the hospital medical officers and so gave judgment for the defendants. At the same time he refused costs on the ground that it was a proper case for inquiry. In the face of such cases as these, medical superintendents of hospitals, whatever may be their own convictions, find little encouragement to discharge patients from hospital until all trace of peeling has disappeared. Believing very strongly that this view, although long established, was not supported by experience, I sent five queries to the medical superintendents of the principal fever hospitals in the country, and to a few others whose opinion I believed would command respect—25 in all. These queries were as follows :—

1. Can you adduce any evidence, experimental, statistical, or clinical, tending to prove that desquamating epithelium is, *per se*, a source of infection? 2. Do you consider that too much importance has in the past been attached to desquamation as a source of infection? 3. Does your experience support the popular belief that desquamation after scarlet fever is necessarily an indication that a patient is still infectious? 4. Does your experience lead you to believe that a patient may continue to desquamate, especially on the feet, for some time after he has ceased to be infectious? 5. Does your experience lead you to believe that it is necessary, in order to prevent the spread of infection, that patients, who otherwise are quite ready to leave hospital, should be detained until every visible trace of desquamating epithelium has disappeared?

Of the gentlemen to whom these queries were sent the following 21 favoured me with replies. Dr. J. E. Beggs, Dr. R. A. Birdwood, Mr. R. M. Bruce, Dr. F. Foord Caiger, Dr. W. Gayton, Dr. F. N. Hume, Dr. C. E. Matthews, and Dr. F. M. Turner (all the foregoing are medical superintendents of fever hospitals belonging to the Metropolitan Asylums Board); Dr. P. Boobbyer, medical officer of health and medical superintendent of the Borough Hospital, Nottingham; Dr. J. E. A. Chatelier, medical superintendent of the City Hospital, Birmingham; Dr. E. O. Hopwood, resident medical officer at the London Fever Hospital; Dr. J. T. Kitchin, medical superintendent of the City Fever Hospital, Bradford; Dr. C. B. Ker, medical superintendent of the City Hospital, Edinburgh; Dr. J. Priestley, medical officer of health, Lambeth, formerly medical officer of health and public analyst, Leicester; Dr. H. Meredith Richards, medical officer of health, Croydon, formerly medical superintendent of the City Hospital, Birmingham; Dr. J. W. Washbourn, physician to the London Fever Hospital, &c.; Dr. Meredith Young, medical officer of health and medical superintendent of the Borough Hospital, Stockport; Dr. H. J. E. H. Williams, medical superintendent of the City Fever Hospital, Sheffield; Dr. A. Johnston, physician superintendent of the Ruchill Fever Hospital, Glasgow; Dr. H. R. Kenwood, medical officer of health, Stoke Newington; and Mr. A. E. A. Pearson, medical superintendent of the City Hospital, Leeds.

I have divided their replies into two groups: (*a*) those taking what I will call the "new" view (though I recognise, of course, that it has no real title to the designation); and (*b*) those adhering to the old view, or occupying an intermediate position. The uniformity in the answers in the former group shows, I think, that the points at issue were well appreciated. Practically all the gentlemen in that group, 16 in number, state that (1) they can adduce no evidence that desquamating epithelium is, *per se*, a source of infection; (2) they consider that too much importance has been in the past attached to desquamation as a source of infection; (3) their experience does not support the popular view that desquamation after scarlet fever is necessarily an indication that a patient is still infectious; (4) they believe that a patient may continue to desquamate for some time after he has ceased to be infectious; and (5) they do not believe that it is necessary, in order to prevent the spread of infection, that patients, who otherwise are quite ready to leave hospital, should be detained until every visible trace of desquamating epithelium has disappeared. There is much less uniformity in the answers in the latter group. They are only five in number, and one or two may almost, I think, be said to favour the new view. Judging from the answers which I have received, therefore, it is clear that a great preponderance of expert opinion is contrary to the old and popular view, and it follows that the existing practice of detaining all patients till the last trace of desquamation has disappeared could be safely modified in the direction of considerably shortening the period of isolation.

In suggesting that the desquamation of scarlet fever is not infectious I simply mean that it is not infectious *per se*. The flakes of epithelium given off by a patient still in the infectious stage may naturally be expected to carry the infection as fomites, just as the clothing worn by such a patient or other articles in contact with him would do. On this hypothesis a piece of desquamated cuticle from a scarlet fever patient if sent in a letter through the post might readily convey the disease if the patient from whom it came was still in an infectious state, but the mere presence of desquamation ceases to be any evidence that a patient is still in an infectious state. The real question at issue is, Does the desquamating epithelium contain in itself the infecting elements—i.e., the supposed germs of scarlet fever—in the same way that the scabs of small-pox are believed to do? The pustules of small-pox undoubtedly contain the specific microbes of the disease and it is only to be expected, therefore, that the scabs, the remains of the pustules, should also contain them. This provides a simple explanation of the fact that the "striking distance" of small-pox is such a long one and that its infection is so readily air-borne. In scarlet fever, however, the eruption is an erythema—a process characteristic of chemical poisoning or of poisoning by the chemical products of microbic action rather than of the direct action of microbes themselves. Thus there are erythematous rashes, closely resembling the rash of scarlet fever, after the use of certain drugs and in cases of septic absorption, and these erythemata are sometimes followed by desquamation. Desquamation, much more profuse even than that seen in scarlet fever, follows the eruption of erythema scarlatiniforme desquamativum; yet there is no reason to think that the process in any of these cases is a microbic one. I hold, therefore, that the desquamation of scarlet fever should be regarded as also a non-microbic one.

In the absence of bacteriological evidence, it appears that the only way in which this question can be settled is by specially-collected statistics. A number of cases must be sent out from hospitals still desquamating, but otherwise apparently quite free from infection, and the result compared with that of similar cases in which desquamation has been completed. In a small way I have myself attempted something of the kind, both in Birmingham and in Leicester. My object was to find out whether patients sent out desquamating were more frequently followed by "return cases." My records in Birmingham covered some 4810 cases during the two-and-a-half years 1894-96 8·0 per cent.[2] of these were noted as showing some trace of desquamation (principally late desquamation on the feet) at the time that they were discharged. But of the cases which carried out infection (by giving rise to "return cases") only 6·5 per cent. had been noted as showing traces of desquamation.

In Leicester during the three months Sept. 14th to Dec. 14th, 1901, I tried the experiment of reducing the minimum stay in hospital to four weeks. The average stay in hospital, including time ill at home, during these three months has been 39·1 days, or counting only time in hospital, 35·3 days (excluding[3] cases which were sent home on account of erroneous diagnosis). In order to obtain this result it was necessary in many cases to "pass" patients prior to completion of all desquamation. The total number of cases sent out was 190 and the number of "return cases" was five. The particulars of these "return cases" are given in the accompanying table.

A TABLE GIVING PARTICULARS OF FIVE "RETURN CASES" ARISING OUT OF 190 PATIENTS DISCHARGED AFTER AN AVERAGE ISOLATION OF 39·1 DAYS.

	Infecting case.			Return case.		
No.	Sex and age of patient.	Duration of infecting case and dates of onset and discharge.	Condition of infecting case at time of discharge* and subsequent health.	Sex and age of patient.	Date of onset of return case.	Interval between discharge of infecting case and onset of return case.
1	Male, aged four years.	41 days—August 25th to Oct. 5th.	"Looks unhealthy." After return home suffered *from constant* nasal discharge.	Male, aged eight years.	Oct. 15th.	10 days.
2	Male, aged four years.	42 days—August 28th to Oct. 9th.	Crack behind ear not healed.	Female, aged two and a half years.	" 16th.	7 "
3	Male, aged four years.	47 days—Sept. 14th to Oct. 31st.	"Nose better, but not quite right. Still desquamating on feet."	Male, aged three years.	Nov. 5th.	5 "
4	Male, aged 11 months.	26 days—Oct. 28th to Nov. 23rd.	"Nose looks suspicious; little discharge."	Male, aged seven years.	Nov. 27th.	4 "
5	Male, aged 16 years.	39 days—Oct. 26th to Dec. 4th.	"Sore nose." Sore at home after return for more than a fortnight.	Female, aged nine years.	Dec. 17th.	13 "

* As recorded on the bed chart at the time that the patient was "passed."

Note.—The subjects of the infecting cases in Nos. 1, 3, and 4, had suffered from rhinitis whilst in hospital.

In only one case was there any desquamation present in the "original" or "infecting" case: this was on the feet, and it was also noted that the patient was suffering from a sore nose, which latter fact alone is, in my experience, amply sufficient to account for the "return case."

An attempt to send patients out of hospital at the end of a month is not, in the present state of public opinion, free from difficulties. There is always, of course, the possibility that "return cases" may occur with patients sent out desquamating, just as there is with patients sent out suffering—let us say—from corns or decayed teeth; and should this happen censure is likely to follow. A medical man is called in and if he finds the least trace of peeling he frequently expresses the opinion that the patient was sent out from hospital too soon.

There is one other point which I must mention. As things are at present the public will readily believe that a patient is still infectious and will continue to take precautions as to isolation, &c., so long as desquamation continues. Shake their faith in this and patients might be running about the streets at the end of 10 days or a fortnight. I fully realise the force of this. What medical officer of health, indeed, has not found it convenient to avail himself of this firmly-established belief? As students of science, however, we ought not to allow such an opportunist consideration as this to obstruct our search after truth. Moreover, our methods and measures for controlling the spread of scarlet fever (based largely upon theories) have not been such a conspicuous success in the past that we need apprehend any very serious consequences from a little modification of them in the future.

In conclusion I may briefly sum up the principal arguments against the supposition that desquamation is infectious, as follows: 1. The absence of evidence supporting it. It is difficult to believe but that if the old supposition were correct, strong evidence of it would ere this have been forthcoming, as is now the case with discharges from the nose and ears. 2. The fact that infectivity begins prior to the onset of desquamation and frequently continues long after desquamation has ceased. 3. The fact that scarlet fever wards, although abounding in desquamating epithelium, are not a danger to neighbouring houses. 4. The fact that the proportion of "return cases" does not appear to be increased amongst patients sent out from hospital still desquamating. On the other hand, the principal argument in favour of the view that desquamation is infectious is the fact that patients still desquamating, but otherwise apparently free from infection, have frequently been known to convey the disease to others. The whole force of this argument disappears, however, when we consider that patients apparently quite free from infection and in whom desquamation has entirely ceased have also been known to convey the disease; moreover, patients still desquamating have frequently mixed freely with others without untoward result.

Leicester.

THE TOPICAL APPLICATION OF MUCIN IN CERTAIN AFFECTIONS OF THE NOSE, THROAT, AND EAR.

BY WILLIAM STUART-LOW, F.R.C.S. ENG.,
REGISTRAR TO THE CENTRAL NOSE, THROAT, AND EAR HOSPITAL.

IN communications to THE LANCET of Sept. 8th, 1900, p. 730, and Oct. 12th, 1901, p. 972, and in papers read before the British Medical Association at the last two annual meetings, I described the beneficial action of mucin when administered in cases of painful digestion, gastritis, and gastric ulcer, and I gave the history of patients from my own practice and that of others who had proved its effectiveness in the alleviation of such painful gastric conditions. In these papers I also pointed out what I think had not hitherto been observed—viz., that almost invariably these stomachic symptoms were accompanied by a more or less pale and secretionless or dry condition of the naso-pharyngeal mucous membrane; and I showed the advantages of applying mucin to the nose and throat as a part of the treatment of these gastric affections. It was also shown that the deficient mucous secretive action of these surfaces was often a persistent and long-standing antecedent of the gastric irritation and an active factor in its causation. Anatomical and physiological facts were cited to prove that normally much mucus is meant to be carried onwards to the stomach to act as a protective against attrition by lumpy food and irritation by the acid gastric juice.

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[2] This percentage was estimated from the records of only 2000 of the cases discharged but the same system of discharging was followed throughout.

[3] There were no deaths to exclude.

The *bête noire* of nose, throat, and ear practice is the difficulty of successfully accomplishing amelioration of aridity of the mucous linings of these organs and the fact is that to such aridity all the other intractable, disagreeable, and distressful symptoms are due—namely, incrustation, fœtor, ulceration, hæmorrhage, and pain. The lessened mucous flow by causing desiccation causes also the loss of the essential and special nasal functions of smell and the filtration and warming of the inspired air. I claim for mucin that it does more than anything that has yet been tried to relieve the discomfort in mild cases and to mitigate the distress and suffering in the more severe. It is a natural remedy which restores the moisture and maintains it in virtue simply of its hygroscopic properties. I have had ample opportunities of testing the efficacy of mucin in the very extensive and mixed out-patient department of the Central Nose, Throat, and Ear Hospital.

As usual when the pathology of disease is obscure there have been much speculation and many theories put forward to explain the causation of atrophic and dry rhinitis and pharyngitis, and the treatment is, consequently, very unsatisfactory. I will not attempt to solve the pathological problem as to how the dryness and atrophy in these conditions are to be accounted for but will briefly indicate how mucin acts in *remedying them. Two researches that I had carried out by* Dr. G. L. Eastes of the Laboratory of Clinical Pathology, Queen Anne-street, W., the first two years ago and the second last year, throw much light on how mucin acts. In the first research it was conclusively shown that mucin has a retarding influence on bacterial growth, that sterilised solutions containing mucin remained sterile for a long time on exposure to the air, and that bacteria ceased to grow in culture media when mixed with mucin. This is a very interesting and important fact, as it indicates that nature has in the secretion poured out on mucous membranes provided a ready means for the suppression and retardation of growth of bacteria. In the *British Medical Journal* of March 8th last in the pathological column of recent literature (see Epitome) there is an account (quoted from the *Lyon Médical*) of a research by Professor Fernand Arloing in which this work is repeated in an investigation of the action of "mucidine"—a solution of the mucus of red snails—upon the bacillus of Löffler. From this he concludes that mucidine possesses a bactericidal action and that it retards the growth of other bacteria. The second research proved that mucin is hygroscopic in its action, being about one-fourth as absorbent for water as glycerine is, and that in this way it will act as a moistening agent—gently, slowly, and with lasting effect. According to this investigation 100 parts of mucin absorbed 3·8 parts of water in four hours, while 100 parts of glycerine absorbed 16·3 parts of water in the same time.

When applied locally to the interior of the nose and pharynx mucin has a soothing and emollient action; it moistens the surface and softens incrustations, readily facilitates their removal and prevents their re-formation; it thus also obviates fœtor, which is one of the best points in its favour as a local remedy. Mucin also restores the nasal function of smell by its hygroscopic effect and the filtration and warming functions are also resumed, because in a dry condition the mucous membrane is functionless. Messrs. Burroughs, Wellcome, and Co. have prepared for me a soloid composed of five grains of mucin, five grains of sodium bicarbonate, and one grain of menthol. This is prepared for use by dissolving it in one ounce of sterilised warm water, or, more thoroughly to get more of the mucin into solution I am in the habit of dissolving the soloid in equal parts of sterilised warm water and sterilised warm lime water. This solution may be used to spray, to douche, or to syringe the nose and throat twice daily. The spray should be a coarse one, as otherwise it is liable to get clogged with particles of undissolved mucin. A very good plan to obviate this is to spray warm water at least once a day through the instrument and thus wash it out. If much incrustation has to be got rid of it is well to rub it off with cotton-wool saturated in the warm mucin solution on a mounted prop. In severe and very old-standing cases of atrophic trouble I supplement the local treatment by giving the patient tabloid mucin co. containing five grains each of mucin and sodium bicarbonate internally before and after meals and thus relieve the concomitant gastric irritation and constipation.

I have had very good results in the treatment of dry conditions of the larynx and in cases where there have been incrustations on the laryngeal lining from the use of a spray of warm soloid mucin solution, the discomfort and hoarseness very soon being much relieved. I have at present 10 cases of dry catarrh of the middle-ear with narrowing of the Eustachian tubes and varying degrees of tinnitus and deafness under treatment. I am injecting twice a week a few drops of a solution of the soloid mucin co. of the same strength—1 in 1 ounce of sterilised warm water—into the Eustachian tubes. While the constant and terrible tinnitus of some of these patients has certainly been much relieved—and in some instances this has existed for years and proved quite unamenable to every form and variety of remedy—and the hearing has also improved, I can speak only tentatively of my results as I have not had the cases regarding which I write long enough under observation. The results, however, are distinctly encouraging, especially as the narrowing of the Eustachian tubes has become less evident. Where patients are very sensitive to the solution of the soloid of the usual strength (1 in 1 ounce) I either dilute the solution more or substitute for the soloid the tabloid for internal use. This has no menthol in its composition but I prefer the soloid, as the menthol serves to stimulate the remaining unatrophied mucous glands to secrete.

The substance most generally used at present for intra-Eustachian injection and as a nasal spray in these affections is a liquid oily paraffin with menthol in the proportion of *two and a half grains to the fluid ounce. I object entirely* to liquid grease in any shape or form for softening and moistening purposes. It is certainly absolutely useless as a moistening agent; indeed, such preparations act inimically, because they clog and paint over the still remaining and half-atrophied mucous glands. Such oily substances should never be thought of for the purposes of relieving a similarly dry condition of the oral cavity and yet they are commonly persisted with in the treatment of nose and throat and ear cases. What is required is a warm alkaline watery solution of mucin as a substitute for the deficient natural secretion and this is just what the solution of the soloid mucin co. supplies. The more potent penetrating effect of the watery solution is proved by the fact that menthol when used to the amount of only one grain to the ounce of the mucin solution is, by some patients, felt to be quite pungent enough in its stimulating action, as compared with the solution of menthol in liquid oily paraffin, in which it can be borne even to five times the strength.

I have found that even long-standing cases of atrophic nasal and pharyngeal trouble do very well, and that the crusts soon cease to accumulate, after regular douching twice daily with solution of soloid mucin co., and that no other irrigations are ordinarily necessary; but there are certainly instances when pus is present in the discharge in which it is advantageous to use just before the mucin douche a lotion of sodium sulphate or a combination of sodium sulphate and bicarbonate for cleansing purposes. I have patients who, after years of suffering from typical atrophic rhinitis with all its horrors of fœtor and discomfort have, after continuous and persistent application of the mucin irrigation, now been able to dispense with treatment to a greater extent than two or three times weekly.

Welbeck-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF GANGRENE OF BOTH NIPPLES OCCURRING IN THE PUERPERIUM.

By RALPH VINCENT, M.D., B.S. DURH.,
M.R.C.P. LOND.,
LATE SENIOR RESIDENT MEDICAL OFFICER, QUEEN CHARLOTTE'S LYING-IN HOSPITAL.

GANGRENE of both nipples occurring in the puerperium is an extremely rare accident. So far as I am aware there is no recorded case at all similar to the one which I am about to describe and I therefore think that it should be published. For permission to report the case I am indebted to Dr. W. S. A. Griffith.

The patient, a single primigravida, aged 23 years, was delivered at Queen Charlotte's Lying-in Hospital on June 3rd.

On the 7th (the fifth day) both nipples were excoriated; they were protected by rubber nipple-shields and were thoroughly dusted with orthoform, which treatment was continued for some days. On the 15th (the thirteenth day) the whole of the front of the chest over the breasts was covered with a dark red rash, uniform in character and papular at the edges. The skin was apparently infiltrated and thickened, slightly œdematous, and very tender; both nipples were excoriated. The patient complained of severe burning pain in the region of the rash and of headache. At this time the question of erysipelas was raised; the general character of the eruption was not altogether unlike that of erysipelas and the spreading margin was suggestive; but with such an extensive attack the patient must have been very ill. As it was she complained of little but headache and the local pain; her general condition was good and quite excluded erysipelas; the temperature was 100·6° F. The infant was taken from the breast and was fed artificially, the milk being withdrawn whenever necessary by the breast-exhauster. The breasts were then bathed with lead lotion. On the 17th (the fifteenth day) the appearance of the skin had not altered but the patient complained of great irritation and the temperature was much higher, being 103·4° at 4 P.M. On the 18th pustules had formed over the whole of the chest and the rash was spreading to the back. On the 19th the nipples were greyish-black and the left one was insensitive; the patient stating that she had "no feeling in it." On the 20th the rash was fading and the itching was less. The patient slept after an injection of morphia. The bases of the nipples were tender and the nipples were black and inclined to bleed. The rash had extended to the buttocks. On the 21st the nipples were definitely gangrenous, the line of demarcation being around the areolæ. The rash on the chest was now much faded, but there were red blotches on the face, chiefly about the nose, the chin, and the forehead. On the 22nd this rash on the face was less and the left nipple had separated, leaving a red granulating surface of about the size of a shilling. The right nipple was sloughing and had nearly separated. On the 23rd the right nipple separated, leaving a similar granulating surface. The rash on the chest had now quite disappeared and the epidermis was desquamating in small flakes; there were still a few blotches on the face. From the granulating surfaces left by the separated nipples pus was discharging freely. On pressing the breasts milk exuded from the openings of the milk-ducts at the base of the ulcers. The progress of healing was uninterrupted and the further history of the case was quite uneventful. The patient left the hospital on July 12th with the ulcers almost completely healed, and on the 18th, when she attended the hospital, they were quite healed. It is an interesting and important feature of the case that notwithstanding the complete destruction of both nipples there appeared to be no obliteration or occlusion of the milk-ducts, so that in the event of a future pregnancy lactation would probably be normal and suckling would be possible by the use of a shield to take the place of the destroyed nipples.

It is impossible to prove the cause of the gangrene, but I suspect that the primary cause was orthoform. A rash has followed the use of this preparation and is, I understand, well known to those who use orthoform in general surgery. Gangrene of the nipples is so unique an accident that one must regard any unusual feature in the case with suspicion. The only unusual feature was the use of orthoform.

Harley street, W.

A CASE OF SPINA BIFIDA IN A MARRIED WOMAN, AGED 27 YEARS; RUPTURE; OPERATION WITH SUCCESSFUL RESULT.

BY F. FAULDER WHITE, F.R.C.S. ENG., L.R.C.P. LOND.,
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THE patient was admitted to the Coventry Hospital on Jan. 30th suffering from a large swelling over the sacrum, in the centre of which was a dark spot from which oozed a thin fluid. The history of the case, briefly, was that until a few weeks previously the tumour had given little trouble—the patient had even given birth to a child; but from the time that the skin gave way there had been much headache and pain in the thighs. Mr. J. L. Callaghan who was attending the case tried several means to prevent the loss of cerebro-spinal fluid but in vain, and it was decided in consultation to give the woman the chance of cure by operation. On Feb. 2nd I operated. The tumour was of about the size of a large child's head at birth, full of fluid and covered by a very thin skin. Making an elliptical incision I excised about two-thirds of the skin covering the swelling and dissected out the sac. The sacral wall was found to be deficient for about three inches over the spinal canal, there being absolutely no bony covering in this region. No large nerves were found in the sac, most of which was removed. The cut edges of the sac were sewn together and some trouble was taken to draw the tissues over the spinal cavity. The patient suffered at first from great pain in the legs and back. After a few days oozing occurred through some deep stitch-holes. At this time headache was severe. This oozing was undoubtedly of spinal fluid, but after three or four weeks it ceased and the stitch-holes filled up. There is now no trouble of any kind and the wound has consolidated. The patient is up and has lost all pain. She expresses much satisfaction at being rid of a great encumbrance.

Coventry

ANTI-STREPTOCOCCIC SERUM IN PUERPERAL FEVER.

BY MONTAGUE D. MAKUNA, M.R.C.S. ENG., L.R.C.P. LOND.

As the cases of puerperal fever treated with anti-streptococcic serum which have been recorded are few and far between, I take the liberty to relate in THE LANCET a case which has recently been under my care as it may encourage others to adopt the treatment. The patient, aged 28 years, was in her fourth confinement. She came under observation on Feb. 15th, 1902, the eighth day of confinement. The labour was easy and was attended by a "Gamp" who was probably the source of infection, as she had been attending puerperal patients a little time before. The patient was in a state of prostration, the pulse was quick, of small volume, and it numbered 132 per minute, and the temperature was 104·6° F. in the evening. The lochial discharge was scanty. There were considerable tenderness and some swelling in the right iliac region and over the pubes. The midwife's attendance was at once discontinued and the patient was enjoined to rest in bed and thorough cleanliness of the bed-linen and surroundings was insisted on. A vaginal douche of perchloride of mercury was used every day till recovery. She was given quinine, ergot, dilute hydrobromic acid, and digitalis, in a mixture. The diet consisted of milk, custards, and Mosquera beef jelly, but no stimulants were given. On the next day at noon the temperature was 103·4° and on the following day it was 102·4°, continuing between 102° and 101° till the 23rd. The tenderness in the lower part of the abdomen remained the same and she passed opalescent shreds with each vaginal douche. The case appeared to be a protracted one, as I have seen cases last for from 12 to 16 weeks when the patients recovered. As I am not favourably impressed with intra-uterine irrigation and have seen some harm done by it I did not attempt it, and I know that curettage is positively dangerous. On the 23rd I injected 10 cubic centimetres of anti-streptococcic serum (Messrs. Parke, Davis, and Co.) in the right gluteal region. On the following day the temperature fell to 100°, when another 10 cubic centimetres of the serum were injected. On the 25th the temperature was 99·4°. Vaginal irrigation brought out some lumpy shreds and purulent discharge. The tenderness over the right iliac region was much less. Another injection of 10 cubic centimetres of serum was given. On the 27th the temperature was 99° and 10 cubic centimetres of the serum were injected. On the 28th she passed a copious bloody discharge and some fœtid clots, giving her a grateful sense of relief. The vaginal irrigation was discontinued till the menstrual flow ceased on March 3rd. As the temperature on the last date was still a little above the normal a fifth injection of 10 cubic centimetres of the serum was given. On the 5th the temperature was normal and did not rise again. All tenderness passed away. She was given hypophosphites and a change was made in the diet. On March 24th she was in her usual health. All the injections were made in the gluteal regions, first on one side and then on the other, and were not followed by any after-effects locally or constitutionally. It is possible that the patient might have recovered without the serum treatment but the disease was certainly cut short by several weeks.

Treherbert.

NOTE ON THE RESULTS OF ANTI-TYPHOID INOCULATION IN THE CASE OF THE FIFTH BATTALION MANCHESTER REGIMENT IN SOUTH AFRICA.

BY A. E. WRIGHT, M.D. DUB.,
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IN view of the dearth of statistics bearing on the incidence of typhoid fever in South Africa in inoculated and uninoculated soldiers respectively the following, for which I am indebted to Lieutenant J. W. West, R.A.M.C., Winburg, Orange River Colony, may not be entirely without interest. The statistics here in question give the results obtained in the case of the 5th Battalion Manchester Regiment for the six months which have elapsed since their landing in South Africa. The figures, which relate to a total strength of 747 men and officers under observation, are as follows :—

—	Number.	Cases of typhoid fever.		Deaths from typhoid fever.		Case-mortality.
		Number.	Percentage.	Number.	Percentage.	
Uninoculated ...	547	23	4·2	7	1·3	1 in 3·3
Inoculated ...	200	3	1·5	0	—	0 in 3

The three attacks in the inoculated are reported to have been of an exceptionally mild type, contrasting in a striking manner with the severe attacks which occurred in the uninoculated. At the time of sending in the report some of the uninoculated patients were "not yet out of danger."

Netley.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum propriae collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Procemium.

ROYAL PORTSMOUTH HOSPITAL.

A CASE OF TRAUMATIC DISLOCATION OF THE HIP IN A BOY AGED SIX YEARS.

(Under the care of Dr. A. LLOYD OWEN.)

THE rarity of traumatic dislocation of the hip in the young is chiefly attributable to the weakness of the femur as compared with the ligaments of the hip-joint, so that the femur gives way much more readily. It has, however, been seen even in the young, and Erichsen[1] mentions that two cases occurred in his practice; in one the bone was dislocated on to the pubes in a child 18 months old and in the other on to the dorsum ilii in a boy, aged six years. The valuable researches of Bigelow, and still more recently those of Allis, into the methods of production and reduction of this dislocation have thrown much light on the subject. It is interesting to note that even in the time of Hippocrates flexion was considered of importance in the reduction of dislocations of the hip. For the notes of the case we are indebted to Mr. F. P. Connor, late junior house surgeon.

The patient, a boy, aged six years, was admitted into the casualty department of the Royal Portsmouth Hospital on Dec. 23rd, 1901, with the following history: he was kicking a ball in the street with some other boys when suddenly both his feet slipped and he fell heavily to the ground in a position of complete abduction of both legs. He was unable to get up and complained of great pain and he was carried to the hospital. On admission he was found to be a healthy, well-built lad, evidently in great pain. The right thigh was held in a position of partial flexion and adduction and was rotated inwards. The leg was completely flexed on the thigh and was retained in that position by the patient grasping the right ankle with his right hand. The leg was straightened without much pain and the limb was seen to be in the characteristic position of a dorsal dislocation of the hip—viz., flexion and adduction at the hip and rotation inwards of the whole limb. The great trochanter was well above Nélaton's line and the head of the femur was felt distinctly rolling beneath the gluteal muscles on rotating the limb; its position corresponded to the dorsum ilii. Chloroform was administered and reduction was attempted in the usual way, the leg being flexed on the thigh, the latter on the abdomen, and then the limb circumducted outwards and brought down into a position of complete extension. It proved successful on the first attempt and the limb was put up in a long Liston's splint and the boy was admitted into the children's ward under the care of Dr. Lloyd Owen. The patient was kept in bed for a fortnight and then passive movement was carried out; he was quite well at the end of another week. He left the hospital without any shortening, lameness, or impairment of movement.

Remarks by Mr. CONNOR.—Traumatic dislocation of the hip in a child is an accident of sufficient rarity to make the above case of interest. I am able to report the case through the courtesy of Dr. Lloyd Owen.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Surgical Treatment of Obstruction in the Common Bile-duct.

A MEETING of this society was held on March 25th, Mr. ALFRED WILLETT, the President, being in the chair.

Mr. A. W. MAYO ROBSON (Leeds) communicated a paper which was read in his absence by the Secretary, entitled "The Surgical Treatment of Obstruction in the Common Bile-duct by Concretions, with especial reference to the Operation of Choledochotomy as modified by the author, illustrated by 60 cases." This paper will be published *in extenso* in a future issue of THE LANCET.

Sir DYCE DUCKWORTH remarked that as a physician he recognised the value of surgical treatment in such cases. Formerly many drugs had a traditional value for the solution or expulsion of gall-stones but he never knew any such methods to be of use. An accurate diagnosis was of very great importance. The symptom of pain did not necessarily mean obstruction. The gall-bladder was only occasionally palpable and they must not wait for this evidence before operation. Physicians could do something to prevent the formation of gall-stones. They were common in persons who were the subjects of the arthritic diathesis. But immediately gall-stones were recognised in the bladder or duct surgical aid should be summoned.

Mr. RICKMAN J. GODLEE congratulated Mr. Mayo Robson on the success of his cases, at the same time regretting his unavoidable absence. He would have liked to ask him concerning the length of the incision. The propriety of joining the gall-bladder to the colon instead of the duodenum was also another question. What was the "scoop" Mr. Mayo Robson referred to? Mr. Godlee then narrated four cases of jaundiced patients in whom bleeding occurred in spite of the fact that calcium chloride was administered. It was the characteristic generalised oozing and in two of these cases the patients died. He wished to emphasise the very septic nature of the material within the common bile-duct and the care which was required to prevent its escape.

Dr. J. H. KEAY congratulated Mr. Mayo Robson on having reduced his percentage mortality but took exception to the statement that nothing could be done by medicinal and general methods, quoting a case in point. Was not oil of any use for the solution of gall-stones? An important question was, How long was it proper to wait after a patient became jaundiced before operating? It would be interesting to know the subsequent history of Mr. Mayo Robson's cases, the records of which only extended to about 12 months, for recurrence was common.

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[1] The Science and Art of Surgery, ninth edition, vol. i., p. 692.

Sir Dyce Duckworth stated that he had made many experiments but had never found that olive oil had the least solvent effect upon gall-stones. Referring to the question as to the indications for operation the temperature was a most important guide. This rose in cases of impaction and such cases should be operated upon promptly; and this procedure was rendered all the more imperative when it was remembered that gall-stones were frequently a determining cause of cancer starting in the biliary passages.

Dr. H. A. Caley asked why it was necessary to give such heroic doses of calcium chloride. They were apt, as Professor A. E Wright had shown, to frustrate the object in view, for they diminished, instead of increasing, the coagulability of the blood.

Mr A. C. Butler-Smythe remarked that the length of the incision was a very important point and he doubted if an operation of this character could be completed in 30 minutes. The doses of strychnine used seemed to him to be rather large.

Mr. H. J. Paterson believed that septic peritonitis was the chief source of danger and he congratulated Mr. Mayo Robson on his avoidance of this complication. It was not apparent from Mr. Mayo Robson's statements that calcium chloride was of much use, but packing with hamamelis had undoubtedly aided in lessening the tendency to hæmorrhage. Some northern physicians seemed to have been educated up to seek surgical aid at an early stage of the disease. He regarded the phrase "the shock of deep anæsthesia" as a fallacy, for the deeper the anæsthesia the less the shock. Ether was *not the most suitable* anæsthetic for abdominal sections; he reckoned that it resulted in an extra mortality of some 5 per cent. He confirmed the value of strychnine administered hypodermically before and after the operation and referred to a patient who had 40 minims injected in the course of a few hours with benefit.

The President regretted Mr. Mayo Robson's absence He would have liked to ask in how many cases had the diagnosis of stone in the common duct, which had previously been made, been found to be correct or incorrect? And, again, in how many cases had there been found at the operation some cause for the jaundice other than gall stones? He (Mr. Willett) had met with cases presenting all the symptoms of stone in which no stone was found. He had also had cases resembling cancer in which he had found a calculus, and he mentioned the case of a man who wasted from 14 to eight stones in weight.

EPIDEMIOLOGICAL SOCIETY.

Infantile Mortality in the Tropics.

A meeting of this society was held on March 21st, Mr. Shirley F. Murphy being in the chair.

Dr C. W. Daniels read a paper on Infantile Mortality in the Tropics. He did not, he said, propose to consider the causes of that among the children of Europeans but that of the native races, which had hitherto attracted little, if any, attention, though at the present time, when the resources of tropical regions were being developed by European enterprise, the decrease of the native populations and the consequent scarcity of labour acquired especially in Africa the magnitude of an Imperial question. Unfortunately, accurate statistics were not available, but it appeared that in India the deaths in the first year of life varied from 439 per 1000 births in the Central Provinces downwards, but in few districts were they much below 200. In Penang they averaged one-third of the births; in Fiji they formed 35 per cent. of those at all ages; in Freetown in 1897 and 1898 they were 408·8 and 375·7 per 1000; and the deaths under five years of age were 35·67 per cent. of the total; while in Lagos and Sierra Leone the high infantile mortality had already attracted the attention of the authorities. In British Guiana the Registrar General, Mr. E. A. G. Dalton, showed that the mortality in the first year of life differed among the several races, having been in the year 1894 for Negroes 205, for Europeans 184, and for Indians 155 only. Then 470 negro women had borne 1500 children, of whom 4·91 per cent. had died within the first week, doubtless from the deficient vitality, to which must be ascribed the 20·4 per cent. of stillbirths in the maternity practice of Georgetown Hospital which included all kinds of cases, the majority being normal labours in multiparæ. A high mortality occurred in Guiana about the eighth and ninth days from trismus neonatorum. In Freetown, Sierra Leone, 9·1 per cent. of the children born alive died the same day and 17·6 within the first week. Here, as in Guiana, the number of still births certified as such was certainly below the truth and the very imperfect certification of the causes of infantile deaths rendered the registers useless In British Guiana children were largely fed on farinaceous paps and this would account for many deaths, though severe forms of diarrhœa were seldom seen. Diseases of the respiratory organs were rare, small-pox and scarlet fever were unknown, diphtheria was very rare, and measles and whooping-cough were extremely mild. Malarial fevers, however, were a fairly frequent cause of death after the sixth month, and even earlier, a common form being the pernicious cerebral attack, rapidly fatal, with convulsions and coma. If quinine were energetically used speedy recovery followed, but many patients died within two or three hours after admission. The classical symptoms were absent, and if the cause of the convulsions was not recognised the majority of the patients died. Of 1471 deaths under one year of age 158 were from convulsions, which up to the sixth year were largely due to malaria, and in older children malarial affections were attended with coma without convulsions. In Barbados, on the other hand, where there was no malaria, though in consequence of the extreme density of the population, 1096 to the square mile, the negroes emigrated to other West Indian islands, and one-fifth of those in British Guiana were natives of Barbados, the population had increased 6·3 per cent. in 10 years. In India the question of infant mortality was complicated by small pox, cholera, and famine, but the large proportion of enlarged spleens in persons of all ages dying from other diseases indicated the frequency of malarial fever in early life. In British Central Africa there were no available statistics and epidemics of small-pox occurring every five or six years caused a heavy mortality among children, inoculation being largely practised on adults; but inquiries showed that of 552 children 2·7 per cent. died on the first day; in a very malarious district over 50 per cent., and in one much less so 38 per cent. died before puberty, while enlarged spleens were very frequent. As to the fertility of women in tropical countries it appeared that in Central Africa and in British Guiana the average number of children born alive was five, and the birth-rate among the negroes in Guiana was from 30 to 35, but this did not prevent the decrease of the population. In India that in the Punjab was as high as 43·9, but in Bengal, where it was only 32·81, the deaths exceeded the births by 2·07 per 1000 In Central Africa European administration had reduced the deaths from violence and had abolished the slave trade, but the aggregation of natives on engineering works and from the partial adoption of European modes of living had led to an increase in tuberculosis and syphilis, so that the population showed a general tendency to decrease To ensure a permanent supply of labour in the Tropics a steady increase of the native population was a necessity, for which the importation of labourers from other districts was but a temporary substitute.

Dr. H. Franklin Parsons remarked that, owing to the aggregation of the population in towns and the growing neglect of breast-feeding, the infant mortality in this country showed no signs of decreasing and the same causes might be at work among the semi-Europeanised native races.

Dr C. F. Harford-Battersby said that Dr. Daniels had not mentioned infanticide which was very prevalent in Nigeria, where not only all deformed infants but twins and such as cut their teeth in a certain order were crammed into earthen pots and exposed to die; others were poisoned, as probably they were in Sierra Leone where open violence would be punished. In the absence of breast milk the natives never gave that of cows or goats but a pap made of maize, and the usual treatment of any febrile attack was to sweat the child before a large fire and then lay it out in the open air to cool; the fertility of the women was low, though the families of the more civilised were larger.

Dr. Percy E. Adams considered that as to errors of diet matters were worse than in Europe; he had found cow's milk of the greatest value in the famine camps, but that of the buffalo which only was procurable in many parts of India was very ill-digested, probably on account of the high melting-point of the fat.

Dr. H. T. **BULSTRODE** said that he would like to know the procedure of the native midwives and whether the savage or the semi-civilised negroes were the more fertile and the more cleanly. [Dr. **HARFORD-BATTERSBY**: The former.] The paucity or utter want of available statistics was palpable at every turn, and the creation of an Imperial Board of Health on the lines of that at Berlin, which had already done good work in connexion with the health of colonists and natives in East and West Africa, was becoming yearly more necessary for the prosperity of the empire.

After some remarks by Mr. **SHIRLEY MURPHY**,

Dr. **DANIELS** replied that whatever might be the case in West Africa the prevalence of infanticide elsewhere had been greatly exaggerated. Livingstone denied its existence around the Zambesi and he had not noticed it in East Central Africa. Twins, indeed, were deemed unlucky, but there was a larger proportion of them than would have been found in Europe among the children brought to be vaccinated, not only those of Christian parents, but of others outside the influence of the mission. The influx of money was not conducive to fertility, for when a man by acquiring our language obtained higher wages he (if he did not adopt our religion) took to himself more wives. Life was easy and labour light; there were few zymotics and yet the infant mortality was high. As to India, he could emphatically deny the alleged practice of female infanticide. In Bengal there were 106 male to 100 female births, but the deaths per 1000 were in the first year 234·38 for males and 191·25 for females, and for those under five years 47·9 and 41·9 respectively.

CHELSEA CLINICAL SOCIETY.

Discussion on the Nature, Origin, and General Principles of Treatment of Cancer.

THE adjourned clinical debate of this society was concluded at the Jenner Institute of Preventive Medicine, Chelsea-gardens, S.W., on March 25th, Dr. C. A. **MORRIS**, C.V.O., the President, being in the chair.

Mr. **D'ARCY POWER** said that at the beginning of his work he had concerned himself largely with microscopic appearances because, like many other observers, he had hoped to find the cause of cancer in this manner. He was now rather inclined to despair of this method of investigation. So many histologists had found so many different appearances that the sole result of their work seemed to lie in a better knowledge of the minute appearances of epithelial cells in various stages of degeneration and a more perfect information about certain fungi which though no doubt of value had not brought them any nearer to the problems to be solved. He had therefore directed his attention of late to ascertain whether there might not be an intermediate host to convey the cancer germ, should there be one, from an extrinsic source to the predisposed human beings. There were certain districts in which cancer was more prevalent than in others and these districts lay in a well-wooded country where there were stagnant ponds or sluggish streams. The water-supply did not convey cancer, for it had happened that when two houses had used one well one house had been free from cancer whilst the other had been inhabited by a succession of persons not related to each other who had successively died from cancer. He (Mr. Power) had recently turned his attention to flies as transmitters of disease. Dr. Howard Tooth in his book on his experiences of the war entitled "A Civilian War Hospital" (p. 73) said that it was impossible not to regard flies as most important factors in the dissemination of enteric fever. The flies seemed to have a special attraction for enteric fever patients, so that in a tent full of men all apparently equally ill it was almost possible to pick out the cases of enteric fever by the masses of flies which they attracted. Flies, too, were a known cause of cholera and it had been proved that they were capable of carrying tubercle bacilli on their feet and of voiding them in their excreta. He (Mr. Power) therefore urged the hypothesis that flies might be capable of carrying cancer. If they did so their bodies should contain something tangible and perhaps comparable to some of the many cancer bodies described by different observers. The fly, too, should be able to inoculate. To settle one part of this question was not difficult: so far as the ordinary house-fly was concerned the answer was in the negative. He had devoted some time in making himself familiar with the minute histological appearances met with in the ordinary London house-fly in the autumn. He had also cut sections in the same way of some flies that had been sent to him from a house where there had been an unusual succession of cancer cases during the last three or four years. He had found in them nothing but what was already known and the results of his observations would, he hoped, shortly appear in an illustrated contribution to the *Edinburgh Medical Journal*. The second part of the problem still awaited solution. The ordinary house-fly could not inoculate directly, for its mouth parts were only capable of sipping, yet it was an every-day experience that flies did bite and that they bit more in the later summer months than in the spring, and that the fly which bit looked like a house-fly. The bite was a true bite, for it raised a small papule, though in healthy persons it usually caused no reaction. During the last year Mr. Power had treated three patients for carbuncle who attributed their condition to the bite of a house-fly. He had applied for information to Dr. B. T. Lowne who pointed out that there were two kinds of house-flies, the common house-fly and the stomoxys, the house-fly having harmless mouth parts and the stomoxys being armed with a complete set of lancets. The house-fly was a little the larger and held its head downwards when at rest; the stomoxys had three interrupted whitish stripes on its back and held its head erect. He asked those present who were interested in the question to notice whether it was the stomoxys or the house-fly which abounded where cancer was unduly prevalent, to ascertain from their cancer patients whether they could recollect being nipped by a fly, and, lastly, whether they would send him living specimens of stomoxys from cancer houses that he might have them examined microscopically.

Dr. H. R. **GAYLORD** and Mr. C. H. **ZINK**, D.V.S., of the New York State Cancer Laboratory, University of Buffalo, communicated a short note on the Presence of Cancer in Swine, which was illustrated by some microscopical slides. They concluded that it was probable that in old hogs a still greater frequency of malignant tumours might be noted than the proportion which they had found of four tumours among 2000 hogs which included many young animals. They stated that the results of their investigation seemed to be sufficient to show that malignant tumours in swine were not as rare as had been supposed previously.

Dr. R. T. **HEWLETT** said that the increased use of meat which Sir W. M. Banks considered was coincident with the increase in cancer might resolve itself into a question of over-nutrition, an intake of food in excess of that required for the repair of the natural physiological waste. Such an excessive intake might well be supposed in certain cases to lead to over-stimulation of cells with consequent excessive proliferation, especially in parts in which the cells had been to a certain extent damaged and their normal physiological activities consequently impaired. It would, he said, be interesting to know whether the affluent suffered from the incidence of cancer to a greater extent than did the indigent. If salt were the cause of the development of cancer then sailors of all people should suffer largely from the disease, for they consumed salt pork almost daily and breathed and swallowed salt in the air and spray continually. But the comparative cancer mortality figure for merchant seamen was 60 per 1000 and for fishermen it was 46 per 1000, and those figures did not support the salt diet theory. Concerning the influence of irritation as a cause of cancer it could hardly be doubted that of all places where it might be expected that cancer would occur the udder of the cow would be the most likely, yet it seemed to be unknown in that position. In regard to the nature and origin of malignant disease he pointed out that the metastases which were the dominant characteristics of carcinoma were completely simulated by the metastases which occurred occasionally in chondromata and lipomata. The parasitic theory of the nature of carcinoma was a fascinating one but to his mind it was very far from proved at the present time. Many of the Ruffer's bodies, which were at one time considered to be parasitic organisms, were, he believed, now generally regarded as being of the nature of vacuoles. The reports of the cultivation of the parasite and of the production of cancer experimentally with the pure cultures seemed to him to be unsatisfactory and inconclusive. It was very likely that the parasite producing carcinoma in man, if there was one, was different from that producing carcinoma in a rat for example, and that therefore the parasite producing carcinoma in man, although actually cultivated, would very probably fail to produce carcinoma in a rat. From the fact that carcinoma could not be inoculated from animals of a different species it was highly improbable that cultures if obtained would produce the disease except in animals of the same species as that from which it was obtained. To his mind the parasitic theory of cancer was not proven, but no one would welcome it more gladly than he should the requisite proof be forthcoming. He could not help feeling that there was more hope of the discovery of a remedy for cancer if it were parasitic than if it were non parasitic.

Mr FREDERIC S. EVE said that the changes antecedent to carcinoma could be best studied in superficial structures, skin and mucous membrane. It might be inferred that similar changes occurred in deeper parts although these could not usually be seen. He alluded to a few of these changes with a view to inquiring how they acted as determining causes of cancer. He mentioned epithelioma from mechanical causes, such as clay pipes, jagged teeth, soot, &c., from chemical causes, such as tar and petroleum; *and from* inflammatory and septic causes—namely, inflammations of mucous membranes such as leucoma and ichthyosis, old septic ulcers, chronic gastric ulcers, gall stone, chronic mastitis of the breast and persistent balanitis, and, lastly, granulomata and other lesions due to tubercle and syphilis. Mr Eve showed several drawings of illustrative cases. *In all the cases shown* certain conditions favouring the ingrowth of epithelium, which constituted cancer, were found. First, as the result of the antecedent inflammatory process, there was a migration of leucocytes into the corium or mucosa and often into the epithelium itself. By this means the normal boundary between *the epithelium and connective tissue was broken* down and, further, the lymphocytes and connective tissue cells furnished a granulation tissue into which the epithelial cells could intrude themselves and flourish. The majority of the processes were associated with an ordinary pyogenic or specific organism the products of which, acting for long periods *as continuous and abiding irritants to the epithelial* cells, stimulated them to active proliferation, altered their potentialities, and ultimately under the favouring conditions the subjacent connective tissues led to their assuming what might best be described as parasitic habits. These facts had a practical bearing—the curing, by operation if necessary, *of all those chronic, septic, or specific* lesions which might constitute pre-cancerous conditions. There were many examples of carcinoma not connected with "irritation," some of which might be explained by Cohnheim's theory. The cell was the carrier of malignant disease and in its change of nature must be sought the source of cancer. *Hope for the future rested with serum therapy. When a* serum or cytotoxin had been produced which would kill spermatozoa and arrest the movement of ciliated epithelium the discovery of a substance which would destroy cancer cells would not be far off. This had been already accomplished by Jansen in the carcinomata of mice which he (Mr Eve) had been *informed* by Dr Bulloch, *had* been transmitted by inoculation from mouse to mouse.

Dr J GEORGE ADAMI (McGill University, Montreal) contributed to the discussion a paper upon the Parasitology of Malignant Growths. He contended that no other view was possible at the present time than that the typical deciduoma was a syncytioma or chorio-epithelioma *malignum*. After considering the question in detail Dr Adami arrived at the following conclusions from a study of the syncytioma malignum. 1. There existed one form of tumour of highly malignant type in which the infiltrating cells were not those of the organism itself but were derived from another organism. 2. The infiltrative and invasive properties were not a new acquirement but were an exaltation of properties normally possessed by them. Under normal conditions there was an interaction of the invasive properties of those cells and the protective properties of the surrounding maternal tissues, by which interaction the extent of the invasion of the cells was strictly limited to the placental site. 3. The development of the syncytioma malignum had, therefore, to be attributed to either an increase in the invasive properties of the syncytial cells or a lessened resistance on the part of the maternal tissues, or a combination of the two. 4. If micro-parasites played any part in the production of the tumour, that must be either by exalting the infiltrative powers of the one or by lowering the resistant powers of the other. 5. Positive proof of the existence of such specific micro-parasites was still wanting and in its absence it was difficult to conceive how specific micro-parasites could bring about those results. 6. Admitting that micro parasites and their products were capable of inducing cell proliferation they had also to admit that other external agencies had the same capacity, so that micro-parasites at most might be one of the causes of aberrant cell growth. 7. The prevalent conception of cancer parasites as existing within the cancer cells involved the idea of malignant growths being the products of parasites acting within parasites. As shown by the study of the syncytioma the tumour cells themselves were essentially parasitic in the organism. He was willing to see in the long-continued action of micro parasites a process which might, like other modes of stimulation, initiate aberrant and neoplastic cell growth, but beyond that point they *seemed to be asked to* contemplate a most extraordinary state of affairs.

Dr J F PAYNE communicated a paper which dealt only with carcinoma. Many years ago there had been a debate at the Pathological Society of London as to whether cancer was to be regarded as a local or as a constitutional disease. It *was now known that a disease might be both constitutional* and local and this truth had been established by the study of specific diseases. The question thus raised was not without importance because it drew attention to the truth that cancer, besides being on its anatomical side a growth, had also another side by which it was comparable to specific *infective diseases. Recently cancer as a disease had been more* studied and pathologists had seen clearly and dwelt forcibly upon the analogies between cancer and infective disease, such as tubercle, syphilis, leprosy, and actinomycosis. If cancer were to be regarded as a specific disease the most convincing argument would be the discovery of its microbe and *the proof by experiment that it could produce the* phenomenon. But while this proof was still wanting there might be evidence which would justify a certain presumption that cancer was a specific disease. Such evidence, if forthcoming, would fall under three heads: (1) evidence of an initial lesion, of secondary lesions arising from this, *and of general intoxication*, (2) *evidence of communication* of the disease from one human being or animal to another, whether of the same species or not, by contagion, inoculation, or any experimental method, and (3) evidence of a specific local or geographical distribution, such as had been demonstrated, for instance, in malaria. It had been abundantly *demonstrated that cancer commenced as a local* process, it had not, however, been sufficiently considered that in a large proportion of cases the primary seat of cancer had many of the characters of the initial lesion of a specific disease, the chief difference was that the primary focus of disease in cancer was a growth *and the primary focus* in tubercle and the like was what was called inflammation. The process of forming secondary foci was also different, in tubercle a conveyance of the bacillus from one part to another was sufficient, while in cancer there was a conveyance or metastasis of cells. It must, however, be asked what it *was that* the transported cells carried with them which enabled them to go on growing and proliferating in the same manner as the primary growth. Was it a changed mode of growth impressed upon the cells of the primary cancer by an unknown cause and transmitted from them to their successors? or was it some small portion of a biological ferment or other substance capable of affecting the mode of growth? or was it a parasitic organism which required to be inclosed within a cell for transmission from one part to another? However these questions might be answered the fact remained that cancer had a primary seat and secondary seats set up by the conveyance of something from the primary seat. There was also general intoxication. The cancerous cachexia was clearly secondary to the absorption of something from the cancer itself. Cancer was not as a rule, a contagious disease, it did not spread from an affected person to those around and the exceptions to this rule were few in number. The situations of primary cancer were partly external and partly internal. Invasion of the skin was often preceded by so-called chronic irritation, traceable in cancer of the scrotum in chimney sweeps, in the cancer of petroleum workers, and in cancer of the lips believed to be produced by smoking clay pipes. Another possible path of invasion was by the internal surface of the body, especially by the alimentary tract, and if there were such a means of infection it might take place through some kind of food. Infection through the respiratory channels, which in many infective diseases formed an important medium, in cancer was of almost no importance. There remained a large class of internal cancers of which the possible connexion with external infection could not be traced—those of internal glands such as the kidney and especially of the reproductive organs in both sexes, including the mammary gland. Broadly speaking, 16 per cent., or less than one-sixth, of all cancers began on the external surface of the body, while 56 per cent. of the total mortality from cancer was due to carcinoma of the digestive organs. In males only 70 per cent., or in some countries 90 per cent., of the cases were those of cancer of the digestive organs. Primary cancer of the digestive organs was nearly always a surface lesion; it rarely began in the parenchyma of any solid organ. If there were any invasion of the body by the unknown cause of cancer all those primary cancers of the internal surface might be regarded, like external cancers, as initial lesions of the specific disease. Assuming that there was no clear evidence of cancer being a communicable disease, it might yet have a specific character if it were shown to be endemic. There was a good deal of evidence to show the local specific prevalence of cancer. It was a familiar fact that cancer was commoner in some countries than in others and in some parts of certain countries than in other parts. On the whole it must be concluded that neither climate, nor soil, nor density of population, nor occupation accounted for differences in the prevalence of cancer—in fact, the distribution of cancer, like that of malaria, seemed to be governed by specific, and not merely by general, physical conditions, though physical conditions might favour the prevalence of cancer as they favoured that of malaria. Another point strongly confirming the view that the distribution of cancer was specific was that in areas of high prevalence this prevalence was not uniform but was made up of a number of smaller areas with unequal rates.

Dr. H. MANDERS described the good results which he had observed in a patient who was considered to be suffering from abdominal cancer after treatment by high frequency currents.

Dr. J. R. LEESON having spoken the PRESIDENT closed the debate with a short speech. He remarked that there was no doubt that professional and public interest was thoroughly excited concerning the subject of cancer. Societies and commissions were being formed in most countries to inquire and to experiment. There was a commission in Germany, of which they had recently heard, and there was the Joint Committee formed by the Royal Colleges of Physicians of London and Surgeons of England, both of which had the subject under consideration. He looked forward to the day when they could treat cancer with as good a hope of success, perhaps by a serum, as they now could treat a case of diphtheria.

After the usual votes of thanks the meeting closed.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Sheffield on March 21st, Dr. S. Buckley, the President, being in the chair.—Dr. J. W. Martin (Sheffield) showed the following: 1. A specimen of a True Fibroma of the Left Ovary removed by abdominal section from a married woman, aged 34 years, the mother of three children, the last of whom was born seven months before the operation. The symptoms had been pain in the left ovarian region, dysmenorrhœa, and occasional dysuria. There was no ascites and the right ovary was healthy and was not therefore removed. The tumour was hard and nodulated and microscopical sections showed nothing but pure fibrous tissue. 2. A large Cystic Fibro-myoma of the Uterus from a patient, aged 24 years, a nullipara. The growth was of the size of a full-term pregnancy and being partly cystic caused much difficulty in diagnosis. The periods had always been scanty and for the previous few months they had been almost absent. The uterine cavity was not enlarged and an ovarian tumour was suspected. On opening the abdomen numerous adhesions required to be separated and the growth was then found to spring directly from the whole breadth of the fundus uteri. The tumour was amputated by flaps before and behind, the vessels were tied, and the stump was sutured. The uterus proper and the ovaries and tubes were left behind. The patient made a good recovery. The structure was that of a fibro-myoma. The occurrence of a growth of this nature at such an age was rare.—The specimens were discussed by Dr. Lloyd Roberts, Dr. Nathan Raw (Liverpool), the President, and Dr. W. Walter (Manchester), and Dr. Martin replied.—Dr. E. O. Croft (Leeds) showed a Uterus of about the size of a cocoanut which he had removed by supra-vaginal hysterectomy from a single woman, aged 39 years, by reason of a gradually increasing menorrhagia and the consequent anæmia. The outline of the uterus was fairly symmetrical but its cavity was found on examination to be very irregular. The specimen showed the unusual condition of a large number of fibromyomata of sizes varying from that of a hen's egg downwards, and all of them being practically of the submucous variety. One growth was becoming polypoid but the os uteri was closed below it. The patient made a good recovery.—Dr. Walter remarked that it would have been impossible to have removed completely the growths apart from the uterus even by incision of the uterine wall and that the operation performed undoubtedly gave the patient the best chance of recovery.—Dr. Croft also showed a large Fibro-myoma blocking the pelvis. The whole mass equalled the size of an eight months' pregnant uterus. The abdominal portion consisted of a spherical subserous growth about nine inches in diameter arising from the upper and anterior uterine wall. The pelvic portion grew from the posterior uterine wall downwards into the pelvis, which it practically filled. The uterine cavity lay more or less horizontally at the level of the pelvic brim and was not much enlarged. The general mass presented a circular groove corresponding to the brim of the pelvis and a depression posteriorly corresponding to the sacral promontory. As the lower growth was subserous it was found possible to raise it from the pelvis and the whole mass was amputated just above the cervix. The stump was sutured and the peritoneum was sutured across the pelvis. The patient had completely recovered. Pressure symptoms had been only slight, but owing to the conditions present a very slight increase in the size of the growth from any cause would have resulted in immediate and serious impaction.—Remarks were made by Dr. Walter and Dr. Lloyd Roberts, and Dr. Croft replied.—Dr. Walter showed the following: 1. A Uterus removed from a patient, aged 59 years. The menopause was passed 14 years previously and during the last two years there had been severe hæmorrhages. The cervix was short and patulous, but the uterus was considerably enlarged and a fungating mass could be felt growing from the fundus and body. The uterus was removed by vaginal hysterectomy. Histological examination proved the growth to be an adeno-carcinoma and a microscopical section was shown. 2. Sections of a Polypus removed from the cervix of a multipara, aged 37 years. The microscopical appearance was that of a round- and spindle-celled sarcoma. He therefore advised the patient to submit to hysterectomy, which was done a few days later. When the uterus was examined a small nodulated mass was found to be involving the mucosa and muscular wall just above the inner os. It had a slightly uneven surface and was of a greyish-pink colour. The microscopical appearance of the nodule was similar to that of the polypus.—Dr. Nathan Raw read a paper on Cæsarean Section Twice and Embryotomy Once in the Same Patient, with remarks on the question of sterilisation under such circumstances.—A discussion followed in which Dr. Lloyd Roberts, Dr. Walter, Dr. Martin, Dr. J. H. Keeling, and the President took part, and Dr. Nathan Raw replied.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on March 19th, Dr. J. G. Douglas Kerr, the President, being in the chair.—Dr. Hamilton Cumming, in opening a discussion on Chronic Affections of the Kidney and Morbid Conditions of the Urine arising therefrom in Relation to Balneological, Climatic, and Dietetic Treatment, said that one was apt to connect the word climate in relation to kidney disease with the warmer climates. This was in the main correct, for though in the early stages of tuberculous or suppurative disease a bracing climate might be desirable, yet as soon as the kidney failed in excretory function the conservative influence of the milder climates became imperative. Whilst Nauheim baths were generally contra-indicated, hot baths, hot packs, and Turkish baths were distinctly useful, both by increasing the excretory action of the skin and increasing the peripheral circulation. As the condition of the pulse was the index of the arterial system, so it should be the guide as to diet; meat and fluid should be diminished where there was increased tension, whilst meat and a more stimulating diet were necessary where the pulse was soft and the heart was failing. The pulse should govern the exhibition of alcohol also. Taking Egypt as the ideal climate, how near and where could they approach it in (1) high mean temperature, (2) low relative humidity, and (3) small daily range? Speaking of Torquay Dr. Cumming said that its climate was decidedly beneficial to most cases of renal disease which was far from common amongst residents. It was his experience that renal cases did better about the sea level than on the hills, and there exercise was possible without undue strain on the crippled circulation.—Dr. G. Oliver (Harrogate) said that he (and he believed the profession generally) regarded high altitudes as unsuitable in granular kidney and more particularly when drifting towards the cardiac termination or when inducing dyspnœa; but on the other hand he believed that altitude was beneficial in cyclical albuminuria. The keynote of climate in chronic renal disease was equable warmth in winter and spring, in this country best illustrated by the south-west coast resorts, such as Torquay and Sidmouth, and abroad by Egypt and by Jamaica which was most promising. The study of blood-pressure was a useful guide in dieting. He strongly advised systematic increase of skin-elimination by heat (Turkish and Russian baths) and by D'Arsonval electrisation.—Dr. Leon Blanc (Aix les Bains) agreed with Dr. Oliver that douche-massage of Aix was good in kidney troubles, principally in gouty patients. It regulated the action of the circulation, diminished the arterial pressure, and put the skin into a better condition. He never gave strong sulphur or alkaline water. Water must be given hot. He considered that the effects of cold and hot water were different. Hot drinks remained in the tissues and dissolved the salts; cold drinks facilitated delimination. Iced or cold water produced congestion in the kidney. Hot or very warm climate must *be avoided. An equable and moderately warm climate* was desirable. Patients with kidney troubles must not be sent to Aix in July or August, when the climate was too hot.—Mr. A. G. S. Mahomed (Bournemouth) thought that full advantage should be taken of the relief action of the skin. This was more perfect than was always supposed. He had himself recovered urea from the sweat of renal patients. To get the full action of the skin in elimination he considered that the hygroscopic action of warm dry air was needed. For this reason he would choose the climate of Egypt. Unfortunately, home resorts that were warm were also moist as a rule. The dryest and warmest station should be selected.—Dr. McClure emphasised the important rôle which heightened blood-pressure played in the conditions under discussion.—Dr. E. Kingscote said that he considered albuminuria and tube casts to be no certain sign of renal disease.—Dr. G. A. Leon (Sidmouth) said that, in his opinion, the treatment of chronic Bright's disease should aim at eliminating the poison which was the cause of the high arterial tension rather than at merely reducing the rigidity of the vessels. This could best be effected by a mild climate, equable and not too dry; by baths, and in his experience no bath was better than a bi-weekly Russian bath; by diet, especially by abstinence from nitrogenous foods and all alcohol; and by free occasional purging.—Dr. F. Mouillot (Harrogate) said that amongst the most anxious cases in spa treatment were those which, in addition to symptoms requiring treatment, were found to have albuminuria. He, however, drew a marked distinction between cases in which the specific gravity of the urine was high and those in which it was low. The latter were unsuitable for powerful waters or large quantities, whilst the former were often greatly benefited by such treatment.—Dr. J. Groves (Carisbrooke) made some remarks and recommended the climate of Jamaica for renal cases.—The discussion was adjourned to April 16th.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on March 21st, Dr. H. Ashby (Manchester) being in the chair.—Dr. A. E. Sansom showed a case of Hodgkin's Disease in a girl, eight years of age. The glands on the left side of the neck were greatly enlarged and the spleen occupied the left half of the abdomen. The child was anæmic and the leucocytes were deficient. The disease started four years previously subsequently to measles.—Dr. R. Hutchison remarked upon the tuberculous nature of several examples of the disease which he had examined and upon the impossibility of determing post mortem from the naked eye whether they were tuberculous or not.—Dr. A. Morison and Dr. W. H. Kelson commented upon the case and Dr. Sansom replied.—Dr. F. Harcourt Gervis showed a case of Double Aortic Disease in a boy, aged 13 years, in whom a presystolic murmur was present at the apex.—Dr. Sansom thought that the presystolic murmur did not indicate mitral stenosis but was an example of Flint's murmur.—Dr. Morison was of opinion that pericardial adhesions were partly responsible for the enlargement of the heart and spoke of the propriety of surgical interference in selected cases.—Dr. Theodore Fisher (Bristol) considered that pericardial adhesions to the chest wall did not produce cardiac enlargement and consequently thought that surgical interference would be inadvisable even if the case could be diagnosed.—Dr. Harcourt Gervis replied.—Mr. Arnold Lawson and Dr. G. A. Sutherland showed a case of Congenital Proptosis in a child three years of age and thought that it was due to imperfect development of the base of the skull and the orbital plates.—Mr. W. H. H. Jessop discussed the case and agreed with the diagnosis.—Dr. Hutchison said that he had a similar case under his care.—Dr. E. Cautley referred to the high palatine arch in the case.—Dr. Sutherland in reply thought that whatever mental defects were present were only apparent and were due to defective hearing consequent upon the presence of post-nasal adenoids.—Dr. H. Campbell Pope showed a case of Infantile Scurvy in a female infant, aged eight and a half months, who had been fed on patent foods and had developed hæmaturia, periosteal hæmorrhages, and gingivitis. The symptoms had started three months before. The existence of hæmaturia had suggested the presence of renal calculus and the child had been examined by the x rays.—Dr. George Carpenter read a paper on a case of Scurvy in a Rickety Boy, aged five and a half years. The gums were affected and the child's dietary, owing to his *curious tastes, was very defective. Dr. Carpenter discussed* the etiology of scurvy and called attention to the difficulty which was experienced in arriving at a definite conclusion as to the exact causation of these cases.—Dr. Sutherland said that in his experience the prognosis was often grave.—Dr. Cautley discussed the question from the point of view of infant feeding and thoroughly endorsed the remarks made by Dr. Sutherland on the injurious effects of patent foods.—Dr. C. W. Chapman called attention to the value of fresh milk.—Dr. Ashby spoke as to the obscurity surrounding the causes of infantile scurvy.—Dr. Fisher thought that in fatal cases death might be due to secondary infection.—Dr. Carpenter replied.—Mr. W. P. Montgomery (Manchester) showed a specimen of an Inverted Meckel's Diverticulum which had formed the apex of an ileo-colic intussusception. The condition was, he stated, a rare one, there not being more than six cases on record.—Dr. Fisher showed a specimen of Congenital Disease of the Heart from a child, aged four months, in which a wide communication was present between the aorta and pulmonary artery, and attached to both pulmonary and aortic valves were large vegetations. Dr. Fisher also showed a Stomach from a case of Diphtheria in a child, aged three years, which was dotted over with numerous petechiæ; there were no petechiæ elsewhere, the large intestine excepted. There had been hæmatemesis two days before death.—Dr. Ashby read a paper upon a case of Combined Empyema and Purulent Peritonitis. A girl, aged eight and a half years, was seized with vomiting and diarrhœa followed by pleuro-pneumonia and peritonitis. An empyema and suppurative peritonitis followed. Pneumococci and the micrococcus tetragenus were found in the pus of the empyema and the micrococcus tetragenus in the peritoneal pus. The girl made a good recovery.—Dr. Sansom complimented Dr. Ashby on his paper.—Dr. Fisher said that he had made post-mortem examinations of cases of combined pleural and peritoneal infections due to the pneumococcus and other organisms.—Dr. David Nabarro called attention to the pathological records of the Evelina Hospital for the past year of cases in which peritonitis was associated with empyema.—After remarks by Dr. H. J. Simson and Dr. E. W. Goodall Dr. Ashby replied.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—The sixth meeting of the session of this society was held on March 25th, Mr. W. B. Holderness, the President, being in the chair.—The President exhibited two cases of Functional Disturbance of the Heart.—The adjourned discussion on Dr. E. S. Norris's paper on 1000 Cases of Vaccination and

Revaccination was resumed by Dr. W. A. Ellison who said that it was necessary for the medical profession to prove to the public that vaccination if properly performed was never productive of harm. When bad results were attributed to vaccination a careful examination of all the evidence was necessary and it would appear that frequently, as in a case instanced by him, the *modus operandi* was at fault. Dr. Ellison inquired whether members were agreed upon the best method of vaccinating. He wished also to have the opinion of others as to the employment of shields and other artificial means of protecting the sore.—Dr. Norris, in reply, briefly re-stated the conclusions that he had arrived at, the main points being (1) the high protective influence of revaccination which afforded an even higher protection than small-pox itself; and (2) the fact that primary vaccination did not protect against the malignant form of small-pox.—Dr. F. H. Hawkins (Reading) read a paper entitled "The Treatment of Acute Lobar Pneumonia." After a few remarks upon the nature of the disease the various points to be attended to in treatment were discussed in detail. Rest in the recumbent position was first insisted on and stress was laid on the importance of keeping up the patient's strength by feeding. Care should be taken to avoid distending the stomach by too much food, as by such means the heart's action might become seriously embarrassed. Free drinking of cold water was advised both for its action as a depurating agent and as a stimulant. Attention to the alimentary system was considered, a few grains of calomel in the early stage of the disease being useful. Vomiting should be met by a mustard poultice to the epigastrium and flatulence often yielded to bicarbonate of soda, hydrocyanic acid, and calumba. The strength of the patient could also be kept up by the administration of diffusible stimulants of the ammonia group. With regard to local treatment, the use of linseed poultices was highly recommended and in cases where the temperature was high the local application of ice was advised. For the acute pain when caused by engorgement of the lungs the local application of ice was indicated but when pleurisy and engorgement occurred together a few leeches would give quick relief. In this connexion the use of morphia was alluded to, great caution in its administration being advised. The use of strychnine as a respiratory stimulant was highly spoken of, particularly when a large area of lung was involved. In these cases the administration of oxygen was also recommended. The temperature should not be specifically treated, but when associated with other grave signs it could be best met by the use of the ice cradle or of ice-packing. Dr. Hawkins expressed his opinion that consolidation of the lung did not always produce dilatation of the right heart, and cases were cited in support of this statement. He thought that many cases of failure of the heart were due to fibroid degeneration, the cause being the toxin acting upon that organ. Here the use of strychnine was warmly commended, its use being specially indicated at or about the crisis. Digitalis, too, in certain cases was useful. The question of sleep was next discussed at length, Dr. Hawkins's experience being that in many cases a deep sleep was bad and that it was well to rouse partially the patient occasionally to administer food. When sleeplessness was persistent bromide of potassium was indicated. Restlessness was best met by the wet pack and chloral hydrate in from 15- to 20-grain doses was highly spoken of. He seldom or never used opium. For delirium bromide of potassium was useful, as was camphor for low muttering delirium. When delirium was due to exhaustion alcohol was indicated. Lastly, the use of alcohol in pneumonia was discussed at length and the paper concluded with a *résumé* of the indications for administering or withholding this drug.—Dr Norris, Mr. Arnold Thomson, Dr. O. R. Elgood, Mr. W. H. Beresford, Dr. G. E. Hale, and the President having offered remarks Dr. Hawkins replied briefly.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—A meeting of the Section of Obstetrics was held on March 14th, Dr. Andrew J. Horne being in the chair.—The Secretary exhibited for Dr. J. H. R. Glenn a Uterus removed by Retro-peritoneal Hysterectomy, showing peculiar venous attachments.—Dr. Alfred J. Smith exhibited Three Fibromatous Uteri showing mucoid degeneration.—Dr. R D. Purefoy exhibited a Fibroid Uterus and a specimen of Ruptured Tubal Pregnancy.—Dr. Horne exhibited a specimen of a large Uterine Polypus.—Dr. Purefoy read his report of the Rotunda Hospital, Dublin, for the year 1900-1901. During the year 1905 women were admitted to the maternity department of the Rotunda Hospital, of whom 1610 were confined and the others were discharged not being in labour. Among those treated were found some of the rarest concomitants of pregnancy—viz., emphysema, puerperal aphasia, and pulmonary embolism. During the year three deaths occurred: (1) that of a patient who was moribund on admission; (2) that of an emaciated cachectic patient who was some days in labour before admission and who succumbed after Cæsarean section which was rendered necessary by uterine fibroids; and (3) that of an elderly patient with contracted pelvis in whom death occurred after induction of premature labour, this being unusually protracted by inertia of the uterus and morbid adhesion of the placenta. The dispensary attendances during the year were 10,741. In the extern maternity department 2175 cases were treated, including 286 cases of abortion, 18 cases of accidental hæmorrhage, six cases of placenta prævia, 27 cases of post-partum hæmorrhage, and seven cases of prolapse of the funis. In the intern maternity department 1616 patents were treated, of whom 549 were primiparæ. The operations performed included 66 forceps cases, 24 cases of manual removal of the placenta, 10 cases of version, and one case of Cæsarean section. There were 19 cases of accidental hæmorrhage, nine cases of placenta prævia, 36 cases of post-partum hæmorrhage, and one case of secondary hæmorrhage. The presentations included 43 cases of breech, five of face, eight of footling, 20 of occipito-posterior, six of transverse, and 10 cases of prolapse of the funis. Of multiple pregnancy there were 14 cases, all of which were twins. Episiotomy was practised in 18 cases, chiefly as an aid to forceps extraction—the single incision in the mesial line was invariably adopted. Ophthalmia occurred in four cases during the year. In all instances the attack was mild and had entirely subsided before the infant left the hospital. A red vaginal discharge, having the characters of menstrual fluid, was observed in two infants, beginning on the second day after birth and lasting for four or five days. The causes of morbidity included mastitis in four cases, influenza in two cases, bronchitis in three cases, phthisis in one case, pleurisy in one case, mania in one case, syphilis in two cases, erythema in two cases, inflamed piles in one case, and rheumatism in one case. In 12 cases the cause of morbidity was not ascertained. The report dealt very fully with the case of that rare and interesting condition, puerperal aphasia, of which Dr. Purefoy's case was an example. The patient, aged 23 years, was a primipara of healthy appearance. Her pregnancy had proceeded most favourably till the beginning of the ninth month, at which time her husband, one day returning from work, found her in bed and unable to speak anything but the word "Yes." At the same time he observed large quantities of vomited material on the floor. The case of pulmonary embolism occurred in a primipara, aged 34 years, who made a good recovery. Johnson and Sinclair had recorded seven cases of this affection, but this was its first occurrence during Dr. Purefoy's term of mastership.—At the termination of the reading of the report it was decided to postpone the discussion until the next meeting of the Obstetrical Section and the meeting terminated.

MANCHESTER MEDICAL SOCIETY.—A clinical meeting of this society was held on March 19th, Dr. Thomas Harris, the President, being in the chair.—Mr. Joseph Collier showed the following surgical cases: (1) a man on whom Excision of the Left Knee-joint had been performed for Rheumatoid Arthritis; (2) a boy after Excision of the Upper Half of the Fibula for Central Sarcoma; (3) a woman in whom the Dilated Vermiform Appendix had been adherent to, and communicated with, the Bladder, so that fæces passed per urethram; laparotomy had been performed and the appendix removed, the patient making a complete recovery; and (4) a girl on whom Erasion of the Knee-joint had been performed; the patella had been kept freely moveable and the extensors had consequently retained full control over the joint.—Dr. Joshua J. Cox showed a boy, aged seven years, and his sister, aged nine years, who were both suffering from Infantile Myxœdema and were recovering rapidly under thyroid treatment. When the children came under observation at the Clinical Hospital, Manchester, five months ago they were exceedingly dwarfed, lacked intelligence, could not dress themselves, did not play like other children, and had the facial and other signs of infantile myxœdema. Their parents were healthy and well-grown and had five other children, all of whom were normal; no tuberculous or neurotic family history could be obtained. The mother stated that all her pregnancies and labours had been natural and that she had no fright while carrying the two children now suffering from infantile myxœdema who were intelligent and of average height and weight until four years of age, after which period they developed neither mentally nor physically. Each child was now six inches shorter and 14 pounds lighter than the normal child at a corresponding age. The progress made under thyroid treatment was remarkable. The children were growing, were increasing in weight, were rapidly becoming more intelligent, and could dress themselves. That week they had been admitted to the School for Defective Children recently established by the Manchester School Board. Dr. Cox remarked that it was unusual to find sporadic cretinism in males and still more uncommon to find two cases occurring in one family.—Dr J. Gray Clegg showed a series of Ophthalmic Cases, including optic neuritis, optic atrophy, thrombosis of the central artery of the retina, tuberculous kerato-iritis, and central choroidal opacity of the lens. —Mr. J. Howson Ray showed the following cases: (1) a man who had previously been submitted to Laparotomy for Gangrenous Appendicitis with general septic peritonitis; the appendix, which was removed, was shown; it contained two concretions; (2) a girl with Excision of the Elbow for Tuberculous Arthritis, where the disease had already divided each of the three bones completely at the usual saw-line, so that the operation needed only scalpel, forceps, and spoon; (3) a case of Recurrent Molluscum Fibrosum of the Face, Scalp, and Orbit, with arterial angeioma in the diploë and lymphatic obstruction; and (4) a child, aged seven months, successfully treated six weeks previously by laparotomy for acute ileo-cæcal intussusception of four days' duration — Mr. C. Roberts showed the following surgical cases: (1) a case of Traumatic Aneurysm of the Dorsalis Pedis Artery, the treatment proposed being to excise the sac; (2) a case of Psoas Abscess pointing in the groin and simulating a femoral hernia; (3) a case of Tumour of the Abdominal Wall, probably of a malignant nature, arising beneath the scar of an operation for the radical cure of a left scrotal hernia; and (4) a case of Epithelioma of the Tongue, illustrating the difficulty of early diagnosis from syphilitic disease of that organ and the misleading initial improvement after administration of potassium iodide.

Forfarshire Medical Association.—A meeting of this society was held on March 6th, Professor D MacEwan, the President, being in the chair —Professor J. A C Kynoch showed (1) a specimen of Fibroma Uteri removed by pan hysterectomy for repeated hæmorrhages and retention of urine, and (2) a Fibroid Polypus of the Uterus removed post mortem in which there had been no hæmorrhage.—Dr. R. C Buist read a paper on Albuminuria in Pregnancy. The paper emphasised the value of routine examination of the urine for albumin in all pregnant women and of a milk diet when albuminuria in pregnancy had been discovered. Personal experience of routine examination showed about 2 per cent. of his confinement cases with albuminuria. When the examination showed albumin it was usually possible to avoid eclampsia by giving the patient milk only. Six pints a day was the amount that should be aimed at and suggestions were made for cases where simple milk was not well taken. Notes were given of cases to illustrate various points. Professor Kynoch, Dr J Mackie Whyte, Dr G. Halley, and Dr. A. J. Duncan spoke on the paper, and Dr. Buist replied.—Professor C R. Marshall read a paper on the action of a new purgative termed "purgatin" This, he explained, was the first synthetic purgative built up on the type of the active principles of aloes, cascara sagrada, rhubarb, and senna which had been put upon the market. It was the outcome of the researches of Tchirch who had shown that the "eccoproticophor" group in the drugs was probably anthraquinone or methyl-anthraquinone. Vieth, experimenting on cats, had found that of anthraquinone derivatives, anthrapurpurin and flavo-purpurin were the most suitable purgatives, but as they were somewhat uncertain in action and tended to induce colic he had sought for, and had found, what had now been put on the market under the name "purgatin" This substance had been investigated therapeutically by Ewald, Stadelmann, and Ebstein who agreed in the main in ascribing to it a gentle but certain action in appropriate doses It was best employed in simple or "functional" constipation, and the dose recommended was from seven and a half to 15 grains, but 30 grains were often required. The main objection to its use was the reddish colouration of the urine which it induced Professor Marshall gave an account of his own observations made on himself and said that he agreed in the main with the above-mentioned clinicians. He thought that it would be of use as a simple purgative but stated that the large dose necessary in most cases and the absorption which occurred were distinct objections. Upon the latter he dilated at some length, and also mentioned that in large doses distinct renal irritation was induced—a symptom not hitherto described.—Some questions were asked regarding reactionary constipation and weakness after its use, to which Professor Marshall replied.

Nottingham Medico-Chirurgical Society.—A meeting of this society was held on March 19th, Mr. E. C. Kingdon, the President, being in the chair.—Dr. C. Bell Taylor showed two cases of Recent Cataract Extraction.—Mr. W. M Willis showed the following cases: 1. A boy after Arthrectomy for Tuberculous Disease of the Knee-joint. The patella had been sawn across and all the synovial membranes and semilunar cartilages had been removed. No drain was used. The patella was wired and the skin was sewn up. The wound healed well, leaving the boy with a sound limb, and his general condition had greatly improved since the operation. 2. A woman after operation for Perforated Gastric Ulcer. There was a history of sickness of two years' duration but there had never been hæmatemesis. 3. A case of Congenital Dislocation of both Hip-joints. (A skiagram was shown)—Dr. Bell Taylor read a paper on the Art of Extracting for Cataract and exhibited a patient on whose right eye he had operated for cataract in his eighty-sixth year and on whose left eye he had operated for cataract in his ninety-sixth year. The pupils were central, round, and moveable. The patient could read for hours. Another patient, aged 60 years, who was operated upon for cataract in both eyes four years ago was also introduced upon recovery from the operation. He had been employed in the furnace department of one of the principal railways. The glare and heat to which he was exposed in striking red-hot metal for hours daily without glasses were necessarily very trying Both eyes were, however, perfect; the pupils were central and moveable and the sight was excellent, while there was not the slightest trace of operative interference. Dr Bell Taylor contended that the secret of success lay in the use of a very narrow knife and in the formation of a very wide wound and that, after extraction, a perfect and moveable pupil (as in aphakial animals) largely compensated for the absence of the lens —The paper was discussed by the President, Dr. F. R Mutch, Dr. W. G. Laws, Mr. R. G. Hogarth, and Mr. F. J. Lander, and Dr. Bell Taylor replied.—Mr. W. E M. Wright read notes of a case of Malignant Stricture of the Œsophagus occurring in a man, aged 64 years, and showed a specimen of the larynx in which there was a large perforation posteriorly from malignant ulceration extending from the œsophagus.

Midland Medical Society.—The ninth meeting of the session of this society was held at the Birmingham Medical Institute on March 19th, Mr. A. Oakes, the President, being in the chair The following officers were nominated for election —President: Mr. Langley Browne. Treasurer Mr J Garner Secretaries: Mr Christopher Martin and Dr J D Stanley.—Mr Jameson Evans showed a woman, aged 59 years who had been under his care since the end of January, 1902. She was suffering from a typical diffuse Keratitis over the Lower Half of the Right Cornea. At one part it was infiltrated with fine vessels forming a distinct "salmon-patch." She was making satisfactory progress towards recovery under treatment with mercury potassium iodide, and atropin drops Her family history was interesting. She had had six children and two miscarriages. Two of the children had suffered from eye troubles; one of these, a girl, aged 22 years, was shown at the meeting. She showed corneal nebulæ the result of interstitial keratitis for which she had been under treatment at the Eye Hospital eight years ago. She had marked Hutchinson's teeth and was deaf —Dr. W. J. McCardie showed Mr. R. W. Lloyd's Paper Bag for Clover's Inhaler. The bag was described in The Lancet of Jan. 11th, 1902, p 99 —Mr. L. P. Gamgee showed a Kidney the pelvis of which was completely filled by a villous papilloma. The patient was a man, aged 50 years, who had suffered from

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Apollinaris Co., Lond.; Messrs. Ayrton and Saunders, Liverpool; Association for the Oral Instruction of the Deaf and Dumb, Lond.; Dr. A. G. Auld, Lond.; Mr. R. J Albery, Lond.

B.—Mr. Thomas Bryant, Lond.; Dr. A. Bronner, Bradford; Mr. A. A. Bradburne, Aldershot; Birmingham and Midland Ear and Throat Hospital, Secretary of; Messrs. J. Bale, Sons, and Danielsson, Lond.; Brin's Oxygen Co., Lond.

C.—Dr. R. Craven, Blackburn; Dr. A. Carbonetti, Badia Calavena, Italy; Mrs. Cox, Theale; Dr. W. H. Corfield, Lond.; Messrs. Carfax and Co., Lond.; Messrs. Cassell and Co., Lond.; Dr. Clado, Paris; Cafolin Co., Lond.; Commissioner of Police of the Metropolis, Lond.; City of London, Medical Officer of Health of; Church Sanitary Association, Hon. Secretary of; Mr. C. Couturieux, Paris.

D.—Mr. J. Duncan-Howe, Preston; Messrs. S. Deacon and Co., Lond.; Mr. E. Darke, Lond.; Durham County Asylum, Winterton, Steward of.

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F.—Mr. W. C. Finch, Salisbury; Mr. T. Farrow, Lond.

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A Baillie Lecture

ON

THE SEED AND THE SOIL.

Delivered at St. George's Hospital on Feb. 3rd, 1902,

By W. HOWSHIP DICKINSON, M.D. Cantab.,
F.R.C.P. Lond.,

HONORARY FELLOW OF GONVILLE AND CAIUS COLLEGE, CAMBRIDGE;
CONSULTING PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE
HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

"Behold the sower went forth to sow; and as he sowed, some seeds fell by the way side, and the birds came and devoured them: and others fell upon the rocky places, where they had not much earth: and straightway they sprang up, because they had no deepness of earth: and when the sun was risen, they were scorched: and because they had no root, they withered away. And others fell upon the thorns, and the thorns grew up, and choked them: and others fell upon the good ground, and yielded fruit, some a hundredfold, some sixty, some thirty."—Matthew xiii. 3.

Gentlemen,—The pathology of the present day is above all things bacteriological. It inclines to attribute all diseases with which bacteria have been associated simply and singly to a bacterial origin, confidently assumes that where microbes have not yet been found they will be, and sanguinely trusts that when found they will submit to control with a tractability in the future which our experience of the past gives us no great warrant to expect. I read the other day in The Lancet of a bacillus of fatigue and should hear without astonishment of bacilli of political or theological bias impelling their bearers to toryism or radicalism, scepticism or credulity.

One of the greatest discoveries of the past century, I may even say of all time if greatness be measured by utility, is connected with the recognition of micro-organisms, their exclusion by cleanliness and destruction by antiseptics. But it must be allowed that antiseptic surgery is more successful than is antiseptic medicine; the two are on very different footings: one has to do chiefly with suppuration, in the first instance at least a question of reachable surface, the other has to do with disease which is out of reach before it comes to our knowledge and has entrenched itself in the deep organs or found a harbour in the blood itself. One is chiefly concerned with the streptococcus and staphylococcus, comparatively simple sources of mischief, the other with bacilli of various kinds and complicated relations with disease.

Encouraged as we must be by the results of antiseptic surgery, we must approach with wary steps the very dissimilar problems which medicine presents. To these my text chiefly applies. I would venture to beg my hearers not to be so eager to secure what is new that they lose what has been acquired in the past. In grasping the new pathology of microbes and bacilli let us not quite ignore the ascertained facts of old time with regard to heredity, tissue and diathesis. It is for the purpose of recalling some of the old truths, none the less true because they are out of fashion, that I address you to-day.

Bacilli may be the roots, or rather the seeds, of much, if not of all, evil. It seems to us that we should get on better without them. But let us not be too sure of that; some sorts have uses that we know of, others may have uses that we do not know of. They take their part in the scheme of creation, though to us it may be a mischievous one.

"From Nature's chain whatever link you strike,
Tenth, or ten thousandth, breaks the chain alike."

As to the bacilli of disease, we from the human point of view cannot but regard them with disapproval. Our soul's sincere desire must be to get rid of them. But, unfortunately, like other enemies, they are not very amenable to frontal attack. They are more readily influenced by indirect than direct methods, by means which without bearing immediately on the bacillus render its abode unattractive or untenable.

We may learn much from the vegetable kingdom. The distribution of plants, within the range of the seed, is regulated by the local conditions which the seed meets with—soil, moisture, temperature, light, and what not. Of course, there is no growth without the seed. *Omne vivum ex ovo* holds good now as in the time of Harvey. But the seed may be indiscriminately and widely spread; within certain wide boundaries it may often be said to be ubiquitous, so that the whole question of distribution turns not upon the seed but the soil, not upon the germ but its reception. Why do oaks and beeches grow in the fat levels of the New Forest, the ash and the thorn where the land is hilly and poor, and sycamores about the wind-swept homesteads of Cornwall? Not because the seed was, in the first instance, placed there more than elsewhere, but being placed there, as elsewhere, it found conditions to suit it. This is the whole story of the whereabouts of plants, the supreme law of the vegetable kingdom. The seed will fructify where it is satisfied with its entertainment and perish where it is not. For this reason, and not because the seed is conveyed there more than elsewhere, stonecrop, moss, and lichen gather on their appropriate roofs and rocks and the ivy on mouldering walls. Thus ferns multiply in their variety in one district and not in another. Ferns flourish with warmth and moisture and assure us by their presence of these qualities in the atmosphere. Maidenhair has its chosen localities in shady caves and crannies where the necessary conditions are combined, and may be so far from any other growths of the same sort that we can but wonder whence the seed was derived. Passing from natural beauty to what is repulsive we learn a similar lesson from the degraded nettle with its associations of squalor and filth. The seed may be everywhere in a country district but the weed will be found especially where human excrement has been deposited.

Examples of the paramount influence of soil or nidus in the determination of vegetable and animal life are never absent from our eyes. Take the domestic cheese. Why does one cheese breed green mould, another mites, and a third maggots? It may be that the three are kept in the same larder, exposed to the same external influences, and sown with the same seeds of animal and vegetable decay. Yet in the Stilton will gather green mould, in a fat cheese maggots, and in a lean one mites. The difference is in the cheeses themselves, not in what they have been sown with. The germs are common to all, those only will germinate which like their situation. So it is when the soil is the human body. Germs, be they vegetable or animal, are continually on the wing or in the swim, they swarm around us on every side; and if we knew how many and of what sorts are continually besprinkling us with the seeds of disease we should live in continued dread of being assassinated by these minute enemies. It is probable that no one who has lived in London has failed to give lodgement to the organism of typhoid fever, though he may have escaped its effects, and so with many other diseases. So it must be presumed to be with most of the infectious disorders which are common in ordinary life. Why is it, then, that we are not all infected with everything?

Relapsing fever may supply an illustration. This disease is occasioned by a special bacterium, the spirillum, which finds admission into the blood, presumably always by way of contagion. Yet it is intimately associated with starvation, insomuch that its accepted synonym is famine fever. The disorder is not directly caused by starvation but by the spirillum which is descended from its own kind. The want of food does not directly engender the microbe but fits the body for its entertainment. Given the suitable state of body, the appropriate germ will find it out though to our imagination completely out of reach. Our exemption rests not so much on the absence of the bacillus as on the absence of the conditions which it requires. Our forefathers did not fail to notice the connexion between depression and febrile disorders which is exemplified by remittent fever and possibly applies also in some degree to typhus fever. Says Addison, in the *Tatler*: "Physicians observe that the poorest and most dispirited blood is most subject to fevers."

Limiting the dissemination of the morbific germs by isolation is at best an imperfect measure. Our salvation largely depends on our insusceptibility, though, of course, we sometimes have to thank the feebleness or attenuation of the poison which reaches us. The human body can deal with a certain amount of the seeds of disease without becoming diseased. There is such a process as phagocytosis, in virtue of which the white corpuscles play the part of the birds and devour the seeds. There is such a condition as immunity even when the poison is active and concentrated, a state which may be either congenital or acquired, which is very real however imperfectly understood, by reason of which the morbid germs are inhibited from further proceedings. About immunity there is much that is mysterious, but at any rate we know, as did Mithridates, that exposure to small doses or attenuated conditions of a poison, whether it be that of a snake, or of small-pox, or what not, will produce insusceptibility to larger or stronger. It is probable that most of us are habitually acquiring invulnerability to our besetting enemies by exposure to their modified attacks. This, of course, is the principle of vaccination. But this is not the only, or even the chief, means by which the spread of disease is restricted. There are qualities proper to the individual which we do not understand but cannot fail to recognise, which make some resistant of disease to which others are prone. The seed is not wanting but the soil is barren to it. These powers of resistance may be congenital or acquired and may vary in the same individual at different periods of life. Some are resistant of small-pox, others of the great pox. Watson mentions an old woman who went from village to village nursing small-pox patients. She had never had small-pox and she believed herself to be proof against it. She ultimately caught it and she died from it, but not until she had reached the age of 84 years. At the Hospital for Sick Children in my time were two nurses, a mother and a daughter, neither of whom had had scarlet fever, while both were thought to be impervious to it. They were habitually employed in the scarlet fever ward and in attendance upon such cases in private. Every epidemic, be it of what sort it may, furnishes instances of invulnerability. Of the numbers exposed to the infection only some, probably a minority, are attacked, some diseases being more comprehensive in their grasp than others. Why do the majority escape? 12,000 soldiers were shut up in Ladysmith where typhoid fever was raging; 1472 contracted the disease, or about one in eight. What saved the seven? Was it that the poison was not fairly distributed or was it because all were not equally susceptible? It is probable that the infection was distributed with much impartiality but that all were not equally prone to take it. A remarkably localised epidemic of typhoid fever occurred at Caterham in the year 1879,[1] which was traced to a workman suffering from the disease whose evacuations were allowed to enter a well belonging to the waterworks which supplied the place. Caterham at the given date had 5800 inhabitants, of whom 81 contracted the disease. The poisoned water was supplied to 419 houses from which these 81 cases were derived—an average of one case to five houses. Why did so many houses escape and so many persons in the average house? There was no blood upon the lintels to warn off the destroying angel. The water, as we may presume, was supplied impartially to all, though we have no assurance that all alike drank of it. Yet we cannot imagine that in four out of every five houses no water was drunk and we must attribute the immunity of their inhabitants, at least partially, to something other than their having abstained from it—in other words, to their insusceptibility.

But it is not necessary to multiply instances of what must be familiar to all who have considered such questions. Many of us—I may even say most of us—are frequently exposed to infection without being infected in virtue of the unproductiveness of the soil on which the seed falls. Some persons are prone to succumb as others are to resist. There are conditions of the body, whether of blood or tissue, which make it apt to entertain or to reject certain infective diseases—in other words, to accommodate or to refuse to accommodate certain bacteria. Increased susceptibility is the determining factor in many diseases, at the head of which class we may confidently place the family of tuberculoses, while in it we may provisionally include the less numerous but more obtrusive group of the cancers. As we must have regard to the known before we venture upon the unknown any speculations as to cancer may properly be postponed until we have taken stock of the assured facts and strong probabilities which relate to the subject of tubercle.

It is obvious that to originate tubercle the seed in the shape of the bacillus is essential; but it remains to be asked why of a number of individuals who receive the seed equally some should encourage its growth and others not. In one person the bacillus falls on barren ground; in another it yields fruit a hundred-fold. The determining difference in ordinary life is in the individual, not in the germ or its distribution. We can imagine an isolated item of humanity on some mountain summit or isle of the ocean congratulating himself if on nothing else on his exemption from tubercle; but in common social conditions the seed is sown broadcast and the vital question is not where it will be deposited but where it will grow. As predisposing causes of tubercle, influences which fit the soil for the seed, heredity may be placed first. Next as a distinct and recognisable antecedent, at least of pulmonary tubercle, comes local inflammation. Then comes alcoholism. Next come circumstances which, in vague phrase, lower the vitality—want of food, frequent child-bearing, over-lactation, over-work, mental distress and anxiety. Next may be mentioned conditions which are not less surely provocative of tuberculosis because their mode of action is indefinite or complicated. Chief among these are overcrowding and defective ventilation. A cause of phthisis which is accepted generally but not universally is living on damp earth. Some of these causes of disease act obviously upon the soil, so to call the human body proper; by impairing nutrition they increase the fitness of the tissues to entertain the bacillus; while overcrowding and want of ventilation are attended also with an increase of the seed owing to over-production and deficient removal.

Some of these predisposing causes of tuberculosis or of phthisis may bear a word or two of amplification. The predisposing cause may be more important than the exciting cause; in urban communities the microbe is always with us, it needs the antecedent suitability to be effective.

1. *Heredity.*—Few facts in etiology are more surely ascertained than the hereditary nature of phthisis. In some families it cleaves like a curse to successive generations as it is said to have done to the House of Tudor. It is not unknown for all the members of one generation, or almost all, to be swept off by it, each individual becoming subject to it, not when exposed more than at other times to the attacks of the bacilli but on attaining the time of life most suitable to their development. The hereditary nature of this disease is so fully recognised that it has been thought necessary to provide an explanation in the transmission of the bacillus from parent to child. The microbe enters with conception, like congenital syphilis or original sin, and remains dormant for perhaps 20 or 30 years before it declares itself. It displays none of the indecent haste to attract attention which is manifested by congenital syphilis, but holds its hand and bides its time until its entertainer has reached a certain age. If this long suspension and ultimate recovery of its mischievous properties do not commend themselves to our sense of probability we must suppose that what is inherited is not the special organism of the disease but the suitability to accommodate it; that, in short, it is a question, not of the seed, but of the soil. A certain bodily aspect is a frequent though not a constant accompaniment of pulmonary phthisis—the fair hair, the delicate skin, and the composition of white and red.

2. *Local inflammation.*—Next among the distinguishable antecedents of tuberculosis in its pulmonary manifestation may be placed inflammation of the respiratory organs. Clinical evidence appears to leave no room for doubt that inflammatory conditions, especially of the nature of lobular pneumonia, are frequent antecedents of tuberculous disease, with the presumption—as yet I speak only clinically—that *foci* of inflammation are especially inviting to the bacilli of tubercle. The indication is that tuberculous often succeed upon inflammatory conditions which are at first only catarrhal or without special character. The vulgar notion of a cold which settled on the lungs and ended in a consumption has a profound truth at the bottom of it. When my chief employment was making post-mortem examinations I repeatedly had occasion to notice the association of tubercle with pulmonary inflammation in circumstances which appeared to show that the inflammation was primary, the tubercle secondary—as, for example, when the tubercle was concentrated on one lobe which had formerly been the seat of pneumonia. Speaking clinically, however, it would seem that the kind of inflammation most often followed by tuberculosis is lobular pneumonia or capillary bronchitis—a conclusion which is warranted by the time-honoured observation that measles and whooping-cough are both frequently followed by, and are apparently productive of, tuberculous disease. Professor Sims Woodhead reminds me that as a modern experience the same may be said of influenza. The frequent association of tubercle with the diseased states of lung produced by the inhalation of irritating particles, as in the case of needle-grinders and many whose trades

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[1] Report of the Local Government Board by Dr. R. Thorne Thorne. 1879.

compel them to breathe dust of various kinds, is another instance of the development of tubercle secondarily to inflammation at first non-tuberculous

So far I had proceeded on clinical grounds and broad pathology, dealing with large results rather than minute modes of action, as becomes one who does not profess the technical skill of the bacteriologist. But I am fortunately enabled by the courtesy of Professor Sims Woodhead to supplement my own deficiency by his special knowledge; and it is no small satisfaction to me to find that we have both reached the same conclusion different as our roads have been.

> "As many arrows loosed several ways
> Come to one mark."

Professor Woodhead writes in a letter for which I have to thank him, "I think there is not the slightest doubt but that tubercular lesions are, as it were, superimposed on catarrhal pneumonias. Further, I believe that a perfectly healthy lung is seldom if ever primarily infected by the tubercle bacillus. The so-called primary tubercular catarrhal pneumonias commence as a rule in slight inflammatory affections which afterwards become infected with the *tubercle bacillus*" The conclusion indicated by large considerations is thus confirmed by minute research.

3. *Alcoholism.*—Next comes the question of alcoholism in relation to tuberculosis. What I hold to be a mischievous fallacy prevailed until recently, and perhaps is not even yet entirely defunct. 30 years ago,[2] in the course of some inquiries on the pathological effects of alcohol, I came upon evidence, which appeared to me conclusive and which has influenced later medical opinion, to the effect that this agent does not prohibit but encourages the growth of tubercle. With a view of ascertaining the effects of alcohol in the production of organic disease I applied myself to the admirable records of this hospital and by their means instituted a detailed comparison between the post-mortem appearances of persons whose occupations had to do with liquor—brewers' men, potmen, waiters, and the like—and others whose callings necessitated no familiarity with it. I relied upon the general rule, as applied to the class from whence the London hospitals draw their patients, that those who get drink for nothing will drink more than those who have to pay for it.

> "How oft the sight of means to do ill deeds
> Makes ill deeds done."

The comparison, it is needless to observe, was not between liquor and no liquor, one difficult to place on a sure and sufficient foundation, but between more and less, based on the fundamental character of the Anglo-Saxon The records to which I have referred presented in 30 years the post-mortem examinations of 149 traders in drink, to which I opposed the same number of post-mortem examinations of persons not so occupied. The results with regard to tubercle were striking Of the alcoholics 61 had tubercle of the lung and of the non-alcoholics 44 With *regard to other organs and structures liable to* tubercle—the brain, the liver, the kidneys, the spleen, the bowels, the mesenteric glands, and the peritoneum, every one of these in the alcoholic class displayed tubercle at least twice as often as in the non alcoholic. Nothing could be more consistent in associating tubercle with drink. But before arriving at a final conclusion it may be as well to ask, having regard to modern knowledge, whether the preponderance of tubercle among persons concerned with liquor can be attributed to their living more within doors or being more debarred from fresh air than persons not so concerned. No doubt waiters, cellarmen, publicans, barmen, and brewers commonly pursue their employment in houses; on the other hand potmen and draymen do so in the streets. The comparison between the two classes as between indoors and out of doors comes to this. Of the 149 persons dealing with liquor 84 were presumably occupied indoors and 65 out of doors. Of the same number of persons not dealing with liquor 45 were occupied indoors and 59 out of doors, while there remained 45 the place of whose employment was uncertain or variable It would seem that there is no such preponderance of fresh air or the want of it in either case as to account for the very decided preponderance of tubercle under drink. We *may* therefore conclude, and that confidently, that alcohol promotes tubercle and that not because it begets the bacilli but because it impairs the tissues and makes them ready to yield to the attacks of the parasites. "Good store of fertile sherris," though it cannot supply the seed, manures the soil.

4 *Exhaustion and depression*—No illustrations are needed in support of the common experience that pulmonary phthisis is promoted by exhaustion and depression, by whatever impairs nutrition and lowers vitality. Insufficient or improper food, excessive work, over-lactation, grief and anxiety, have all been recognised in this relation Diabetes mellitus cannot be excluded from the conditions of depression and ill nutrition which give rise to phthisis. The excavation of the lung which is so common with advanced diabetes is not necessarily, or even generally, tuberculous, but may be associated with caseating pneumonia of other origin; but it appears to be sometimes connected with true tubercle; in such a case the question presents itself whether the microbic invasion is invited merely by the general prostration which the disease engenders or by the local inflammation which is another consequence of it. So far as the diabetic lung is tuberculous, whether the tubercle is connected with lowered nutrition or precedent inflammation, it is clear that the pulmonary lesion is determined not by any special or increased exposure to the germs, but by their being made welcome.

5. *Damp subsoil.*—That a water-logged subsoil is a cause of phthisis has been maintained and disputed. If dry air is one of the conditions antagonistic to phthisis, of which there appears to be no doubt, the contrary condition should have the contrary effect We may therefore be the more inclined to accept Dr Buchanan's conclusions as to the decrease of phthisis consequent on draining Dehydration of the soil, other things being the same, cannot be supposed to have any direct or immediate effect upon the microbes, but probably acts indirectly through the health of the inhabitants making them less ready to give board and lodging to these undesirable visitors It may be that humidity affects the general health injuriously, which the contrary condition restores; or it may be that the decrease of disease is connected with the fact that certain forms of bronchitis are benefited by dryness of air and the bacilli deprived of their breeding-ground.

6 *Overcrowding and insufficient ventilation*—These are among the most effective causes of phthisis; under their influence the disease is doubly promoted, the seed is increased and the soil is fitted. The seed is increased by the multiplication of diseased lungs and the insufficient removal of their products, while the general deterioration of health produced by the vitiated air renders those exposed to it apt recipients of the special morbific agents.

Thus we see in tuberculosis, most obviously when it affects the lung, the assured influence, in the first place, of general ill-health and, in the second place, the scarcely less assured influence of local inflammation The micro-organism, though the primary cause, is of secondary importance. The implantation of the organism, as is clinically indicated, and I may add pathologically demonstrated, in connexion with inflamed tissues or inflammatory products shows pulmonary consumption, in the beginning at least, as a local disease due to local causes Of course, it may arise otherwise as part of a *general infection*, but in either case what we have most to blame is not the bacillus but the reception afforded to it. In the crowding of artificial life the bacilli are scarcely to be avoided. Sometimes, happily for us generally, these "seeds of consumption" fall upon barren soil; at other times they fall upon good ground and bear fruit a hundred-*fold. The conditions which* fit the soil for the seed or the lung for the bacillus have been sufficiently indicated. They are descent from individuals possessing this fitness, the having attained and not over-past a certain age, precedent inflammation, and lowered vitality.

Such considerations gain practical value when we have regard to the ill-success which has hitherto attended attempts to cure phthisis by direct attack upon the bacillus; in other words, by the inhalation of germicides. Could we kill the parasite we might expect to arrest the disease, though we should still have to deal with the injuries already inflicted. But the difficulty is to kill the guest without hurting the host. The micro-organism appears to be more difficult to destroy than the tissues among which it lies The process employed for its detection after death, or out of the body, depends on the power which it has of resisting reagents which are destructive to its environment Whether we shall ever find a way of killing the visitor without doing serious damage to the host is a question for the future—we have not done so yet. The problem is to find a remedy, presumably to be introduced by inhalation, which shall be fatal to the bacilli without being injurious to the tissues. It must be a remedy of discrimination as to what to attack and what to spare. Not corrosive or irritating lest it damage the structures, but by no means inert lest it fail to damage the microbes. It must be capable of good and incapable of harm. We cannot tell what the future may have in store for us—perhaps what we little expect; but at any rate we, or at least I, know of nothing at present which fulfils all the conditions. I have referred only to inhalation. It is so improbable that any destroyer of low life introduced by the mouth or skin should hold its lethal properties in suspense while going the round of the circulation and resume them unimpaired on reaching the bacilli that this mode of conveyance appears even less promising than the direct route by the bronchial tubes.

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[2] On the Morbid Effects of Alcohol Transactions of the Royal Medical and Chirurgical Society, 1872, vol. lvi. Occasional Papers on Medical Subjects, p 65

Taking leave, then, for the present of the cure of phthisis by germicides we must not ignore the germs altogether, for we may do something by excluding them There is reason to believe that the bacilli, like everything that lives, live only for a time: we may hope to see some of them out. They may leave issue to keep up the race but at any rate we may prevent them from being reinforced from the outside. Purity of air is an obvious desideratum, not only because pure air introduces no bacilli but on the ground that this in certain conditions of temperature and dryness tends to bring about the resolution of many of the minor and limited, but vitally important, forms of pulmonary inflammation which are associated with the development of tubercle and apparently act as its breeding place and procreant cradle. To say that pure air is curative is to express a broad truth in inaccurate language; it should rather be said that pure air does not aggravate the existing inflammatory complications, which impure air does, and leaves the recuperative powers of nature free to work. The process of pulmonary phthisis is a mischievous combination between irritating organisms and irritated organs. To disable one confederate is something in itself and cannot but discourage the other. Our hope, I may even say our assurance, of success in a tangible proportion of cases turns not so much on our shutting out the bacilli, however desirable—an imperfect measure when they have already got in abundantly—still less on our being able to put them to death after they have got in, but on our being able to control the coöperative inflammatory processes and to fortify the tissues against the parasite. The most effective means for this double purpose are climatic, though it is to be regretted that these are not always at the command of everybody.

In these days of applied science and adventurous medicine it is necessary to preach caution lest we have too much thought for the microbe and too little for the man. Let us be guided by experience rather than by experiment. Experience has to do only with results which are matters of simple observation; experiment commonly presupposes a mode of action in which there is much room for error. It is true that there is such a thing as false experience, one form of which rests on wrong diagnosis, curing diseases which never existed; another is the too ready application of the *post hoc propter hoc* inference, attributing recovery to some treatment which had nothing to do with it, a fallacy which rests on an insufficient appreciation of the powers of nature. By these errors quacks are profited and even legitimate practitioners derive advantage. Thus experience, though the best guide we have, requires to be followed with circumspection. In all matters which savour of the experimental and of which man is the subject, or, I may even say, which concern treatment in any way, let us lay to heart the dictum of Hippocrates, self-evident though it may be, "Have two special objects in view with regard to diseases—namely, to do good or to do no harm."[3] To do good is not possible to all, nor is it possible for all to be done good to; but at any rate, we may, all of us and in every case, abstain from doing harm. If we think of dealing with inhalants let us have a reverent care for the air-passages and remember that the lung is vulnerable as well as the parasites which it harbours. Let us admit to the full that fresh air is better than foul air, but nevertheless remember that all patients are not alike, neither do all diseases which bear the same name call for the same treatment. Catarrh and bronchitis are still possible; the old laws which associate them with cold and draught have not been repealed; now as formerly they must be regarded as undesirable superadditions to lungs already unsound, added to which they appear to provide fresh breeding ground for the special organisms of the disease.

In the contest between the man and the microbe it is more to the purpose to back the man than to attack the microbe. The remedies which are most beneficial in phthisis—I may say the only remedies from which we can confidently expect benefit—are those directed to the soil rather than to the seed. They are of two kinds, or rather they act in two modes which may work together to the greater effect. First are agents which fortify the blood and tissues and add to their power of resistance; these are nourishing food, supporting medicines, pure air, and the complex, inclusive, and over-ruling influence of climate. Secondly may be placed influences bearing upon the respiratory organs in particular which discourage the inflammatory processes. Of all such influences suitable climate is the most effective. It would not be easy to analyse this supreme remedy and to give to each quality its due, but among the desiderata are purity of air, dryness of air, and sunlight—several of the essential conditions being brought together in high altitudes where these can be obtained without undue cold. It is obvious that some of these qualities, or some mixture of them, may be beneficial in more than one respect, to the lung in particular and to the system in general. But whichever they influence, whether they suppress inflammatory action or give resistance to the tissues, it is to be presumed that they act upon the human frame proper, not directly upon the parasites by which it is infested.

I have dwelt somewhat tediously upon tuberculosis because this disease illustrates my text in several particulars, but I might adduce instances from totally different disorders in which antecedent disturbance of no specific character appears to have been the starting-point of disease connected with specific organisms. The special microbes seem to be invited by morbid conditions at first unconnected with them. It used to be an article of belief—and no one can say that it is entirely unfounded—that cholera was apt to supervene upon, and seemingly to be induced by, intestinal disturbance at first of no special character. In times of cholera people were warned against food likely to disagree, against strong purgatives, and against the neglect of diarrhœa. Suspicion attached also to cold, and the "cholera belt" was thought to be a protective. In like manner the Anglo-Indian held, and probably still holds, a similar belief with regard to dysentery,[4] one of the accredited causes of which was "the exposure of the abdomen to cold," against which the prudent carefully guarded themselves. Let us not be too keen, in our modern wisdom, to sneer at these issues of ancient experience. We know that both cholera and dysentery, cholera always and dysentery sometimes, are due to special micro-organisms but it may be suggested by way of reconciling old saws and modern instances that the antecedent disturbance in this case, possibly of the nature of catarrh of the bowel, not at first specific or microbic, created a suitable nidus for the specific germs and so determined an attack which, but for the accident of cold or intestinal irritation, would not have taken place.

Some of the preceding considerations may be provisionally applied to cancer. I say "provisionally," for with regard to this disease we are still in the dark. No parasitic organism has yet been found, though the growth displays in some respects a parasitic character. All that we can see is a vicious overgrowth, essentially of epithelium, which extends at the expense of neighbouring tissues, is conveyed by vessels, particularly lymphatics, and displays a tenacious vitality which goes a long way to account for its habits. Many years ago I published[5] a case in which the contents of a malignant cystic tumour escaped into the peritoneal cavity with the result that after death, which was not long delayed, the peritoneum was found to be studded with cancerous accretions like mulberries, which were superficially attached as if they had lighted upon the surface, not developed in the substance. I could recall o[illegible] observations similarly illustrating the translation of ca[illegible]ncer by contact a mode of morbid action beyond doub[illegible] as affecting adjacent structures belonging to the same [illegible] individual though not equally evident as between org[illegible] belonging to different persons. The tenacity of [illegible] which enables cancerous [illegible]ation of [illegible] which enables [illegible] particles to flourish after having been cast loose from their original attachments suggests something parasitic though it does not prove it. A parasitic origin is also hinted at by the apparent habit of cancer to be repeated in certain districts and dwellings Regarding cancer from the hypothesis of an origin in some living thing brought from without, it could be argued that, as with tubercle, the malignant microbe is not impartial in its choice of person and bodily place, that though scattered as we must suppose indiscriminately it selects individuals inheriting a certain proclivity, who have attained, and not over-passed, a certain age, and who have been depressed by grief or anxiety As to locality it chooses situations of former injury as declared by cicatrices and other results of bygone accident. These considerations show that if cancer has a special germ a special fitness of the recipient body is needed to give it effect.

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[3] Epidemics, Book I., p. 360

[4] Ziem[illegible] ..., vol. i., p. 562.

[5] Case of Colloid Cancer, [illegible] illustrating the Independent Vitality of the Cancer Cell, Transaction[illegible] of the Pathological Society of London, 1681, vol. xii., p. 92.

As has been said of the bacilli of tubercle so of the organisms of constitutional disease in general they are out of our direct reach, but we can in some instances get at them indirectly by making the blood and tissues unfit for their support. The antitoxins provide one of the most remarkable chapters in modern discovery and an illustration of the universal law that the seed is impotent without the consent of the soil. The bacillus, say of diphtheria, gives exit to something which is prohibitive of the diphtheritic process, and this not by destroying the germs of the disease—for the bacilli of diphtheria will grow and flourish, so I am assured, in its antitoxic serum—but by in some way, indisposing the body for their entertainment. The antitoxin placed under the skin enters the blood and reaches the tissues; how far it reaches the bacilli is not clear but it is apparent that if it did reach them it would do them no harm. The immediate effect of the antidote is, to all appearance, upon the blood and tissues, not upon the bacilli, these become atrophied, not, as it seems, because they are poisoned by the antitoxin but because the blood and tissues are no longer suited to their support. Here we may pause; much remains to be learned but at any rate we have learned that in our theories of zymotic disease we must have regard not only to the germs but their reception. It is to be hoped that we shall soon know more about the antitoxins and become able to employ them to further advantage. They have accomplished something and promise more. Tubercle comes within the probability of control by their means and even cancer within the imagination of it

I may end, as I began, with the recognition of the universal truth "*omne vivum ex ovo.*" By all means let us exclude the germs of disease; if we can do so perfectly we shall be perfectly free from the diseases which they engender. But where, as too often happens, this is impossible it remains for us to accept the inevitable and to deal as best we may with the germs or their environment. Our encouragement so far has been to act upon the soil rather than directly upon the seed and, so far as our attempts at cure go, to place our chief hopes on antitoxins rather than on germicides. It seems presumptuous to speak of *cure* but yet the action of the diphtheritic antitoxin presents itself as so distinctly antidotal that the term may be excused if not justified.

I have reached the end of my sermon and I think that you will admit that I have not wandered very far from my text. If I have taken up your time with old commonplaces it is because old truths are apt to be pushed aside and forgotten in the attractions of modern science with its rapid movement and ever-changing phases. It may be as important to hold by old truths as to acquire new ones, or what we for a time accept as such. In these days of bacteriology and the magnification of germs, necessary and progressive as such researches are, it is well to be reminded that all questions of propagation, whether of animals, vegetables, or diseases, depend on the mutual adaptation of the germ and its situation. Most of the transactions which occur under the sun can be looked at from two points of view—the donor and the recipient, the attacking and the attacked, the seed and the soil One who desires to see the whole of what is before him must have regard to both

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PLAGUE IN A ZOOLOGICAL GARDEN.—It was mentioned in THE LANCET of April 26th, p 1219, that plague had reappeared in Sydney and had even attacked some of the animals (wallabies) in the zoological garden. A Reuter's telegram of April 30th states that 19 animals have died in the zoological garden from this cause.

EMBALMING THE DEAD.

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THE simplest means of preserving the dead is perhaps that employed by some savage races even to the present day of exposing the body after death to the influence of the sun and the air till the aqueous fluids of the tissues are dried up by evaporation. Such a method is only possible of application in those limited areas of the world where climatic conditions favour rapid desiccation and even in these places would not be available were the inhabitants collected together in towns of any considerable size. The application of what may be termed natural methods not being generally practicable, artificial processes have been resorted to from early times for the conservation of the body after death and practised with so much success that the art of embalming is very generally believed to have reached its perfection as far back as the time of the early Egyptian dynasties and to have been to a great extent, if not altogether, lost in modern times. It is not, however, the art that has been lost but the practice of it which has become in many places well-nigh discontinued Our knowledge of the anatomy and physiology of the body as well as of the nature of chemical action and of chemical compounds gives us the means of practising the art in a much more thorough manner than was possible in earlier times. And although the methods employed by the ancient Egyptians and other races were effective, as shown by the numerous well-preserved mummies which we are familiar with in our museums, yet they cannot but be regarded as extremely crude, and the results were only obtained after an expenditure of much time and labour, 70 days being, according to Herodotus, the usual period required for each of the three processes which he has described. The Egyptian plan of procedure was briefly as follows: the body was first prepared by the removal of the abdominal and thoracic viscera and of the brain; it was then subjected to a process of pickling by immersion for a period in preservative fluid, after which various powdered herbs, resinous or bituminous material, &c., were introduced into the cavities, and finally the whole body was swathed with bandages saturated in preservative solution. By the modern methods the whole procedure is much simplified and expedited, requiring but a few hours to accomplish The preservative fluid is distributed directly to all parts and tissues of the body through the ramifications of the vascular system, just as the nutritive elements in the blood were conveyed during life. Preliminary removal of the viscera is unnecessary—in fact, renders the operation so much more difficult that in cases where post-mortem examination of the organs is wanted it should be postponed if possible till after the embalming process has been completed.

At the present time embalming is most frequently resorted to for the purpose of enabling the body to be kept uninterred longer than would otherwise be possible without detriment to the living, as when death occurs at sea or at a distance from the intended place of sepulture, or when friends of the deceased have to come from a distance to attend the obsequies In such instances it is only required as a temporary measure to postpone the occurrence of putrefactive changes for a longer or shorter period. But it is also required sometimes for the permanent preservation of the body, as when interment is to be made in a vault or mausoleum In these cases embalming should always be practised and should be done most thoroughly, not only for the purpose of securing the object desired by the relatives of the deceased, but especially to render impossible as far as may be the generation of any noxious products which emanating from the body, might give rise to an insanitary condition of the place of sepulture and thereby be a cause of danger to the living at some subsequent period

In the practice of embalming it is not enough that the process adopted, which must be varied according to the requirements of each particular case, shall be efficient for the prevention of putrefaction and decomposition for a longer or shorter period or permanently. When the body is to be inspected by relatives some time after death has occurred, or is to "lie in state" for a period, the preservation of as placid and lifelike a condition of the features as possible is undoubtedly a great desideratum and has carefully to be considered in selecting the process of embalming which is to be employed. Some very efficient preservatives cause rapid alteration of the face from shrinkage and their action in this direction has to be retarded or modified in cases where the natural appearance requires to be maintained. Again, in some cases the after-death appearance may be such as to make it desirable to impart a more lifelike aspect to the face than it has assumed. These several objects may readily be attained by the proper use of the various chemical products which modern science has put within our reach.

From what has been stated, and from that which is to follow, it will be seen that embalming is not a matter which should be relegated to the undertaker or someone employed by him to see to, as is too often done with unsatisfactory results. If it is to be practised successfully it calls for as much knowledge, judgment, and skill as does the performance of a surgical operation and therefore it should always receive the direct attention of the qualified medical attendant of the deceased.

In temperate climates the best period to select for the process of embalming is about 24 hours after death, when, as a rule, rigor mortis has nearly passed off and the tissues have become relaxed but no marked signs of putrefaction have begun to show themselves. The presence of putrefactive changes is not, however, any bar to the operation by which not only will the further progress of these changes be at once stopped but the parts which have become affected will be greatly improved, if not restored to their natural appearance.

Having informed himself as to the purpose for which the embalming is required the operator has to determine upon his plan of procedure and the composition of the solutions to be used—both points of considerable importance.

As regards the plan of procedure, whether the operation is undertaken for temporary or for permanent preservation of the body it should include the introduction into the tissues through the vascular system of a suitable preservative fluid and the external application of the same to the surface of the body, the latter being necessary to counteract the tendency which the epidermis has to separate from the dermis. Any gas or fluid which may have accumulated in the abdomen, thorax, and elsewhere should be removed and some preservative fluid injected in its place To enable the different parts of the process to be performed with facility the body should be placed on a long narrow table such as is used for ordinary surgical operations. If, however, this is not available and nothing better can be obtained the lid of the shell or coffin, supported on trestles or otherwise at a convenient height for the operator, may be utilised for the purpose. The operation should not be attempted with the body lying on a bed or in the coffin. The introduction of the preservative fluid into the vascular system is effected by exposing and opening one of the larger arteries situated near the surface and inserting into it a metal cannula to which is attached a tube through which the fluid is to be injected. The artery sometimes selected for this purpose is the brachial in the upper third of the arm, but in the majority of subjects the femoral in Scarpa's triangle is more suitable and is perhaps the artery most frequently chosen. In my experience, however, it is preferable in all cases where the body has to be thoroughly embalmed to select the abdominal aorta just below the umbilicus. At this spot it is easily reached by a median incision of about seven or eight centimetres long through the anterior abdominal wall, from which, in the normally collapsed state of parts after death, it is separated only by a short interval. The advantages gained by selecting this artery are its large size and the variety of other purposes served by the external incision made to expose it, whereby the operation is facilitated and rendered more effective. Thus, while the preservative fluid is entering the artery the condition of the inferior vena cava, which lies immediately to the right of it, can be seen, and if the flow of the injection in the capillaries be impeded by venous congestion this can be at once relieved. Again, any fluid or gas in the abdomen and its hollow viscera or in the thorax can be evacuated directly or by means of an aspirator needle introduced through the opening and preservative solution injected directly into them. If the opening be neatly sutured afterwards little more external trace of it will be visible than would have remained if the femoral had been selected.

The method of introducing the preservative fluid into the artery selected requires the careful consideration of the operator. The tissues being now dead matter and therefore no longer endowed with vital properties are not in the same condition as they were during life. The blood-vessels are less able to bear a strain equal to that exerted upon them by the normal blood-pressure during life; this is particularly the case when they are in an atheromatous condition, as frequently happens in old people, or when the tissues in which they are embedded are softened or broken down by disease and are consequently unable to give them the usual amount of support. The resistance to the establishment of the flow of the preservative fluid through the dead body is also a factor never present in the living and the risk of rupture of the blood-vessels during the process is proportionately increased according to the force exerted to propel it and the rate at which it is made to travel, particularly if the pressure be suddenly or unevenly applied. A rent taking place from any cause in an artery of even medium size is a serious impediment to the successful distribution of the preservative fluid and generally gives much trouble. In order to get the best results, therefore, it is of great importance to inject the preservative fluid with as low and continuous a pressure as possible. This being so it is obvious that the syringe ordinarily used to inject bodies for the dissecting-room is not suitable for the purposes of embalming, firstly, because there is no means of gauging the pressure which is being exerted by it, except the very rough one of the feeling of resistance offered by the fluid in the syringe to the onward progress of the piston; and in the second place, because it is impossible to keep up a slow and regular pressure with such an apparatus for the period necessary to get the fluid properly diffused through the tissues of the body, owing to the muscular fatigue which sooner or later affects the arms of the operator, causing him to act spasmodically. The continuous and regular pressure required is best obtained either by compression of the air above the surface of the preservative fluid placed in a closed receptacle connected at its base by a tube with the artery through which it is to be introduced into the body, or by utilising the force generated by the fluid itself in flowing from the receptacle placed at a higher level to the artery situated at a lower level. Each plan has its advantages and disadvantages, and the adoption of the one or the other must be determined upon by the operator according to the conditions under which the operation has to be performed. The requisite air-pressure is obtained by pumping atmospheric air into the receptacle containing the preservative fluid by means of bellows or a hand pump such as that used for the inflation of pneumatic tyres, worked slowly and regularly. To obtain enough hydrostatic pressure all that is necessary is to raise the vessel containing the fluid, which should be open at the top and have the tube attached to an opening at the base, till the resistance of the tissues is overcome and the fluid flows slowly through the blood-vessels. Whether the one method be adopted or the other, there should be introduced in the course of the stream of fluid as it passes from the container to the artery a gauge of some kind to indicate the force with which the preservative is entering the body. For this purpose a simple glass U-tube containing mercury and attached to an upright support on which is marked a graduated scale of units of pressure acts as satisfactorily in practice as any of the more complicated and expensive forms of fluid-pressure gauges. To enable the operator to observe the rate at which the fluid is entering the system the vessel containing the preservative fluid should be graduated. It is important for the operator to watch both the rate and the pressure which the fluid is entering the system because a sudd increase of the former with decrease of the latter is a certa indication that rupture of one or more of the arteries h taken place and that the fluid is being extravasated into t surrounding tissues or into some cavity, instead of circulati through the vascular system as a whole.

The composition of the preservative solution to be us will to some extent depend upon the circumstances which the operation is performed and the chemicals whi are available, as well as on the predilections of the operat In every case, however, it should be sufficient in quanti and energetic enough in its direct action on the tissues prevent putrefaction of the body for the period requir whether that be short or long, and at the same time it mu be sufficiently fluid to pass into the minute blood-vess and to percolate through the walls of the capillaries into t surrounding tissues which it must thoroughly permeat On the other hand, it must neither be too strong nor of su a nature as to cause immediate hardening and contraction of the walls of the blood-vessels during its passage through them, otherwise imperfect preservation of the body will be the result. As the presence of water in the tissues, as well as a supply of free oxygen gas, is essential for putrefaction, and as the body contains sufficient moisture for the spontaneous occurrence of that process, the preservative injected should likewise possess the power of attracting to itself and absorbing the watery constituents present, and, by subsequent reduction, cause desiccation of the tissues. The rapidity with which this latter process is to take place has generally to be regulated by the time of closure of the coffin, as it causes shrinkage of the features. Judgment and knowledge of the materials used are therefore needed, not only in selecting the proper chemicals to get the desired results, but also in determining the proportions in which they are to be mixed.

The base of the injection fluid should be a substance which will combine chemically with animal matter and confer on it the power of resisting putrefaction to a high degree, it should also absorb and fix ammoniacal gas, form insoluble compounds with azotised organic principles, and be readily soluble in the vehicle used which must of necessity form the bulk of the injection. The substances which possess these properties to the fullest degree and are the most convenient to use are perhaps bichloride of mercury (corrosive sublimate), chloride of zinc, and chloral, and of these the first is upon the whole the best for purposes of embalming and the least expensive. As the introduction of more water into the tissues than already exists is highly undesirable for the reason previously stated, the use of that liquid as the vehicle of the injection is to be avoided as far as possible. In alcohol we possess a fluid peculiarly well suited for the purpose, being of itself a good preservative, having a great attraction for water which it readily abstracts from animal tissues, and therefore in every way a valuable adjuvant to the base, as well as a most effective solvent and reducer, properties which it is very desirable the injection fluid should possess. To use rectified spirit for this purpose would be unnecessarily costly, when the best methylated spirit is equally as efficient and quite good enough in all ordinary cases.

The composition, therefore, of a good preservative solution for the blood-vessels should consist essentially of bichloride of mercury or some similarly acting salt and methylated spirit, and this may also be used for external application and for injection into the cavities and hollow viscera. Two grains of corrosive sublimate in each ounce of injection fluid (1 part in 220) will be found generally to be the best strength to begin injecting the blood-vessels with, but the strength of the solution should be somewhat increased during the later stages of the process, even to four grains to the ounce of fluid. The bichloride may be readily dissolved by rubbing it in a mortar with some spirit in which it is soluble to the extent of one in seven. An injection fluid composed only of the mercury salt and spirit dries and contracts the tissues rapidly if evaporation be free. It is therefore often necessary to delay this result by adding some glycerine as a corrective. The quantity of glycerine added for this purpose should not exceed one quarter of the bulk of the spirit used and in most cases much less will suffice. The amount of preservative fluid required for a body will vary with its size but may be approximately stated to be about two gallons or nine litres for an adult male and about five litres for an adult female. The formula of the injection fluid for an adult male will therefore work out as follows: bichloride of mercury, from 640 to 900 grains—or, say, from one and a half to two ounces (from 42 to 57 grammes); glycerine, from 10 to 80 ounces (from 0·25 of a litre to 2·25 litres); and methylated spirit to two gallons (nine litres). This will give some idea of the quantity of the chief ingredients which the operator will have to provide himself with for the operation. Some more of the fluid will be required for injecting into the hollow viscera and into the body cavities and likewise for applying externally. If the prevention of putrefaction is required only temporarily less preservative need be used; thus in cases where putrefaction has set in unusually early, as sometimes occurs in hot weather in England or as a sequence of death from certain diseases, less than half the above-mentioned quantity of injection fluid will suffice. The result of injection of the blood-vessels with the preservative fluid just given will be to produce a pearly whiteness of the skin and the expression of the countenance will, except in this respect, be natural. To give a more life-like colour to the countenance a small quantity of some soluble red colouring matter may be added to the injection fluid, such as rosaniline or erythrosine, but this must be done very carefully, as effects other than those desired may be produced.

Chloride of zinc has long been used for purposes of embalming and is an excellent preservative, but a much larger quantity of it is required than of corrosive sublimate. Hitherto it has been usual to dissolve the chloride of zinc in water and sometimes to add alcohol to the solution, but in several formulæ the latter is omitted altogether. The strength of solution recommended differs widely; thus, for a body weighing 100 pounds Richardson used to inject five pints of a saturated solution with one pint of spirit added to it. Reeves recommends the injection of as much as the blood-vessels will hold of a solution containing two-thirds of a part of zinc chloride to one part of distilled water, which is somewhat weaker than the liquor zinci chloridi of the British Pharmacopœia, while a third formula gives eight litres of a solution containing one part of zinc chloride in three parts of water. By the first of these formulæ 15¼ pounds of zinc chloride are required (its solubility being 10 in 4 of water) in the six pints of solution; by the second, assuming that two gallons will be taken up by the blood-vessels, 13¼ pounds; and by the third, in the eight litres there would only be six pounds. The quantity of chloride of zinc used for injection into the vascular system in a case of complete embalming should certainly be from 12 to 15 pounds. This should be dissolved in methylated spirit, in which it is freely soluble and in many cases some glycerine may with advantage be added to the solution. As this injection rapidly hardens the tissues it is well to begin with a weaker solution and gradually to strengthen it during the process.

Some authorities prefer to use a preservative composed of hydrate of chloral as the base. With spirit as the vehicle and adjuvant such a solution is very effective in drying and hardening the tissues and quickly produces mummification. It should be used in the proportion of one part of chloral in eight parts of injection fluid, which may with advantage also contain some glycerine to prevent too rapid desiccation. From two to three pounds of chloral will be required for an adult male body. The solution first injected should not exceed 10 per cent. in strength, but afterwards the strength may be increased to about 15 per cent.

The instruments and appliances required for embalming are a bistoury; dissecting forceps; an aneurysm needle; a blunt hook; artery forceps; cannulæ of different sizes fixing into a stopcock-tube to the other end of which a piece of indiarubber tubing two yards in length is attached; a graduated bottle holding one gallon (about four litres) with a circular opening close to the base, into which is inserted a tightly-fitting rubber cork perforated by a stopcock-tube to which is fixed the other end of the rubber tube, and with a moderately wide neck into which a rubber cork perforated by a metal tube fits tightly; a piece of rubber tubing to fix over the upper end of this last tube about a foot in length; a U-shaped pressure-gauge attached by rubber tubing to the stem of a T-piece, the horizontal arms of which are to be inserted into the long tube at about two feet from the cannula; a double-action aspirator syringe with a somewhat curved, sharp-pointed cannula of good size and at least six inches in length; a pneumatic pump; scissors; suture silk and needles; a good-sized painter's brush; a bottle with three ounces of strong liquor ammoniæ; some narrow tape; sponges; cotton-wool; bandages; and some antiseptic ointment for the operator's hands. It is also desirable to have at hand a small post-mortem case, as some of the instruments which it contains may be required.

The cannula which I have found to be most convenient for inserting into the artery, whether that be the abdominal aorta or the femoral, is T-shaped, consisting of a right and a left half fitting closely together down the centre of the stem over which the stopcock-tube is passed to hold the two halves firmly against one another. One half of the cannula is inserted up the artery, the other in the opposite direction, and when they are united the injection will flow simultaneously both upwards and downwards. This obviates the necessity of introducing two cannulæ with double attachments to the rubber tube and a much smaller opening in the artery is required. The size of the cannula for the abdominal aorta should be from 15 to 20 millimetres in diameter, but for the femoral it should measure only about eight millimetres.

The apparatus described is designed so that it can be used for injecting the preservative fluid either by gravitation or by air-pressure, as the operator may decide, and he may at once change from the one method to the other at any time during the course of the operation, without interfering with any of his previous arrangements, by connecting or detaching the aspirator syringe or pneumatic pump and the rubber tube affixed to the tube through the cork in the neck of the bottle. The preservative solution to be used should have been previously prepared in as concentrated a form as possible, so that it only requires to be diluted with additional spirit at the time of the operation to bring it down to the strength previously indicated and so make it ready for use.

The plan of procedure having been determined and the preservative fluid to be used being ready the operator, after seeing that he has been supplied with hot and cold water and the proper utensils, such as basins and slop or toilet-pails, also towels, &c., should proceed to lay out his instruments and to set up his apparatus and charge it with preservative fluid; lastly, the body is to be placed on the operating table. As a preliminary to the operation, especially if rigor mortis has not quite passed off, the limbs should be gently flexed and then extended to relax the muscles. The artery is next to be exposed and opened by a vertical incision and the double cannula introduced fixed and secured by ligatures. Before fixing the tube from the reservoir to the stopcock-tube on the cannula the procedure recommended by Richardson of inserting into it the nozzle of the syringe or pneumatic pump previously charged with ammonia vapour and forcing some of the latter into the arteries certainly seems to facilitate the flow of the preservative solution when the injection is begun and may with advantage be followed. The tube having been filled with fluid by turning on the tap at the base of the reservoir, it is attached to the free end of the stopcock on the cannula and the solution is permitted to enter the vascular system. If the gravitation method of injecting be adopted the reservoir has now to be elevated till the fluid has sufficient "head" to pass into the system, and the pressure-gauge and index is to be watched till the solution is nearly exhausted, when the reservoir should be replenished with stronger solution than that first used. Should the operator adopt the pneumatic pressure method the nozzle of the pump or syringe is inserted into the tube attached to the cork in the neck of the bottle or reservoir, and he proceeds to pump air into the latter till he sees by the index that fluid is entering the arteries; this being effected he has to maintain the pressure indicated by the gauge as the quantity of solution in the reservoir diminishes. If this latter method be selected the reservoir requires only to be placed upon a table about level with the body. In default of a sufficiently high resting-place being obtainable to get the necessary pressure for the first method a combination of the two methods should be practised. After a few litres of solution have passed into the system, if everything has gone on satisfactorily, the skin will begin to present a mottled appearance, first observable in the face, which will gradually begin to look fuller and more life-like and perhaps even puffy about the eyelids, the superficial veins of the body will become more pronounced as they become charged with blood, and as the white mottling spreads and adjacent patches coalesce. At this stage it is desirable to examine the inferior vena cava through the abdominal opening and to tap it if distended to relieve the venous engorgement and resistance. As more injection fluid passes into the system the body will become quite rigid and the skin white and parchment-like, unless the solution contains sufficient colouring matter to give it a pinkish hue. The injection will gradually pass in more slowly, although the gauge indicates that the former pressure is being maintained, and finally stop flowing, showing that the vascular system has been fully charged. The stopcocks may then be turned off for a time and the solution already introduced permitted to diffuse itself equally in the tissues. At the end of five or six hours an attempt may be made to introduce some more solution, if considered desirable, but this is not often necessary unless rigidity has not been established, which seldom happens. Meanwhile the operator proceeds to deal with the thoracic and abdominal viscera. The diaphragm should be punctured with the aspirator needle, care being taken not to injure the heart or lungs in so doing, any gas present should be allowed to escape, and some strong preservative solution should be jected. The same procedure should be adopted with the [illegible]h, the bladder, and the intestines; the last-named will require to be punctured at two or three places. Finally, some solution should be injected into the peritoneal cavity, the nasal cavity, and the mouth. If the superficial veins are still engorged it is desirable to empty them as far as possible by rubbing them in the direction of their main trunks and to inject some solution of the first used strength into them from their distal extremities.

The external application of preservative has next to be done. For this purpose a strong solution of bichloride of mercury and spirit should be prepared and rubbed well into the skin of the head about the roots of the hair with a painter's brush, and the whole of the body should be painted over several times with a mixture of one part of the concentrated sublimate solution to about six or eight parts of glycerine.

If no further injection of the vascular system be required ligatures may be placed round the artery immediately beyond each end of the double cannula and tied. The cannula is then to be removed and the edges of the external opening are to be brought together neatly and sutured closely with fine silk. The operation being completed the body is to be replaced in the shell along the bottom of which should previously have been arranged a thick layer of sublimate wood-wool.

In the foregoing description it has been assumed that the condition of the body has been favourable for the operation and that no hitch has occurred during its performance. Things do not always run smoothly, however, and the operator must be prepared for less satisfactory conditions being present and for accidents happening, and he must be ready to meet emergencies just as he would do should they occur in the course of a surgical operation he was performing. It is only possible here to mention some of the complications which may confront him and render the operation more difficult.

Perhaps the most frequent complication which occurs in the course of an ordinary injection operation is rupture of an artery. It generally takes place in the thorax or the abdomen and is usually the result of disease of the vessel or organ in which it occurs. In such cases one or other or both of these cavities must be opened in the manner to be described presently when a post-mortem examination of the organs has to be combined with an embalming operation and the ruptured vessel secured by ligature or otherwise; in some cases the organ in which it is situated must be removed. Rupture of a vessel inside the skull is of little consequence, that being a closed box and strictly limited in capacity. In other parts of the body, also, the vessel can more or less readily be got at and tied and the rupture does not materially interfere with the operation. Such accidents are fortunately rare when the pressure with which the solution is introduced into the system is kept low.

The most troublesome cases to deal with are decidedly those in which general anasarca is present. Before attempting to inject preservative fluid into the vascular system in these cases the dropsical condition must as far as possible be got rid of, otherwise the solution will not flow through the vessels into the tissues, owing to the coagulation of the albumin in the serum which immediately results from contact with the preservative, whether that be corrosive sublimate or chloride of zinc. The best course to pursue in these cases is to begin by making the incision in the abdominal wall to expose the abdominal aorta, then, if ascites be present, the fluid contained in the abdomen should be syphoned out with indiarubber tubing. While this is being done the limbs should be elevated as much as possible and tightly bandaged from their distal extremities upwards towards the trunk with a broad indiarubber bandage, such as is sometimes used in the treatment of callous ulcers. The bandaging may with advantage be carried onwards beyond the limbs and made to include the greater part of the trunk. The artery should be opened for the insertion of the cannula and in most cases the inferior vena cava should also be incised and punctures made where necessary to let the serous fluid escape; the thoracic cavity should likewise be tapped from the abdominal opening by puncturing the diaphragm, and any fluid which it contains should be removed. After the condition of the body has been improved as much as possible the injection of the preservative solution may be proceeded with. It will be found generally that the injection has to be made under considerably higher pressure than is ordinarily required and the risk of rupture of a blood-vessel is correspondingly increased in consequence. Should much difficulty be met with in getting the injection to enter the system it may be necessary, attacks of profuse hæmaturia for eight years. The kidney was removed by the lumbar route and the patient made a good recovery.—Mr. F. V. Milward read a paper on Localised Intra-peritoneal Suppuration and its Treatment by Drainage which was illustrated by a series of wax casts of the various intra-peritoneal spaces.—Dr. McCardie read a paper on a case of Faintness and another of Vomiting after Operation under Ethyl Chloride Narcosis.

GLASGOW SOUTHERN MEDICAL SOCIETY. — A meeting of this society was held on March 20th, Dr. John Stewart, the President, being in the chair.—Professor McCall Anderson opened a discussion on the Curability of Phthisis Pulmonalis. He spoke approvingly of the use of tuberculin and said that he had long been an advocate of the open-air treatment. He believed in the efficacy of a residence in a high mountain valley where pure air could be breathed. Sanatoriums for the treatment of phthisis ought to be built on sites readily accessible, on dry and porous soil, and in an atmosphere as pure as possible. He thought that the results of the treatment of pulmonary consumption in sanatoriums were most encouraging.—Dr. George Middleton remarked that no doubt many cases of phthisis after treatment in sanatoriums gained flesh and weight, but the physical signs often remained the same. No matter how early in the course of the disease he was enabled to treat pulmonary phthisis he was always apprehensive as to the result. In treatment he advocated fresh air, cod-liver oil, and good food, and he could recall to mind many cases of phthisis that recovered by this means of treatment. He was of opinion that the injection of tuberculin was not without risk.—Dr. James Hamilton remarked that he had seen many cases of phthisis pulmonalis in which recovery had undoubtedly taken place.—Dr. Charles E. Robertson said that he did not think that a cure was a common result of treatment, although improvement in the patient's condition was occasionally seen. He welcomed sanatoriums, not because of the curative effects of the treatment therein, but because they were a means of preventing the spread of pulmonary phthisis.—Mr. L. Burges said that he had seen cases in which the tubercle bacilli were found and in which a cure resulted under treatment.

BIRKENHEAD MEDICAL SOCIETY.—A meeting of this society was held on March 14th, Dr. J. Pinkerton, the President, being in the chair.—The minutes of the previous meeting were read and confirmed.—Dr. White showed a specimen of Advanced Atheromatous Disease of the Aorta and gave notes of the case.—Dr. Edgar Stevenson read a paper on Tinnitus Aurium and Chronic Deafness and gave a demonstration of a New Method of Treatment.—Mr. H. L. Pearson, Dr. Wilkinson, Dr. Harrington, and Dr. Lambert joined in the discussion which followed and Dr. Stevenson briefly replied.

Reviews and Notices of Books.

Études Anatomiques sur les Grossesses Tubaires. Par le Dr. A. COUVELAIRE, Ancien Interne des Hôpitaux, Chef de Clinique Obstétricale à la Faculté de Médecine de Paris. Paris: G. Steinheil. 1901. Royal 8vo, pp. 160, 21 Plates. Price 12 francs.

THESE researches of Dr. Couvelaire are of great importance. As he justly remarks, the true anatomy of tubal gestation can only be studied by the examination of early specimens in which no secondary changes have occurred. He has been able to investigate 14 such cases. In seven of these the ovum was attached in the isthmus and in seven in the ampulla of the tube.

This monograph includes a study of the topographical anatomy of the gravid tube beyond the tubal sac; of the anatomy of the ovum in the tubal sac; of the attachment of the ovum to the tubal wall; of the free pole of the ovum—viz., the area corresponding to the reflexa; and some researches upon the anatomy of tubal rupture. The cases are recorded in full and there are several very good photo-engravings.

The author finds no evidence of the presence of any preceding salpingitis in his specimens and does not think that disease of the tube plays any important part in the etiology of tubal gestation. The changes in the wall of the tube, he considers, are produced by the presence of the ovum and do not, as has been maintained by other writers, precede it. He has been unable to find any changes in the opposite tube analogous to those described by Webster and others and he concludes if such changes do occur that they must be a matter of some rarity. In all his cases the intensity of the changes in the tubal wall are directly proportional to its nearness to the site of the ovum and affect all the tissues of the tube. In his study of the anatomical changes at the site of the attachment of the ovum he has not been able to find anything corresponding to the spongy layer of the decidua as described by Webster. The intervillous spaces are separated from the wall of the sac by an irregular layer of cellular elements termed the external capsule of the ovum and which Dr. Couvelaire thinks is entirely of fœtal origin. Between this external capsule and the wall of the tube itself there is no very clear limit. In the immediate neighbourhood of the ovum there is marked infiltration of the wall of the tube with leucocytes. Examination of the free pole of the ovum shows that it is covered by a membrane composed mainly of fibrin and large cells like those found in the external capsule. This covering, which also appears to be formed entirely from fœtal tissues, can only be termed a decidua reflexa from its topographical anatomy, as it does not appear to fulfil any of the functions of that layer of the decidua. Attached to the external surface of this pole of the ovum, and in the later stages of development considerably atrophied and compressed, are some of the fringes of the mucous membrane of the tube.

In a study of the anatomical changes associated with rupture of the sac Dr. Couvelaire points out the important part played by the invasion of the wall of the tube by the fœtal villi, the resulting rupture of the vessels, and the occurrence of interstitial hæmorrhages with consequent thinning of the wall at the seat of ultimate rupture. The book is a valuable contribution to the study of tubal pregnancy and gives a clear account of some very careful and good work.

Das Wachstum und die Verbreitungswege des Magencarcinoms. (The Growth and Mode of Extension of Carcinoma of the Stomach.) By Dr. ROBERT BORRMANN. Jena: Gustav Fischer. 1901. 8vo, pp. 400, 16 plates and 21 figures. Price 16 marks.

THIS important monograph by Dr. Borrmann is based on work done by him in Professor Ribbert's pathological institute, the material being supplied by Professor Mikulicz. No fewer than 63 specimens of excised carcinoma of the stomach were carefully and thoroughly examined. The work was chiefly undertaken with a double object in view—namely, to prove whether the new growth really increases and multiplies out of its own proper elements, or whether the neighbouring tissues undergo transformation into tumour tissue and so add to the tumour. It may be stated at once that Dr. Borrmann's researches lead him to the conclusion that there is only one mode of growth in gastric carcinoma and that is by the increase of its own elements without the neighbouring tissues taking any part in it.

The subject matter of this book is arranged under (1) a special part in which full details of the cases are given and (2) a general part which is again divided into pathological and clinical sections. Two tables are appended giving the clinical and other details of the cases and finally the illustrations in the plates are explained.

As regards the extension and spread of carcinoma of the stomach the author says that it is generally well known that the carcinoma spreads through the layers of the stomach (with the exception of the mucosa) by the lymphatic spaces and vessels. Nobody, however, seems to have thought that the carcinoma cells may multiply in the lymph channels of after as much preservative has been introduced as can be got into the arteries, to supplement this by making subcutaneous injections into the muscular and cellular tissue at numerous points over the body as well as into the cavities In bad cases it is perhaps better to use hydrate of chloral dissolved in alcohol and a little water, or a solution of formic aldehyde, instead of corrosive sublimate or chloride of zinc solution, as being less liable to produce immediate coagulation of the albumin of the serum infiltrating the tissues and clogging of the blood vessels.

When death has resulted from the bursting of an aneurysm in the thoracic or abdominal cavity the injection should be performed from the ruptured vessel which has to be exposed for the purpose.

A post-mortem examination of the viscera as well as the preservation of the body by embalming may be required In this case the injection of the vascular system and the external application of preservative should, if possible, be done first, the application of preservative solution to the visceral cavities being postponed till after the post-mortem examination has been made. The latter should not take place before the lapse of 24 hours after the injection of the vascular system. But circumstances sometimes demand that the post-mortem examination shall be done first before any chemicals have been introduced into the body In this event the best plan is to begin by making one long median incision from the top of the sternum to the pubes, then to divide the sternum longitudinally, and forcibly to separate the thoracic walls as far apart as possible, fixing them in this position by means of two pieces of wood placed at each end of the sternum The space thus obtained is limited, but by dexterous manipulation it will be sufficient to enable the operator to reach the heart and lungs and to remove them. The aorta and vena cava should be divided close to the heart, a thread having previously been passed through each and the ends brought to the surface of the thorax so as to facilitate the subsequent recovery of these vessels. The trachea should be divided just above its bifurcation, in doing so care must be taken not to injure any of the blood vessels of the neck. The nerves and other structures having been divided, the heart and the lungs are then to be removed carefully without disturbing their surroundings more than is absolutely necessary After their examination has been completed they should be washed and immersed in preservative solution The œsophagus and rectum are then to have double ligatures placed round them the former just above the stomach, and to be divided between the ligatures, the digestive tract with the pancreas and the spleen and then removed, the arteries having been ligatured one by one as they are divided. A ligature should be placed on the inferior vena cava above and below the liver and on the other vessels, these are then to be divided between the ligatures and the liver and the latter removed The kidneys are to be removed after their vessels have in like manner been ligatured The examination of the viscera having been completed they are to be placed in preservative solution for some hours and when the injection of the vascular system has been accomplished they are to be returned to their respective places If the brain is also to be examined the scalp is divided from ear to ear over the vertex and drawn forward and backward with the periosteum and muscles, and the calvaria is sectioned horizontally without injuring the vessels of the dura mater In removing the brain the arteries should be divided sufficiently far above the base of the skull to permit of their being easily ligatured. On the examination of the brain being completed it should be placed in preservative solution The interior of each of the cavities opened having been carefully washed and dried a systematic search has to be made for all divided vessels, and such of them as have not already been ligatured must now be secured, the foramina of the base of the skull also must be tightly plugged from above with cotton wool moistened with a thick solution of gum acacia A large cannula is then to be introduced into the aorta and firmly secured, the injecting apparatus having been attached to it the injection of the vascular system may be proceeded with Although apparently all the principal vessels have been tied, yet when the injection solution is turned on it will be found to escape at numerous points where divided vessels have been overlooked, just as takes places in an amputation of a limb when the tourniquet is slackened, these must be secured by ligatures or compression forceps as rapidly as possible. In consequence of the loss of preservative solution which inevitably takes place, notwithstanding that the pressure with which it is injected has been reduced to the lowest possible point, considerably more will be required than in ordinary cases where the embalming is done in the first instance, the operation is also greatly prolonged and much patience has to be exercised in performing it. There is, however, no reason why it should not be successful if thoroughly and carefully carried out.

Stratford place, W

THE QUIESCENT OR LATENT PERIOD IN THE COURSE OF GRAVE ABDOMINAL INFLAMMATION[1]

BY A. H. TUBBY, M.S. LOND., F.R.C.S. ENG.,
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IN cases of acute abdominal lesions where the diagnosis is in doubt the simplest thing to do is to perform an abdominal section, but as surgery is a science as well as an art all are agreed that no exploratory operation should be performed without justification. There is, however, a debateable ground—a period of repose or quiescence—where instinct or intuition tells that the patient is suffering from a grave abdominal lesion. Year by year, as these affections are more closely studied and as clinical and pathological data accumulate, the debateable ground becomes gradually narrowed, but every surgeon from time to time in the course of his experience meets with cases in which he has conscientious doubts as to whether he should operate or should withhold his hand Unfortunately, too, the effect of not sufficiently grasping the true state of affairs is more disastrous in this region than elsewhere and cases can be recalled in which, after an acute onset, the pain subsides, the vomiting ceases, the temperature falls to normal, and the patient expresses himself as being tolerably comfortable But subsequent experience shows that this change in the symptoms is by no means significant of real improvement Sometimes this period is a deceitful and treacherous calm and as likely as not marks the onset of grave complications which terminate fatally It is this interval of apparent remission in the course of the disease which I venture to term the quiescent or latent period—quiescent in so far as the disappearance of some of the symptoms is concerned and latent in that it precedes an aggravation of trouble, acute peritonitis, and a fatal issue

I was much struck by a case which I was called to see some years ago. It was that of a married lady, aged 30 years, who, with a history of somewhat ill-defined dyspepsia for some years, was suddenly seized with acute pain about the umbilicus on a certain Monday afternoon. The pulse quickened, the temperature rose to 100 4° F, and the abdomen rapidly became tympanitic. On the next day the symptoms remained much the same until towards evening when a marked improvement took place. I was asked, however to see her in consultation on the Wednesday I found her free from pain the pulse and temperature normal, the facial expression placid, and apparently there was no need for any surgical interference. She was however, kept in bed and carefully fed by rectal enemata as it was suspected that leakage might have taken place from a gastric ulcer On the Friday the symptoms returned suddenly and with great violence. I was called to see her in the evening and prepared to operate. She had been placed under the anæsthetic when suddenly she vomited and brought up a large quantity of blood and life was soon extinct. Unfortunately no post mortem examination could be obtained The period of calm in this case, which occurred from the Tuesday night to the Friday morning is an example of what I mean by the quiescent or latent period in acute abdominal affections. I do not myself doubt that there was some one symptom present, more or less marked, that escaped my attention which, had I known it, would have revealed the full significance of the first onset, and if I had been called to the case at this time I should have examined the blood for leucocytosis. It is probable that when the attack first came on an ulcer had eaten its way down to the peritoneum and a little leakage had occurred the aperture being plugged by inflammatory lymph, but the ulcerative process went on rapidly until a large vessel was eaten into. And looking backwards on the case there is no doubt that the patient ought to have been operated upon during the quiescent period.

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[1] A paper read before the Medical Society of London on April [illegible]th, 1902.

It must be confessed, however, that it is extremely difficult to be always wise at the time and in contrast with this case I will allude to another gastric case. *About three years ago* I was asked by Dr. B. N. Dalton of South Norwood to see a case with a view to operation which he had diagnosed as perforated gastric ulcer, the onset having occurred about 18 hours previously. We operated, found the perforation, and applied an omental graft and the case did quite well. About eight months subsequently, in Dr. Dalton's absence on his holiday, I was sent for again to see this patient. She had had rather a fatiguing day in London and being hungry had eaten some ham sandwiches rather late at night. In the early morning she was seized with sudden pain and some vomiting and I saw her the same afternoon. When I arrived I found some tenderness over the upper part of the right rectus and rigidity of the muscle there but no tympanites and the liver dulness was normal. On the occasion of the previous attack the liver dulness had been lost. I therefore decided to postpone the question of operation and to watch matters carefully and, as events proved, that was the right course to be taken, for she has, so far as I know, never been troubled since with her stomach in any way.

But while the quiescent period was fairly well marked in *the first of the stomach cases which I have quoted*, yet there are many cases other than gastric in which it is better marked and I should be disposed to say that the quiescent or latent period is from time to time a prominent feature in the following group of cases:—1. Injury to the intestines with or without rupture. 2. Perforation of the intestines by ulceration. 3. Injury to, and bruising of, the peritoneal connexions of the viscera, with interference with their blood-supply. 4. Acute diseases of the genital organs, especially of the Fallopian tubes. 5. Acute appendicitis, either ulcerative, perforating, or gangrenous, and this disease undoubtedly affords by far the greater number of examples of apparent improvement. In order to give point to my remarks I should like to quote some cases from surgical literature.

1. *Traumatic rupture of the intestine.*—Dr. J. J. Buchanan[2] reports a case of a young man, aged 18 years, who was struck in the abdomen at 5 o'clock one morning by an iron implement. When seen five hours afterwards he was unable to say where he had been struck. *No ecchymosis*, or sign of contusion, or area of tenderness was present. His general condition was good and his pulse was of good volume, regular, and 88 to the minute. The temperature was 98° F. There was no abdominal distension or excessive rigidity of the muscles but the abdominal wall had not its normally soft condition. He had vomited after the accident and once after admission to the hospital. Dr. Buchanan, on examining him, noted that peristalsis was almost absent, and on this symptom, taken with the slight rigidity and the fact that he had vomited twice, abdominal section was decided upon and was performed at 11 A.M. (six hours after the accident). On opening the peritoneum thickened and congested bowel presented itself and sero-purulent fluid escaped. On further examining the intestine a rupture of the small intestine about a third of an inch in length was discovered with fæcal matter exuding. This was sewn up, the peritoneal *cavity was douched* with saline solution, a drainage-tube was put in, and the patient ultimately recovered. At the same time it must be admitted that there are many cases in which there is marked evidence of contusion of the abdominal wall with considerable collapse which recover entirely without operation.

2. *Perforating ulcer of the intestine.*—This condition affords excellent examples of this latent period. I quote a case described by Dr. A. B. Johnson,[3] in which a man, aged 27 years, was admitted to the Roosevelt Hospital with a history that four days before admission he was seized with colicky pains about the umbilicus but there was no vomiting. His pains were not severe and his bowels were moved daily and he remained at his work. At 1.30 A.M. on the day of his admission he was seized with severe abdominal pains followed by a chill. On admission the abdomen was not distended. It was markedly tender and was rigid throughout. Eight hours after admission the abdomen was opened and a good deal of cloudy, bile-stained fluid, with flakes of coagulated lymph, escaped. The vermiform appendix was examined but was found to be healthy, and ultimately upon the anterior surface of the descending portion of the duodenum a small perforation was found forming the floor of an ulcer. The perforation was closed and the patient recovered and six weeks afterwards he was in the best of health. In *this case the quiescent period, or at any rate the period in* which grave symptoms appeared to be absent, lasted for four days.

3. *Injury to, or bruising of, the peritoneal connexions of the viscera.*—Still more deceptive than the cases which I have quoted are those where there has been injury to the blood-supply of the intestine or bruising of the peritoneal connexions. As an example of this I may quote a case which occurred while I was a dresser. It was that of a middle-aged man who was knocked down in the street by an omnibus, the front wheel passing over him obliquely from the pubes to the left lumbar region. He was much collapsed when brought to the hospital but there were no distinct symptoms. After three or four days he recovered and it was thought that he might be discharged, but that experienced surgeon, the late Mr Davies-Colley, preferred to watch the case, and on the eleventh day after the injury the patient was suddenly seized with acute symptoms of peritonitis and he died in a few hours. On examination it was found that a considerable portion of the great omentum had sloughed.

A very remarkable case of traumatic rupture of the mesenteric arteries is reported in the *Annals of Surgery* for March of this year. A very heavy man, aged 53 years, slipped and fell and sustained a fracture of the bones of the leg, and some symptoms of shock were noticed. There was no pain in any other part of the body. On the following day the patient seemed weak but was easy and cheerful. His temperature was 99 5° F. and the pulse was 99. The urine was scanty but it contained no abnormal constituents. On the following day his condition had altered for the worse and it continued to do so during the next four or five days but no definite diagnosis could be made. There was some slight distension of the abdomen but careful percussion revealed no localised dulness or undue resonance. He was extremely pallid and breathed irregularly; his temperature was subnormal and his pulse was 160, and it was thought that he was dying from internal hæmorrhage. On the seventh day after the accident he died and on opening the abdomen a large quantity of blood was found which was due to the ruptured walls of several of the mesenteric arteries. The mesentery contained an enormous amount of fat and there can be no doubt that in the pull exerted upon this structure by the violent fall it and its vessels were lacerated. In this case the latent period may have been due to the slow hæmorrhage and absorption of the liquid portions of blood in the early stages of the case by the peritoneum.

4. *Acute diseases of the genital organs.*—The records of gynæcology furnish numerous examples of acute diseases of the genital organs, especially of ruptured Fallopian tubes from pyosalpinx and tubal pregnancy, where the serious nature of the disease has not been at once evident.

5. *Acute appendicitis.*—The latent period, or, as Mr. Charters Symonds[1] in his very able and instructive Hunterian Oration designated it, "the period of repose," is extremely well marked in cases of appendicitis. He mentions one case of a female, aged 20 years, who was seen 48 hours after an acute *onset and was considered so* well on arriving at the hospital that operation was postponed until the next morning when a foul abscess was evacuated, and he says that "in nearly all the acute cases a stage is reached soon after the onset marked by a cessation of all acute symptoms The patient passes, unaided by sedatives, into a condition of repose. This period, if wrongly interpreted, may lead to disaster. It is in its early stage a period of safety, one in which operation is successful." I may give two cases from my own experience. One was that of a young woman, aged 18 years, who after a day in town, where she had partaken of a couple of ices and later in the day of a raw apple, was seized early on the following morning with acute pain and vomiting and sickness. This subsided after 24 hours and her condition improved during the next 48 hours so that she was able to get up and to go about almost as usual. On the fourth day intense pain in the abdomen set in, the vomiting returned, and she was prostrate. The parents were urged by the medical attendant to have surgical assistance but this was refused until the fifth day of the illness and when I saw her the

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[2] Annals of Surgery, vol. xxxii., p. 673.

[3] Ibid., vol. xxx., p. 634.

Brit. Med. Jour., 1899, vol. i., p. 520.

condition was that of acute septic poisoning. The temperature was 100° F. and the pulse was 124. The abdomen was distended, with no sign of tumour or dulness, and, in fact, she presented a picture of virulent peritonitis. As a remote hope an operation was undertaken and a long, much distended appendix was found but her condition became so bad that it was not possible to remove it. The abdomen was washed out with saline solution and the appendix was packed round with strips of iodoform gauze. For 12 hours she showed a marked improvement but then aggravated symptoms set in and she succumbed 24 hours after the operation. The other case was that of a young man, aged 18 years, who after a bicycle ride on a certain Sunday was seized with acute abdominal pain while away from home. After 24 hours, however, he felt well enough to return home and he appeared to be doing well and remained in fair condition until 2 P.M. on the following Tuesday, when the pain and vomiting returned and his general condition was that of collapse. I saw him at 4 A.M. on the Wednesday and found his pulse uncountable, his temperature 101°, his abdomen distended, but with tenderness and an ill-defined mass in the right iliac fossa. On opening the abdomen I evacuated some foul pus from the right iliac fossa. After the operation his pulse improved somewhat and he expressed himself as being free from pain but he did not survive the operation for more than 24 hours.

These are instructive instances of the subtlety of these cases but the most striking cases that I have ever read of are those quoted by Sir Frederick Treves in his work on Perityphlitis at p. 27. He says that he has seen two cases of septic peritonitis, due to trouble in the appendix, run their entire course with a flaccid abdomen and with scarcely any tenderness. Both patients were men over 50 years of age. No morphia had been administered and in both cases death took place from toxæmia, within seven days. One man spent some hours in applying massage to his own abdomen and the other drew frequent attention to the absence of tenderness by slapping the abdominal wall. In all these instances, although the usual train of symptoms of virulent mischief was not present, yet there was some one sign or other which subsequent investigation showed to afford sufficient grounds for surgical interference without delay. It may have been either that the remissions were never quite complete or that the usual course of things differed by the persistence of some symptom. Thus muscular rigidity—slight it may have been—may have persisted, peristalsis may have been absent, some tenderness may have been elicited on careful palpation, the pulse may have been out of proportion to the temperature, or the general appearance of the patient—deceptive though it may be to the casual observer—may have suggested to the experienced eye that all was not well. Again, it is extremely difficult to gauge the value of symptoms or signs slightly marked when the deceptive remission has been brought about either by drugs or by the application of ice-bags. As to what is the explanation of this quiescent period it is difficult to say, but in some cases where tenderness has been absent—as, for example, in cases of very acute appendicitis—it has been found that the appendix is gangrenous and that its nerves are therefore insensitive. And so it may be that in cases of acute general peritonitis the sensory nerves of the peritoneum are paralysed from the first. Doubtless there are other causes at work but it is not within the scope of this paper to discuss them.

A careful compilation of abdominal cases and the recording of clinical signs fortunately enable us to fix upon certain symptoms—even in obscure cases—as of great moment.

1. The most important information is gathered from repeated records of the *pulse and temperature.* These may rise together in due proportion: or there may be a slightly elevated temperature with an entirely disproportionate pulse-rate; or the temperature may be subnormal when taken on the surface, while the pulse may be greatly accelerated. It is this last condition that is more often met with during the latent period in very grave cases, and taken with a history of the onset of the attack it affords justifiable grounds for immediate operation. In all abdominal cases the pulse and temperature should be frequently taken, at least every three hours, although the disease appears to be quieting down. Remembering what has been said as to the probability of a successful issue to an operation if it be undertaken in the early part of the latent period, this inverse relationship of temperature and pulse should be observed at the earliest possible time. If the altered relationship has been established for a day or two, then the prospects of operation are extremely unfavourable, because by that time the patient has probably become saturated with septic products. Again, it may happen—as, for example, in the course of an attack of acute appendicitis—that after an initial rise of temperature and pulse there is a fall in both, succeeded after a few days by a rise. This indicates the presence of a considerable amount of pus, and unless the abscess be evacuated there is a grave danger of it bursting into the peritoneal cavity.

2. In the case of the perforating duodenal ulcer which I have quoted there was no vomiting or severe pain and the patient was able to remain at his work, *rigidity*, with some tenderness, being the only definite symptom; but on opening the abdomen it was found that there was acute peritonitis present, and perhaps of all the physical signs a transient or a persistent rigidity and the absence of other symptoms are the most valuable and they become convincing when signs of intestinal peristalsis are absent.

3. It is difficult to speak of *distension* as a symptom taken by itself, for it is often absent in the early stages, even in so serious an affection as a perforating gastric ulcer; but in the late stages of abdominal diseases the fatal significance of it is only too well known. But distension which persists for longer than for from 24 to 36 hours and is unrelieved by treatment such as a turpentine enema is of grave moment.

4. As a rule, *vomiting* is quite absent during the quiescent period. It is true that at the beginning of the illness there may have been vomiting but at the "period of repose" the vomiting has subsided, it may be because the stomach has been emptied of its contents by the initial sickness or because the vomiting has been kept in check by the administration of sedatives. But if the vomiting recurs in spite of careful feeding, careful nursing, and more especially if it persists after the administration of sedatives, the symptom is not one to be under estimated.

5 A great deal of careful work has been done on the subject of *leucocytosis* of late, and not only on leucocytosis but on the condition of the blood generally in abdominal affections Dr. Da Costa[5] states as the result of his researches that in an appendicular abscess the number of leucocytes per cubic millimetre present in the blood may be from 15,000 to 20,000, the normal number of leucocytes being from 5000 to 7000 per cubic millimetre and rising to 12,000 at the height of digestion after a good meal. He further adds that if the pus focus be walled off and no absorption of toxic material takes place, then there may be no rise in the number of leucocytes, but otherwise in purulent appendicitis their number may vary from 14,000 to 58,500, and he found the average in purulent cases to be 17,450. In perforative appendicitis there is a very abrupt rise of leucocytes and counts of over 20,000 indicate either pus, gangrene, or peritonitis. If the number be under that the deduction is uncertain, for in 35 per cent. of non-purulent cases there is merely a small increase in leucocytosis. As showing, however, that even this sign is not to be absolutely relied upon, Dr. Da Costa states that in some septic cases arising from appendicular trouble there is an absence of leucocytosis, and if this occurs it is a symptom of very grave importance. From a diagnostic point of view it should be remembered that leucocytosis is absent in typhoid fever but is almost invariably present in ovarian abscess, pyosalpinx, perinephritic and nephritic abscesses, and in suppuration generally. Dr. J. T. Finney,[6] writing on perforating ulcer of the stomach, quotes Dr Cabot who states that leucocytosis is never seen in the course of gastric ulcer except after severe hæmorrhage and at the height of digestion. The presence of leucocytosis when the influence of bleeding and digestion is excluded is "practically unknown in uncomplicated gastric ulcer" When, therefore, grave symptoms occur in a young woman with a history of previous digestive disturbance, together with a sudden development of marked leucocytosis, the indications for immediate surgical interference are imperative. A most instructive article on the leucocyte count in surgery is given by Dr. Theodore Dunham.[7] He gives many interesting details, some of which are as follows. There is considerable leucocytosis after the administration of ether. In acute cervical adenitis in an infant, aged seven and a half months, the leucocyte count was 9800 and with a mastoid abscess 24,800, and with a gangrenous appendix 17,000, rising next day

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[5] American Journal of the Medical Sciences, vol. cxxii., p. 645.

[6] Annals of Surgery, vol. xxxiii., p. 6.

[7] Ibid., vol. xxxi., p. 669.

to 19,000. In another case the appendix was operated upon and the day after operation the count was 11,700, and on the following days it was 14,500, 16,900, and 22,100. Meanwhile the dressings, the temperature, the pulse, and the respirations gave no distinct indication of anything wrong, but at the dressing after the last-named count a large quantity of pus had found its way into the wound.

Mr. J. H. Hebb has very kindly made some observations for me at the Westminster Hospital upon leucocyte counts in various conditions, suppurative and non-suppurative. A male patient was admitted suffering from appendicitis with a temperature of 99° F. The leucocyte count was 11,562 (finely granular 54, coarsely granular 17, hyaline 9, and lymphocytes 20 per cent). This case subsided without suppuration and did well. A female patient was admitted on Feb. 15th suffering from suppurative pelvic cellulitis. The leucocyte count was 22,500. On March 1st, when the suppuration was subsiding, the count was 15,625. A female patient suffered from pelvic cellulitis and a very extensive abscess on the outer side of the thigh, which had made its way from the pelvis through the great sciatic notch. The temperature was 98° F. On admission leucocytosis was 13,128 (finely granular 43, coarsely granular 4, hyaline 10, and lymphocytes 43, per cent.). On March 3rd, when the suppuration was less, the count was 11,560 (finely granular 64, coarsely granular 5, hyaline 6, and lymphocytes 25, per cent.). So far, then, it may be said that in the leucocyte count frequently made in the course of the illness there was a very valuable indication that grave mischief was going on even when the other symptoms were quiescent or latent and this method of clinical investigation promises to be one of the utmost value.

6. In regard to *chest complications*, in a patient who began his illness with symptoms referable to the abdomen but who remains ill although the symptoms in that region have apparently subsided careful examination of the chest and the detection of either a pleuritic rub or the presence of fluid in either of the pleural cavities may serve as an indication that mischief is still going on in the abdominal cavity and that exploratory operation is called for. In Dr. J. Mitchell Bruce's excellent Hunterian lecture, delivered in November of last year, the subject is fully dealt with and he quotes an instructive case of pleurisy and perigastric abscess which was operated upon by Mr. Rickman J. Godlee who found serous fluid in the left chest and a perigastric abscess below the diaphragm. A somewhat similar condition is met with in cases of appendicular trouble where the abscess has tracked up into the renal regions and associated with it fluid has been found in the chest. It may be that the trouble has almost, if not quite, subsided in the region of the appendix and what has to be dealt with is a continuous lymphatic infection in the post-abdominal connective tissue and extending through the lymphatics to the diaphragm and so causing chest symptoms. The detection of fluid in the chest, especially on the right side, may lead on exploratory operation to the further detection of a collection of pus, either sub-diaphragmatic or situated deeply in the flank.

The remarks which I have made on this difficult clinical subject are, I fear, fragmentary and imperfect, but if they lead to a more thorough investigation of that all-important period—latent, quiescent, or reposeful—I feel that what has been written may be of some service.

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SOME OF THE SURGICAL ASPECTS OF GLYCOSURIA AND DIABETES.[1]

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ON referring to old surgical case-books it is not unusual to find a clinical history ending with the statement that no operation was performed as the patient was suffering from glycosuria. Surgical text-books still advise that when diabetes is present no active surgical measures should be undertaken unless urgently required. Since, however, the word "urgency" is capable of widely diverse interpretations it is advisable to study the results that have been obtained after operations upon diabetics and the causes of failure in order to define the limits of surgical interference. In the pre-antiseptic era most of those diabetics who came under the hands of a surgeon were suffering from gangrene or carbuncle and therefore in many cases already affected with some form of septic poisoning. It is not, therefore, surprising that the mortality was high and thence arose the dictum still found in most text-books.

CLASSIFICATION OF THE CAUSES OF GLYCOSURIA.

In many instances it is very difficult to distinguish between temporary or non-diabetic glycosuria and true diabetes; this is especially so in the presence of surgical complications, and were the presence of sugar to be taken as due to the existence of diabetes in all cases then doubtless many patients would die unrelieved. Various classifications have been drawn up, the best of which, from a surgical standpoint, is that by Smith and Durham, though in some respects deficient. The following is therefore proposed: (1) those cases in which glycosuria is caused by the surgical lesion; (2) those cases in which it causes the surgical lesion; (3) those cases in which the two are independent and do not influence each other; and (4) those cases in which glycosuria exerts a baneful influence upon the other disease or injury. Glycosuria may be merely temporary, apart from surgical diseases or injuries, as after certain drugs, as opium or chloroform (the toxic form), or it may be of alimentary origin. A diagnosis is often impossible, transitory glycosuria passing imperceptibly into true diabetes. A good instance of the toxic form is recorded by Marmaduke Sheild of a man who had taken morphia for years and sustaining a fracture of his patella underwent the operation of wiring. Sugar (not glycuronic acid) was subsequently discovered which disappeared gradually on the withdrawal of the morphia. Convalescence was uninterrupted.

CLASS 1.

Glycosuria has been noticed as a complication of a great variety of surgical ailments and injuries, the causes falling into two main groups—injury and sepsis; other less frequent causes also occur. Redard classified them into the following groups: (1) injury of the central nervous system; (2) other injuries, such as fractures and operations; (3) inflammation; (4) cellulitis, lymphangitis, and erysipelas; (5) carbuncle; (6) gangrene; and (7) septicæmia. In almost all his cases the amount of sugar was small and usually quite transitory, the amount varying from 0·1 to 2·29 per cent. and generally also accompanied by albuminuria and slight polyuria. Smith and Durham add to these certain cases of ulcerated new growths and consider that the sugar is secondary to the sepsis present. They quote one of Redard's cases as bearing out this hypothesis, in which 0·4 per cent. sugar was present the first day, 0·18 per cent the second day, but none the third day (epithelioma of the tongue). More recently many cases of intra-abdominal or intra-pelvic disease have been published in which glycosuria, apparently secondary, existed; but its duration was months and they closely simulated diabetes in other respects (thirst, polyuria, &c.). After operation, aided in some instances by general treatment, the sugar and the other symptoms permanently vanished. These cases differ extremely from those recorded by Redard and others and require close attention. They may be divided into two classes: (1) septic cases, and (2) non-septic cases.

1. *Appendicitis* (Table I.).—Leidy reports three cases and Cohen one of appendicitis, in two of which suppuration was present, which were complicated by glycosuria. In Leidy's first case 2·5 per cent. of sugar was found, expectant treatment was adopted, and recovery resulted; six months later and four years later sugar was entirely absent. In Cohen's case it lasted three months, disappearing as an abscess healed.

Pyosalpinx.—Imlach records a case in which polyuria, thirst, and constipation were present a month before the patient came under observation, the resemblance to diabetes being therefore great. Under diet the amount of urine fell to from five to six pints per diem; during the next month the sugar dropped from 2500 grains per diem to 1200 grains. Within a week of the removal of a pyosalpinx sugar permanently disappeared.

2. *Strangulated hernia.*—Neugebauer has reported two cases accompanied by glycosuria. Both were operated upon, the first without an anæsthetic on account of supposed diabetes; both recovered, the sugar disappearing the next day. In the second case 90 centimetres of small intestine were resected. After his first case he performed a species of

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[1] A thesis read on August 9th, 1901, for the degree of M.D. Camb.

TABLE I.—CASES OF APPENDICITIS ASSOCIATED WITH GLYCOSURIA

No	Reference.	Sex and age	History.	Condition whilst under observation	Urine.	Treatment	Result	After history
1	Leidy	Female 29 years	At the age of 23 years the patient suffered from obstruction of the bowels and had had many attacks of pain in the right iliac fossa since.	A lump and a sinus leading to a fæcal concretion; right iliac fossa; the concretion discharged on the third day after admission	Specific gravity, 1032; alkaline; 2·6 per cent. of sugar no albumin	Expectant	Gradual recovery and a decrease in the amount of sugar	Six months later no sugar; four years later no sugar
2	„	Female 46 years	Pain in the right iliac fossa; sickness; constipation	Temperature, 103·4° F.; pulse, 110 A swelling in the right iliac fossa.	Specific gravity 1029; much sugar; a trace of albumin The amount of sugar varied whilst in hospital	„	Not stated presumably recovered	
3	„	Male; 25 years	Many previous attacks. The present attack started six months before and gradually subsided; a relapse later		Specific gravity at first 1032; sugar a trace of albumin; the sugar disappeared during convalescence and reappeared periodically	„	Recovery	During the last four weeks in hospital sugar was only discovered once
4	Cohen.	Male	Appendicitis first started in February with glycosuria but no polyuria or polydipsia An abscess formed which was opened on April 4th Much foul pus was evacuated The patient at the time was much emaciated Two days later there was still much glycosuria.		Sugar was present in February March and part of April	Expectant at first then the abscess was opened	„	In five weeks the patient was quite well. The glycosuria had disappeared

experiments and found that if all the intestine was ligatured or the upper part of the jejunum glycosuria resulted He attributes the rareness of its occurrence in strangulated hernia to the infrequency of strangulation of the upper part of the jejunum. In his cases the hernia was very large and contained almost the whole of the small intestine. (Glycosuria complicating strangulation may be commoner than is supposed but may be overlooked through neglecting to examine the urine.)

Ovarian tumours.—Croom has published the clinical history of a patient who was affected with a large colloidal ovarian tumour Her urine contained a trace of albumin and "much" sugar, its specific gravity was 1047 Diet and morphia being of no avail in reducing the sugar the tumour was removed. In two months the patient was quite well, having no trace of sugar in her urine. Diet was, however, still maintained. The tumour weighed 56½ pounds. Beyen has recorded a similar case in which 7 per cent of sugar was excreted in the urine, with all the symptoms of diabetes. A month after the removal of the tumour only 4 per cent sugar was present and in six months it had permanently disappeared under treatment. The tumour weighed 22 pounds and was also colloidal.

These cases are of the greatest importance, being on the borderland of diabetes The probable cause of the glycosuria in the last two cases was the increase in the intra abdominal pressure, the tumours being of great size. General treatment was adopted in addition to the surgical measures. The presence of sugar in no way interfered with convalescence It must be concluded, therefore, that in such cases, even though the *symptoms* of diabetes be present, an operation is not contra indicated.

Glycosuria complicating spreading traumatic gangrene (personally observed).—A printer aged 48 years, was admitted in July 1900 to St. Bartholomew's Hospital under the care of Mr H. T Butlin suffering from a lacerated wound of the left arm and forearm the result of injury in a printing machine. The skin had been torn up and the soft parts were much bruised. No sugar was present in his urine and there was no history of diabetes. The next day the arm was cold and slightly emphysematous. Sugar was now present in his urine. The discolouration of his skin spread and the temperature rose to 103·8 F in the evening The next day his arm was removed at the shoulder joint by a posterior quadrilateral flap; there was much hæmorrhage (? high division of the artery) Gas and ether were administered and the wound was lightly closed The day after the operation the temperature came down and 2·5 per cent. sugar was present. The amount of sugar varied, being 3·3 per cent. a week after the operation The wound, save for a small slough, gradually healed and the sugar permanently vanished. He was seen again in December but no sugar was present. There was much difficulty in the estimation of the sugar as the cuprous oxide would not precipitate properly No special diet was adopted and no special drug treatment. A gas producing anaerobic bacillus was cultivated but not identified.

CLASS 2.

It is doubtful whether diabetes can directly cause any lesion requiring surgical treatment except balano-posthitis and possibly cataract. So-called diabetic gangrene is rather gangrene occurring in a diabetic subject, the influence of diabetes being indirect through arterio-sclerosis or nerve degeneration, the result of the constitutional affection. Carbuncle is to be regarded in the same light. Such patients respond badly to injuries, whether surgical or accidental. Balano-posthitis is, however, due to the irritation of the sugar-containing urine. Smith and Durham have collected from French authors seven cases in which circumcision was performed, with six recoveries, one after extensive sloughing and erysipelas The fatal case was due to wide spreading sloughing and gangrene of the integuments the result of the operation. The best results were obtained by Francon who practised the most rigid antisepsis then known. As a precautionary measure Lauder Brunton has advised careful sponging of the prepuce and glans after each act of micturition in order to remove all trace of urine As regards cataract Legendre has collected 102 operations with 99 successes (Laisney's cases)

CLASS 3.

This is, from the surgical standpoint, the most important group of cases, as it contains most new growths, fractures, and other injuries occurring in diabetics The existence of diabetes may at the time be unknown, as the disease may be intermittent The patients may appear perfectly healthy, but they are more often stout and otherwise unfavourable subjects for operation (*diabète gras*) For convenience of reference the cases will be arranged regionally

Operations on the Face and Mouth.

Two parotid tumours have been unsuccessfully excised In the case recorded by Verneuil in 1878 after a tedious operation erysipelas set in on the fourth day and death occurred on the eighth day as the result of secondary hæmorrhage from the external carotid. The operation was not performed until general treatment had caused the sugar to disappear It reappeared after the operation. In the other instance the operation was quite simple but the patient died in coma on the third day Diabetes was not discovered beforehand. Redard successfully removed a myeloid epulis by the thermo-cautery without an anæsthetic. Preliminary

TABLE II.—OPERATIONS ON THE FACE, MOUTH, &C.

No.	Sex and age.	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
1	Male, 45 years.	Verneuil (Bulletin de la Société de Chirurgie, 1878).	Parotid tumour.	Excised. Serious *operation.*	On the fourth *day erysipelas.* On the eighth day hæmorrhage from the carotid. Death.	Adopted until the sugar had disappeared.	Diabetes two years 3 per cent. of sugar. The sugar reappeared after the operation.
2	*Male*, 62 years.	Polaillon.	"	Excised. Easy operation.	Coma on the third day. Death.	—	Diabetes unknown before the *operation. Chloroform* was the anæsthetic. Sugar was *found on the appearance of* coma.
3	Male; 68 years.	Tuffier.	Epithelioma *of the floor of* the mouth; adherent to the mandible, ulcerated, had been *cauter*ised several times previously.	Removed.	Left lobar pneumonia on the fifth day Death on the seventh day.	Adopted until the sugar had disappeared.	0·2 to 0·3 per cent of sugar before the operation, traces after. Smith and Durham throw doubt on the nature of the glycosuria.
4	Male, 47 years	*Redard.*	Myeloid epulis of the lower jaw, rapid growth.	*Removed* by thermo-cautery.	Recovery.	Adopted as a preliminary. Diabetes for two years 3·77 per cent. of sugar.	Before the operation the total amount of sugar per diem *was from 13 to 29 grammes* It rose to 73 grammes on the sixth day after the operation and then fell.
5	Male. 62 years	Verneuil (Bulletin de la Societe de Chirurgie, 1884)	Epithelioma of the palate.	Removed by thermo-cautery *after incising the* cheek.	Hæmorrhage two hours later. *Next day* pneumonia and coma. Death.	—	Diabetic; alcoholic; 7·6 per cent. of sugar.
6	Male, 50 years.	Verneuil.	Epithelioma of the soft palate *and* the tonsil.	Cauterised with chromic acid.	Recovery.	Treatment did not diminish the sugar.	Diabetes seven years. 4·6 per cent. of sugar, urine, 2·75 litres. No recurrence Death two months later
7	Male, 65 years	Richelot	Epithelioma *of the inner* surface *of the* cheek.	Removed together with an enlarged gland.	Slight suppura*tion in the cervical* wound. Recovery.	Adopted. Reduced the percentage of sugar *from* 4 *to* 3·3 and the urine from three to 1·5 litres.	Old diabetes Carbuncle seven years previously.
8	Female, 64 years.	Maunoury.	Epithelioma *of the mouth.*	Removed by thermo cautery *after slitting the cheek.*	Gangrene of the skin (emphysematous) spread *all over the head.* Death.	—	Three years' history of diabetes *elicited on the* occurrence of sepsis. 8 per cent. *of* sugar
9	Male, 64 years.	Tuffier.	Epithelioma of the tongue and the pillar of the fauces.	Removed by thermo-cautery.	Recovery.	Adopted for 15 days. The sugar vanished	Intermittent diabetes two years 0·4 per cent of sugar. The sugar reappeared after the operation.
10	Male, 52 years.	"	Epithelioma of the tongue.	"	"	Adopted until the sugar had vanished.	Intermittent diabetes four years. Sugar reappeared on the day after the operation 0·8 per cent on discharge.
11	Male; 50 years	Verneuil (Bulletin de l'Académie de Medecine, *1881).*	Epithelioma of the tip of the tongue.	"	Secondary hæmorrhage on the sixth day. *Bronchitis.* Recovery.	Adopted for about 10 days beforehand.	Sugar fell to 0. Total sugar before 5·4 grammes.
12	Male, 32 years	Tuffier.	Epithelioma of the border *of the tongue.*	"	Slight secondary hæmorrhage Recovery	Adopted until the sugar had disappeared (a few days).	0·4 per cent of sugar. Smith and Durham consider this to be glycosuria consequent on ulceration. Such was *probably* the case.
13	Male; 72 years.	Fischer.	Epithelioma of the lip.	Removed.	Recovery.	Adopted for from four to five months before operation	Sugar diminished from 3·45 per cent. to 0.
14	Male.	Reynier.	Epithelioma of the *lower* lip.	"	The wound broke down *partially.* It healed in one *month.* Recovery.	No mention.	The amount of sugar was at first 60 grammes. At the *time of the operation it was* from 10 to 15 grammes.
15	"		Epithelioma of the lip.	"	Recovery.	—	Atheroma, alcohol, syphilis,
16	Male, 52 years.	"	—	Excision of the eye.	"	Adopted. Caused the sugar to disappear.	—
17	Male; 32 years	"	Sebaceous cyst on the neck *of the* size of an orange.	Removed.	"	—	"Diabetique gras."

TABLE III.—OPERATIONS ON THE BREAST.

No.	Sex and age.	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
1	Male; 50 years.	Fischer, 1878.	Scirrhus (ulcerated).	Amputation. Glands removed.	Cellulitis on the second day. Gangrene of skin of back. Recovery.	Adopted on the discovery of sugar. Carbolic acid internally.	2·2 per cent. of sugar.
2 a	Female; 56 years.	Tuffier.	Scirrhus of the right breast.	Amputation.	Recovery.	Adopted for some months previously.	
2 b			Recurrence in the glands nine months after.	Glands excised.	,,		Glycosuria three years. On the fifteenth day 0·3 per cent.
3	Female; 61 years.	Rosenberger, 1882.	Scirrhus of two years' history.	Amputation.	Most of the wound healed by first intention, but on the fourteenth day sepsis from the drainage wound occurred. Death.	Had been adopted some years before.	Diabetes six years.
4	Female.	Berger.	Encephaloid of the right breast.	Amputation. The glands were also removed. No attempt was made to close completely the wound.	Recovery.	Adopted until the sugar had disappeared.	Severe diabetes 10 years. 4 to 5 per cent. of sugar. Died. Two ovarian growths four months later.
5	Female, 50 years.	Noble.	Scirrhus.	Amputation. The glands and the pectoral fascia were removed.	Slight axillary suppuration. Recovery.	Diabetes was not discovered until after the operation.	
6	Female, 65 years.	Willett (St. Bartholomew's Hospital Surgical Register, vol. i., 1898).	Scirrhus (left).	Amputation. The glands were also removed.	Healed mainly by first intention. A small abscess was found on the tenth day. Recovery.	Presumably dieted as she was transferred from a medical ward.	Diabetes seven years. 4·5 per cent. to 2·25 per cent. of sugar. Total per diem 45·5 grammes to 16·23 grammes.
7	Female.	Willett (private case).	Scirrhus.	Amputation.	Recovery.	Diabetes was discovered after the operation. very stout patient.	
8	,,	Lilienthal.	,,	,,	,,	—	Sugar persisted.
9* a	Female; 61 years.	Fisk, August, 1895.	Scirrhus (ulcerated), right breast.	Amputation after Halsted's (?) method.	—	Not adopted.	Diabetes. 2·5 per cent. of sugar. Ether.
9* b.	—	—	—	Thiersch's skin-grafting 14 days later.	—	—	—
9* c.	—	March, 1898.	Small recurrence.	Removed.	—	—	Cocaine.
9* d.	—	November, 1898.	Fresh ulcerated recurrence.	Excised with portion of a rib.	Granulated up.	—	2·2 per cent. of sugar. Still alive in August, 1899.
10	Female; 64 years.	Tuffier (No. 11), 1881.	Carcinoma of the right breast. 18 months.	Amputation.	Erysipelas. Death on the fifth day.	—	No sugar before the operation. Urea, 1·8 per cent. After the occurrence of erysipelas "much sugar." Smith and Durham consider the glycosuria to have been caused by the occurrence of erysipelas.
11 a.	Female; 64 years.	Le Conte (details by letter), 1899.	Recurrent scirrhus. The breast had been removed three years before with the glands.	Free excision of recurrence. The second and third ribs were involved but were not removed. A large operation, skin-flaps being necessary.	Recovery.	—	Ether. From 4 per cent. to 11·5 per cent. of sugar present.
11 b.	—	—	Six months later another recurrence.	Excised.	,,	—	Ether. No sugar.
12	Female.	Reynier.	Carcinoma of the mamma.	Amputation.	,,	Adopted. Total sugar per diem reduced from 35 grammes to 11 grammes. As the result of the operation the sugar rose again to 28 grammes. Atheromatous vessels.	
13	—	,,	—	,,	,,	Atheromatous vessels.	
14	Female.	Reynier (with Dr. Marieux)	—	,,	,,	Diabète gras.	
15	Female; 61 years.	Butlin (St. Bartholomew's Hospital Female Surgical Register, vol iv., 1900, p. 432)	Scirrhus (in small spheroidal cells).	Amputation of the breast with free removal of the skin and some of the pectoralis major. March 2nd, 1900.	,,	Drained for two days. Convalescence was uneventful. Tumour in the upper and inner quadrant of the breast. The skin was adherent but not ulcerated. Diabetes was first detected in June, 1899. Some sugar in the urine on the day of admission to hospital; none on the day of operation, or after. A stout subject. No special diet, or medicinal treatment.	

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* This patient underwent four operations successfully and was alive four years later, although the primary growth was ulcerated to the extent of two inches by one and a half inches.

TABLE IV.—OPERATIONS ON THE FEMALE GENERATIVE ORGANS.

No.	Age.	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
1	33 years.	Matthews Duncan (Sir John Williams's case).	Rupture of the perineum into the rectum.	Perineorrhaphy eight months after the rupture. (Primary operation having failed.)	Recovery.	Adopted.	Diabetic symptoms present on and off for 13 years during pregnancies.
2	—	Baldy. (Unpublished case.) By letter. 1900	Prolapsus uteri. Lacerated cervix.	Cervix repaired. Curetting. Plastic operation on the anterior and posterior vaginal walls.	,,	Strict preliminary dieting, &c.	2·5 per cent. of sugar. A trace on discharge.
3	—	,,	Procidentia, &c.	Amputation of the cervix. Plastic operation on the anterior and posterior vaginal walls. Ventrofixation.	,,	,,	About 2·5 per cent. Discharged in three weeks.
4	—	Baldy (*vide* discussion on Noble's paper).	Procidentia.	Plastic operation.	,,	—	"Much sugar."
5	—	,,	,,	,,	,,	—	,,
6	—	,,	Complete tear of the sphincter ani.	Perineorrhaphy.	,,	Sugar and opium reduced whilst in hospital.	Diabetic and opium-eater for years. Six years later still diabetic.
7	48 years.	Kleinwächter.	Fungous endometritis. Lacerated cervix with erosion. Warts on the vulva.	Curetting. Repair of the cervix. Removal of warts.	Wound healed rather slowly; recovery.	—	Thirst; polyuria. Sugar disappeared under dieting. Two years later well, probably diabetic.
8	—	Landau.	Torsion of an ovarian cyst.	Ovariotomy.	Recovery.	—	Emergency operation. Diabetes *only discovered after* the operation.
9	—	,,	Ovarian cyst.	,,	,,	Dieting until an irreducible minimum of sugar was reached.	Rigid antisepsis. One and a half years later still a small sinus in the wound.
10	—	,,	,,	,,	,,	,,	Rigid antisepsis.
11	?	Loeb (Schröder's case).	Double dermoid ovary.	,,	Death.	—	A sister also diabetic. A very difficult and tedious operation on account of numerous adhesions.
12	63 years.	Reynier.	Malignant disease of the ovary.	,,	Death on the fortieth day.	—	The wound apparently progressed favourably, but on the fourteenth day it gaped and the intestines protruded. It was re-sutured but did not unite. Death resulted on the fortieth day.
13	60 years.	Kreutzmann.	Epithelioma of the cervix.	Vaginal hysterectomy.	Recovery.	Diet reduced. Sugar before the operation.	Chloroform. Easy and rapid operation. The diet was continued after, sugar only reappearing in small quantities from time to time.
14	41 years.	Landau.	Carcinoma uteri.	Vaginal hysterectomy (22 minutes).	Coma on the second day. Death.	—	Diabetes for one year. Sugar entirely absent before the operation. No symptoms present. Marked euphoria. Strict diet had been employed earlier in the year.
15	63 years.	Landau (unpublished). Letter, 1901.	Carcinoma cervicis uteri.	Vaginal hysterectomy, Dec. 8th, 1900.	Recovery.	Carbohydrates withheld.	3 per cent. of sugar. Chloroform. Discharged on Dec. 31st, 1900. The *diet did* not diminish the sugar.
16	50 years.	Noble.	Procidentia uteri. Small ovarian tumour.	Vaginal hysterectomy and anterior colporrhaphy.	Death on the sixth day. Coma.	Diet, codeine, and strychnine.	Glycosuria for three years. No symptoms. Specific gravity of urine, 1026; sugar, 2·5 per cent. Diet, &c., reduced *it to* 1·75 *per cent.*
17	38 years.	Gottschalk (Berlin). Details by letter, 1901.	Fibroids. Uterus.	Abdominal hysterectomy, 1893.	Recovery.	Carlsbad regimen.	Uterus reached 14 centimetres above the umbilicus. Much hæmorrhage from the uterus. 1 per cent. of sugar in 1893; 0·6 per cent. in 1901. Chloroform.
18	47 years.	Landau (unpublished). Letter, 1901.	Intramural myoma of the size of a man's head.	Abdominal enucleation, Feb. 2nd, 1901.	,,	Diet.	Slight suppuration in the wound. Sugar, 0·5 per cent.; unaffected by diet. Discharged March 21st, 1901. Chloroform.
19	53 years.	,,	Multiple fibroids. Umbilical hernia.	Abdominal hysterectomy (the right ovary left behind). Radical cure of the hernia.	,,	,,	Wound healed by first intention. Diet removed the sugar (0·5 per cent.). Operation on Feb. 27th, 1901; discharged on March 21st, 1901. Chloroform.

TABLE IV.—OPERATIONS ON THE FEMALE GENERATIVE ORGANS—(*Continued*).

No.	Age	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
20	—	Reynier.	—	Abdominal and vaginal hysterectomy.	Recovery.	—	The wound gaped on the thirteenth day and was re-sutured, recovery eventually resulting.
21	"Young."	Noble (Norris's case).	—	Curetting.	Coma. Death on the third day.	—	—
22 a	54 years.	Champneys (unpublished). St. Bartholomew's Hospital Register, vol. vi., 1896	Epithelioma vulvæ.	Excised.	Recovery.	—	After the second operation (on the glands) the patient removed her dressings and slight suppuration resulted. Specific gravity of urine, 1035; sugar, 4·5 per cent.
22 b	—	—	Glands enlarged.	"	"		
23	55 years.	Kleinwächter Zeitschrift für Geburtshülfe and Gynäkologie, Band xliv.	Myoma of the uterus. Umbilical hernia.	Removal of the tumour (polypoid) p. v. Curetting	"	Adopted beforehand (sent to Karlsbad).	Sugar from 1·4 to 3·2 per cent. Absent at the time of the operation. Recurred afterwards from injudicious food. Diabetes.
24	43 years.	Giles.	"	Hysterectomy. Radical cure of the hernia.	"	—	5 per cent. of sugar but no symptoms of diabetes. Sugar persisted for one week after the operation. Discharged cured in three weeks.

Cases in which Diabetic Symptoms which were previously present disappeared after Operation.

No.	Age	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
25	53 years.	Croom.	Colloidal tumour of the ovary. Weight, 68½ pounds.	Ovariotomy.	Recovery.	Before the operation general treatment and morphia had no effect. After the operation, under general treatment, the sugar gradually vanished.	Specific gravity of the urine, 1047; much sugar. 14 days after the operation the sugar began to diminish. In two months it was absent
26	52 years.	Noble (Beyea's case), discussion. *Vide* also Beyea's paper.	Multilocular pseudo-mucinous oöphoritic cystadenoma. Weight 22 pounds.	"	"	After the operation general treatment was adopted; four weeks after the operation there was only 4 per cent. of sugar Treatment was continued and in six months there was no sugar.	The urine contained 7 per cent. of sugar. All the symptoms of diabetes were present. The urine excreted by day contained from 60 to 80 per cent. of the total sugar excreted.
27	31 years.	Imlach.	Double pyosalpinx.	Appendages removed.	"		One month's history of thirst &c. Polyuria. Specific gravity of urine 1036; much sugar. Dieting, &c., reduced the urine to from five to six pints, with total quantity of sugar 2560 grains in the 24 hours. Three months later there were 1200 grains of sugar in the 24 hours. Operation performed. In a week the sugar had permanently vanished.

treatment reduced the percentage of sugar from 3·77 to 1. There was a marked increase in its amount after operation. Three epitheliomata of the lip have been successfully removed. In Fischer's case the patient was treated medically for about five months before operation to reduce the amount of sugar. In one of Reynier's cases an enlarged gland was removed at the same time; the resulting wound suppurated slightly. Five patients suffering from epitheliomata of the cheek or palate have been subjected to operation, two of whom recovered (the operation in one, however, was merely destruction of the growth with chromic acid). In one of the fatal cases a history of diabetes was only elicited on the occurrence of sloughing The cheek was slit to allow of free removal by the thermo-cautery Emphysematous gangrene appeared and it spread all over the head; 8 per cent. of sugar was discovered. In another case the patient succumbed to pneumonia on the fifth day after the removal of a growth involving the lower jaw; from 0·2 to 0·3 per cent. of sugar previously present disappeared under medical treatment. The third fatal case was that of an alcoholic patient whose urine contained 7·6 per cent. of sugar; pneumonia occurred and death followed from coma. Three operations for epitheliomata of the tongue have been recorded. In each the tongue was removed by the thermo-cautery and the patient recovered. Secondary hæmorrhage occurred in one case on the separation of the sloughs. Previous medical treatment was adopted in all. Tuffier quotes another instance in which 0·4 per cent of sugar was present before the operation, which disappeared under preliminary treatment. After the removal of the growth there was a slight attack of secondary hæmorrhage but the patient recovered. Smith and Durham undoubtedly correctly interpret this case as one of glycosuria secondary to ulceration of a new growth. Reynier records the excision of an eye with recovery. Diet caused the sugar to disappear. He also refers to the removal of a sebaceous cyst from the neck. The cyst was of the size of an orange. He does not state if preliminary treatment had been adopted. Two or three other sebaceous cysts have been removed with success, but the operations were so small that no notice is taken of them in this paper. Thus, of 16 cases 11 recovered, or a percentage of 68·75. Of the purely mouth and lip cases nine out of 12 recovered, yielding a percentage of 75. (*Vide* Table II.)

Operations on the Breast.

There are to be found in medical literature the records of 11 patients suffering from glycosuria who have undergone operations for malignant tumours of the breast. To these must be added two others operated upon by Mr. Willett, one at St. Bartholomew's Hospital and one in private practice, and one operated upon by Mr. Butlin. Further, Dr. Le Conte of Philadelphia has furnished by letter particulars of another case in which a recurrent scirrhus was twice removed; the first recurrence necessitated an extensive operation, with plastic work to close the wound. The percentage of sugar in this case reached, a few days after operation, the high figure of 11·5, but no special medical treatment was adopted. In Fisk's case a woman, aged 61 years, had an amputation of the breast performed for an ulcerated scirrhus in 1895. The operation was a complete one after the manner of Halsted. The urine contained 2·5 per cent. of sugar No preliminary treatment was adopted before operation. Ether was employed as the anæsthetic. Two weeks later the now granulating area was covered by Thiersch skin grafts. In March, 1898, a small recurrent nodule was removed from the scar under cocaine. The urine still contained sugar. In November, 1898, a small ulcerated patch was excised from the old scar, together with a piece of the underlying rib; she left the hospital with a granulating wound. The percentage of sugar was then 2 2. In August, 1899, she was still alive and well. In this case no special precautions were taken against coma nor is there any mention of the amount of ammonia excreted. Two of the cases were fatal, one from erysipelas (in 1881), which Smith and Durham do not consider to be a true case of diabetes but to be one of glycosuria consequent on the attack of erysipelas, though the amount of sugar is stated to have been high; the other from secondary septic infection of the track of the drainage wound on the fourteenth day. (The latter case occurred in 1882.) In six cases the glands were stated to have been removed. In at least three of the cases that recovered suppuration occurred. In the only male case of the series cellulitis and extensive gangrene of the skin over the side and back led to the discovery of diabetes but this quickly healed on the adoption of general treatment and carbolic acid internally. In no instance is there any mention of the amount of ammonia or of the use of sodium bicarbonate. Thus, of 15 patients 13 recovered. The number of operations performed upon them was 19, the percentage of patients recovering being 86 6 and the percentage of successful operations 89·47. (*Vide* Table III.)

Operations on the Female Generative Organs.

Three vaginal hysterectomies in the presence of diabetes have been performed for carcinoma (Professor Landau of Berlin having kindly furnished the notes of one unpublished case). In one instance the patient died comatose, coma being apparently induced by the anæsthetic. One of the others died eight months later from recurrence; general treatment at the time of the operation caused considerable diminution in the amount of sugar. The third patient was operated upon in December, 1900, by Professor Landau under chloroform. Convalescence was uninterrupted. The percentage of sugar was 3 in spite of a carbohydrate-free diet. A vaginal hysterectomy for procidentia was fatal on the sixth day from coma. Two abdominal hysterectomies for fibroids were quite successful; one was complicated by an umbilical hernia which was cured at the same time. In this case 5 per cent. of sugar previously present disappeared under appropriate treatment. An abdominal enucleation of a large fibroid was eventually successful though the wound did not run a quite aseptic course; the percentage of sugar in this case was uninfluenced by diet (unpublished case furnished by Professor Landau). Kleinwächter has recorded the removal of a polypoid fibroid per vaginam with a simultaneous curetting in a woman, aged 55 years, in whom the menopause had occurred five years before. She was corpulent and somewhat hysterical. There had been a suspicion of diabetes for five years. Whilst under observation the percentage of sugar varied from 1·4 to 3·2. Under diet and appropriate treatment at Karlsbad the sugar disappeared. Sugar was absent at the time of the operation to return a week later after an indiscretion in diet, the percentage being 3·5. A fortnight later it was still present Convalescence was complete. Giles has recorded the radical cure of umbilical hernia and the removal of a fibroid from the uterus of a woman with sugar in her urine. The sugar was quite transitory and may have been due to apprehension of the operation. It therefore will not be included in the statistics. Kleinwächter has pointed out in a recent paper that omitting Giles's case there are only nine instances of uterine fibroids complicated with glycosuria on record. With Landau's two unpublished cases the number rises to 11, of which four have been subjected to operation successfully. Reynier has recorded a "vaginal and abdominal" hysterectomy in which gaping of the wound occurred on the thirteenth day. Secondary suture, however, was effectual. The nature of the disease is not mentioned. Of five ovariotomies three were successful. One of the fatal cases was a patient with a bilateral ovarian dermoid with numerous adhesions which rendered the operation very difficult. The other fatal case was that of a patient with a malignant tumour of the ovary in which the wound on the fourteenth day gave way, allowing the intestines to protrude. Re-suture was not successful, death occurring on the fortieth day. Reference has already been made to two ovariotomies (and to a pyosalpinx) in which diabetic symptoms previously present vanished. This may have

TABLE V.—OPERATIONS ON THE MALE GENERATIVE ORGANS.

No.	Age.	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
1	50 years.	Verneuil: Bulletin de l'Academie de Médecine, 1881	Epithelioma of the penis.	Amputation by galvano-cautery.	Fever next day (? malaria). Recovery.	For preceding 15 days. Sugar reduced to 0.	Slight diabetes. Total amount of sugar per diem 12 grammes. Reappeared the day after the operation.
2	62 years.	Smith and Durham (Jacobson's case).	Epithelioma of the penis; enlarged glands.	Amputation of the penis. A large operation, all the corpora cavernosa being removed.	Wound sloughed. The left foot became gangrenous. Death on the tenth day.	Diet and codeia slightly diminished the sugar.	Diabetes for 10 years. The patient was never quite himself after the operation. Albumin also was present.
3 a.	70 years.	*Claisse and* Durrieux	*Epithelioma* of the prepuce (of the size of a two-franc piece), phimosis.	Removal by a free circumcision.	Recovery.	—	Glycosuria for 10 years.
b.	—	(The same patient at 68 years of age)	Phosphatic calculus.	Lithotrity	”	—	—
4	65 years	Becker.	Epithelioma of the bladder; cystitis; stricture of urethra.	Suprapubic cystotomy.	Coma; death.	—	No sugar at the time of the operation; next day 7 per cent. Arterio-sclerosis. Post-mortem examination, ? coma precipitated by anæsthetic.
5	60 years.	St. Bartholomew's Hospital Surgical Register, vol. v, 1890, No. 1066.	Incontinence of urine; false passage.	Catheterisation under chloroform.	”	—	Specific gravity of the urine 1035; much sugar. Post-mortem examination, false passage; membranous urethra; ? coma precipitated by anæsthetic.
6	20 years.	*Fort.*	*Stricture of* the urethra.	Electrolysis October, 1882.	Recovery.	—	The same day polyuria appeared. *On the fourth day* the amount was eight litres. In spite of treatment about one kilogramme (?!) of sugar was excreted daily. Died April, 1883. *? Diabetes* induced by anæsthetic (chloroform).

the mucous membrane, although Cuneo has demonstrated the presence of lymphatics in this layer. Carcinoma selects by preference the lymph channels of the submucosa for its extension and it spreads by continuous growth and not by a metastatic process except in the rarest cases. This continuous growth is prolonged to the serous coat and so into the glands. Dr. Borrmann shows that in 20 out of his 63 cases of carcinoma of the stomach there was extension to the duodenum. He concludes that the pylorus offers no insuperable barrier, as has been supposed, to the extension of the growth, although this spread to the duodenum undoubtedly first occurs in the later stages of the disease. This conclusion is based largely on microscopical evidence. In discussing the morphology of gastric carcinoma the author thus classifies these growths: (1) carcinoma solidum; (2) cylindrical-celled carcinoma; (3) colloid carcinoma; (4) diffuse polymorphous-celled carcinoma; (5) malignant adenoma; and (6) mixed forms. He explains the structure of the malignant adenoma by the formation of a lumen inside the column of cells, the cells clinging to the walls of the lymphatic vessels. He does not recognise the so-called scirrhus as a group but he adds this term when it may be required. The malignancy of tumours is not always dependent upon their morphology. Dr. Borrmann recognises in general the relative innocence of the true cylindrical carcinoma and the malignancy of the diffuse colloid carcinoma. In carcinoma involving the mucous membrane the morphology does not justify the view that the growth has developed from any definite kind of cell of the glands in question. The author further adds that in the 2000 sections which he has examined he has never seen anything incompatible with the view that the cells grow into the lymphatic channels of the mucous membrane without the glandular elements being involved. The growth of the malignant adenoma takes place between the glands.

Throughout his book Dr. Borrmann lays great stress on the spread of carcinoma of the stomach by the lymphatics to the exclusion of extension by the veins, yet this more limited view is not by any means universally accepted. Thus M. Brault in the recent issue of Cornil and Ranvier's Pathology shows at some length that carcinoma spreads not only by the lymphatics but also by the venous channels.

The clinical section of the work is of great importance. In more than one-half of the cases (58 per cent.) both curvatures were involved in the malignant disease and generally to an equal extent, whereas in 30 per cent. the greater curvature and in 11 per cent. the lesser curvature were alone affected. Mikulicz has divided carcinoma more from the clinical standpoint into (1) carcinoma of the pylorus which nearly always encircles the organ; (2) carcinoma of the body which may occur in the greater or lesser curvature, but it may be circular when it extends to the pylorus; (3) carcinoma of the cardiac portion which is always situated on the lesser curvature; and (4) fundus carcinoma which is very rare.

Dr. Borrmann says that in 43 out of the 63 cases the tissues cut through in excising the growth were free from disease, as ascertained by the microscope, but that in 20 the incision had passed through diseased structures (cancerous). In nine of these 20 cases the diseased tissues were in the duodenum. The author concludes that in extensive carcinoma diffusely spreading and where the possibility of extension to the duodenum is present from three to four centimetres of the duodenum should be resected and in all other cases from one to one and a half centimetres should be taken away. It is quite impossible to see with the naked eye the fine outgoing processes from the new growth, hence wide resection is necessary. On the other hand, the author believes that total extirpation of the stomach is rarely called for. The glands and fatty tissue must be taken away. One possible source of error is admitted by the author in his investigation—viz., that the whole of the parts removed may not have been received by him, but after consultation with Professor Mikulicz he thinks that this could only very rarely have happened.

Rather meagre space is given to the question of recurrence and the author is somewhat dogmatic here. If the growth has been completely and radically removed then recurrence is, in the author's opinion, simply excluded. Presumably recurrence locally or in the glands only is referred to here. Of the 43 cases in which microscopically the cut ends of the resected stomach were found to be free from disease 28 patients are still alive and free from recurrence. Of the remaining 15, 11 died from the effects of the operation and four from recurrence in the glands. In view of these results Dr. Borrmann advocates the thorough removal of carcinoma of the stomach even in advanced cases.

Some comment is made upon the all-important subject of early diagnosis, but there are clearly limits to the possibility of early recognition of the disease, as in the case where the patient does not come under observation until the disease is considerably advanced owing to the symptoms having hitherto been trifling; also undue importance should not be attached to chemical tests, especially if they are not frequently repeated. It is difficult to do justice to the many points which Dr. Borrmann raises in this admirable monograph. The book is worthy of careful study, if only for the amount of excellent work which has been put into it.

LIBRARY TABLE.

First Annual Report of the Director of the Pasteur Institute of India, Kasauli. Lahore: Punjab Government Press. 1902. Pp. 32.—Hydrophobia is, as is well known, a scourge in India. Of wild animals the jackal and the wolf are very liable to be attacked and among the semi-wild pariah dogs the disease is also prevalent. The director of the Indian Pasteur Institute is Major D. Semple, R.A.M.C., and the institute over which he presides is the first one of the kind in the British Empire. It was opened at Kasauli on August 9th, 1900. Up to August 9th, 1901, there have been treated 321 persons for bites by rabid animals. Of these 29 were bitten on the head and face and one died; 228 were bitten on the naked skin in other parts of the body and two died; and 64 were bitten through the clothing and none died. Besides these deaths there were four of persons all bitten on a naked part of the body and all of whom died during treatment. They were all bitten by wolves on Dec. 29th, 1900, but did not arrive for treatment until Jan. 17th, 1901. There were also three patients, all bitten on exposed portions of the body, who died within 15 days from the last inoculation. These three and the preceding four patients are not reckoned as failures because their nerve centres became invaded by the virus of the original bites before treatment was completed. The report gives a very complete account of the method of preparing the virus. Nine other persons bitten by the same animals whose bites caused the seven deaths not reckoned as failures were treated at the same time and remain well; while four persons bitten by the same animals whose bites caused the deaths of the three failures were treated and also remain well.

London Matriculation Directory, January, 1902. Cambridge: Burlington House. 1901. Pp. 120. Price 1s. 6d.—This directory is issued under the auspices of the University Correspondence College and contains the calendar of that institution. The directory contains the matriculation regulations of the University of London, a list of text-books for, and the papers set in, the examination of January, 1902. Solutions to the papers are also given, so that the private student can test the accuracy of his work.

The School Calendar, 1902. London: Whittaker and Co.

been due to the relief of pressure, but Beyea has brought forward the suggestion that the sugar may have been caused by the absorption of material from the cyst and decomposition with excretion of sugar. In Table IV will be found details of six plastic operations for ruptured perineum or procidentia, the operation varying from a mere perineorrhaphy to more extensive work on the vaginal walls and abdominal hysteropexy. All recovered; medical treatment and diet were prominent features in most of them. (Dr. Baldy of Philadelphia has furnished with great kindness the notes of two unpublished cases.) Of two curettings one, in a young woman, was fatal, coma closing the scene on the third day. The other was for fungous endometritis. The cervix was sutured at the same time for an old laceration and some warts were removed from the vulva. Healing, though delayed, was complete. At St. Bartholomew's Hospital Dr. Champneys removed an epithelioma from the vulva of a diabetic whose urine contained 4·5 per cent. of sugar. At a subsequent operation enlarged inguinal glands were ablated, but the wound suppurated slightly on account of the removal of the dressings by the patient. 24 operations accordingly were performed on 23 patients with five deaths, the percentage of patients recovering being 78·25; of successful operations 79·16. The plastic operations were particularly successful. (*Vide* Table IV.)

Operations on the Male Generative Organs.

If septic cases and those of balano-posthitis be omitted

TABLE VI.—ABDOMINAL OPERATIONS OTHER THAN ON THE GENERATIVE ORGANS.

No.	Sex and age.	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
1	Female; 58 years.	Barker.	Malignant tumour of the transverse colon.	Excision of the growth (four and a half inches of gut removed).	The wound did not run a quite aseptic course. Later a small slough formed in the mesocolon with temporary fæcal fistula. Recovery.	Adopted Codeine phosphate one grain subcutaneously. Diet. Bismuth carbonate as an intestinal antiseptic.	On the fourth day after the operation there was 6·6 per cent. sugar and on the ninth day 2 per cent. It was later reduced to a much less amount.
2	—	Barker.	Carcinoma recti. Complete obstruction.	Colotomy.	No repair of wound; death.	—	—
3	—	Naunyn, p. 452. (? by letter.)	Carcinoma of the stomach.	Gastro-enterostomy.	Death next day, *not* from coma.	Diet.	0 3 per cent. of sugar.]
4	Male; 50 years.	Fisk.	Acute appendicitis with symptoms of perforation on the second day.	On the second day the abscess was opened and the appendix was excised.	The wound healed slowly by granulation. Recovery.	—	Diabetes was known to have existed for several years. The abdomen was distended, tympanitic, and rigid. A lump in the iliac fossa.
5	Female; 60 years	Noble.	Ventral hernia.	Radical cure.	Recovery.	Codeine and strychnine.	18 months after the operation sugar was absent, general treatment being still continued. It was also absent three years later.
6	Male.	Barker.	Umbilical hernia.	".	Repair bad but eventually recovery.	—	Sugar previously absent reappeared on the day after the operation.
7	—	Reynier.	"	"	Slight disunion of the wound. Recovery.	—	Diabète gras.
8	Male; 17 years.	Fisk (unpublished case), by letter, 1901.	Irreducible pro-peritoneal hernia (right).	" (Bassini.)	Recovery perfect.	—	The sugar varied from 1·5 to 2·5 per cent.
9	—	Reynier.	Femoral hernia.	Herniotomy.	Recovery.	—	" Diabète athéromateux."
10	Female; 56 years.	Railton and Southam	Femoral hernia, strangulated.	Herniotomy under cocaine.	36 hours later coma. Death. (The coma was apparently induced by the shock of the strangulation.)	—	Under treatment for diabetes for the preceding two years. At the time of the operation there was an acetone smell, about the breath and pervading the room. Strong ferric chloride reaction.
11	Male; middle-aged.	Ashurst	Hernia, strangulated.	Herniotomy. The stricture divided.	The bowel at the time of the operation was gangrenous. The gangrene spread to the wound. Death.	—	Diabetes for a long time.
12	—	Reynier	Hernia of the bladder.	Radical cure.	Recovery.	—	Intermittent diabetes for years.
13	Male; 35 years.	Churton.	Pancreatic cyst with history of gall-stone colic.	Laparotomy and counter incisions Dec. 7th, 1892.	By July, 1893, the wound became a sinus. On Sept. 7th, 1893, the patient was re-admitted (he had been having insufficient food). Purpura on the legs and acetone in the urine. Much discharge from the wound. He went down hill and died on Jan. 8th, 1894. Post-mortem examination showed atrophied pancreas, rupture of the ureter, and free retro-peritoneal suppuration.		In spite of pancreatic diabetes he got over the immediate effects of the operation; but probably from the effects of bad diet, &c., sepsis gained the upper hand.
14	Male; 45 years.	Bull.	Pancreatic cyst; 10 months' history	Laparotomy July 19th, 1886; incised July 26th; 118 ounces evacuated.	Diet not restricted until the end of September. Codeine then administered. Much improvement; gained 12¼ pounds after the operation. The wound became a mere sinus. Died suddenly at the end of November, 1886.		Urine: from 100 to 140 ounces 5 per cent. of sugar.
15	Male; 40 years.	Pagenstecher.	Pancreatic cyst.	Incision and drainage Dec. 12th, 1878.	Became a mere sinus. Patient died one and a half years later from diabetes.		At the time of the operation 4·5 per cent. sugar was present in the urine

six operations remain which were performed in the presence of glycosuria. Three operations for epithelioma have been performed, with one death. The fatal case is mentioned by Smith and Durham. The operation was an extensive one—amputation of the whole penis. Sloughing of the wound and gangrene of the left foot brought about a fatal result on the tenth day. The other two operations were slighter, one (Claisse and Durrieux) being a mere circumcision for epithelioma of the prepuce following balano-posthitis. The patient had previously undergone lithotrity for a phosphatic calculus and had been diabetic for eight years. Becker in his paper on Anæsthesia in Diabetes refers to a fatal suprapubic cystotomy for cystitis complicating epithelioma of the bladder and stricture. Sugar was absent the day before the operation, but the day after it amounted to 7 per cent. The patient succumbed on the third day from coma. After a catheterisation under chloroform at St. Bartholomew's Hospital, a man, aged 60 years, died on the third day. The urine contained much sugar. Post mortem a false passage was found in the membranous urethra. In the last two cases the supervention of coma seems to have been due to the anæsthetic. Fort has recorded an interesting case in which, after electrolysis of a stricture in a young man, polyuria appeared the same day, the amount on the fourth day being eight litres, and in which there was over a kilogramme of sugar. In six months the patient died from diabetes. There had been no sign or symptom of diabetes previously to the operation. This case, taken in conjunction with some others that have been published, raises the question of the possibility of the induction of diabetes through an operation. (Compare the case in which ligature of the femoral artery was performed for aneurysm of the popliteal.) But it must always be remembered that diabetes may be latent. Thus of six operations on five subjects three died, giving an operation mortality of 50 per cent., but no special precautions had been taken in two against coma. (*Vide* Table V.)

Abdominal Operations other than on the Generative Organs or Bladder.

Two herniotomies for strangulated hernia have been published; both ended fatally. One patient, a woman, aged 56 years, was known to have been suffering from diabetes for two years. At the time of the operation there was an odour of apples about the breath which pervaded the room and the ferric chloride reaction was present. The herniotomy was done under cocaine; the next day the patient seemed better but coma followed and closed the scene in 36 hours after the operation. The other patient was a man in whom strangulation had existed for four or five days. At the time of the operation the gut was found to be gangrenous; it was therefore left in the wound, to which gangrene spread, the patient dying from sepsis. Barker has recently recorded three abdominal operations on diabetics. In one case four and a half inches of the transverse colon were removed for a malignant growth. The wound did not run a quite aseptic course and later a piece of the mesocolon sloughed, leaving a temporary fæcal fistula. Recovery, however, was complete eventually. General treatment was adopted but no sodium bicarbonate was administered. In another colotomy for complete obstruction was performed. No repair took place and coma ensued. The cause of the obstruction was carcinoma recti. The third patient underwent the operation for the radical cure of an umbilical hernia. Sugar, which had not been observed previously, appeared the next day. Repair was bad but healing eventually took place. A gastro-jejunostomy for cancer of the stomach proved fatal in two days, though not from diabetic complications; 0 3 per cent. of sugar was present. Fisk has recorded an appendicectomy in a man, aged 50 years, on the second day of an acute attack. The wound healed slowly by granulation. The patient had been diabetic for years (compare Table I., cases of temporary glycosuria accompanying appendicitis). Three pancreatic cysts in diabetics have been drained; in each case the patient survived the immediate effects of the operation but died some months after. In Churton's case the cyst was drained in December, 1892; the wound became a mere sinus by July, 1893, but under improper and poor diet out of hospital the health of the patient became worse and he was readmitted in September with a freely discharging wound. He went gradually down hill and died in January, 1894, 13 months after the original operation. Post mortem there was free retroperitoneal suppuration and the ureter was found to be ruptured. In Pagenstecher's case (mentioned by Körte) a man, aged 40 years, had a pancreatic cyst of the size of a child's head. The urine contained 4·5 per cent. of sugar. This was drained on Dec. 12th, 1888. On his discharge from hospital the wound was a mere sinus. Death from diabetes occurred one and a half years after the operation. In Bull's case an emaciated man, aged 45 years, in whose urine 4·5 per cent. of sugar was present, underwent laparotomy on July 10th, 1886, at which the cyst was fixed. It was opened and drained on the 26th, 118 ounces of fluid being evacuated. By Sept. 12th the patient had gained 12½ pounds in weight. Up to this date there had been no special dietetic or medical treatment, the percentage of sugar being 5. On the 18th he was dieted and was put on codeine. The percentage of sugar fell to 1·25. On Nov. 13th he left the hospital with a sinus two and a half inches deep. Two weeks later he died suddenly. There was no necropsy. He had discontinued diet and medicine on leaving the hospital. The number of pancreatic cysts recorded with sugar in the urine is quite small. These three cases show that even pancreatic diabetes is no bar to operation, though the final prognosis is less good if general precautions be neglected. Noble of Philadelphia has published an account of a radical cure of a ventral hernia in a woman, aged 60 years, the hernia being the sequela of the removal of the appendages some years previously. The amount of sugar in her urine diminished under the influence of codeine and strychnine. Recovery was complete. 18 months later her urine was free from sugar. Three years later she was still well though continuing general treatment. In a radical cure of an umbilical hernia recorded by Reynier slight disunion of the wound occurred but recovery followed. Two other radical cures by the same observer were successful. Dr. Fisk has kindly furnished the notes of a radical cure by Bassini's method for a pro-peritoneal hernia in a youth, aged 17 years. Recovery was perfect. The percentage of sugar varied from 1·5 to 2·5. This is the youngest diabetic patient upon whom an operation seems to have been performed. Thus, of 15 operations on 15 patients 11 recovered, which gives a percentage of 73 3. As, however, three cases were moribund or nearly so at the time of the operation the percentage of recoveries is unduly low. It must be remembered that several laparotomies are to be found in the section on operations on the female generative organs. There are also some cases in Class 1 in which, though apparently diabetic, yet after operation sugar permanently vanished. (*Vide* Table VI.)

(To be concluded.)

CASE OF POISONING BY MORPHIA INJECTION TREATED BY INFUSION OF SALT SOLUTION.

BY EDWARD F. WILLOUGHBY, M.D. LOND.

AT about 1 P.M. on Sept. 15th, 1901, I was called to see a woman who had, as I learnt, taken eight grains of sulphate of morphia in three hypodermic injections less than half an hour before. She had not acquired any tolerance, having had it administered on one occasion only, when it caused such violent sickness that she refused to have it repeated, preferring to endure the pain from which she was then suffering after an abdominal operation. I was soon joined by the locum-tenent of her ordinary medical attendant who was out of town, but he, being a young man, left the conduct of the case to me. On our arrival the patient was still semiconscious, but within 10 minutes she sank into a state of profound narcosis from which it was impossible to rouse her. During the first hour we administered three injections of one-fiftieth of a grain of sulphate of atropine and one-tenth of a grain of nitrate of strychnine without any perceptible effect, except that the strychnine excited spasms from every 10 to 20 minutes. The rigidity of the muscles, which lasted for from three to five minutes each time, greatly interfered with the artificial respiration which soon became necessary. We gave also at least a dozen injections of 20 minims of ether, with what benefit we could not say. The partner of the patient's own medical attendant joined us later, bringing a galvanic battery. Whenever we desisted from our efforts at artificial respiration the natural respiration ceased and it was four hours before we were able to discontinue it. Though by this time natural respiration was re-established and the spasms had passed off the patient's pupils were contracted to pin-points, her complexion was dusky, and the narcosis was so profound that the application of the strongest possible interrupted current to the soles of both feet did not excite the slightest movement even of the toes. She had not passed any urine and I drew off only about an ounce with the catheter. I then suggested the subcutaneous injection of the physiological salt solution as recommended first by Sahli of Berne. The partner was somewhat doubtful and averse to the procedure and was absent for an hour in quest of the apparatus. But when about a litre had been infused by gravitation into the subcutaneous tissue of the flank the effect was almost immediate and was striking. Within 20 minutes the duskiness and coldness of the skin had given place to a natural colour and warmth and the patient had so far recovered sensibility and consciousness as to struggle violently against the mechanical and electrical stimulation employed to keep her awake. She could answer questions intelligibly and she recognised the other medical men but she knew me to be a stranger and continually begged to be left alone.

I felt certain that the startling improvement following so soon after the subcutaneous infusion of 30 ounces of salt solution was owing to the impulse given by the increased intra vascular tension to the gastric and intestinal exudation and consequently to the elimination of the morphia, which ordinarily is excreted mainly in the bowel and little, if at all, by the kidneys; but that a certain proportion of the drug being probably re-absorbed the complete removal of so large a quantity would be long and tedious. I knew the action of potassium permanganate in the breaking up of morphia, even, as Dr A. P. Luff had shown, in the presence of oxidisable matter as vomit, and I should have had instant recourse to this antidote had the poison been swallowed. But it occurred to me that since the drug was now passing out into the alimentary canal it might be destroyed as fast as it appeared by contact with the permanganate and reabsorption might be prevented. I therefore mixed about a quart of a dilute solution, instructing the nurse to give the patient a wineglassful, alternately with her nourishment, every quarter of an hour or 20 minutes through the night until the contraction of the pupils had passed off. I did not see the patient again but was informed by her medical attendant that by 9 A.M. on the next day her condition was quite normal but for the sense of fatigue and soreness consequent on a score of hypodermic punctures and four hours of sustained artificial respiration.

In looking back on such a case one naturally asks oneself to which, if any, of the means employed the success was really due, which were superfluous, and whether any were useless or possibly even hurtful. We used hypodermic injections of atropine, strychnine, and ether, *secundum artem*, in deference to usage and because nothing could be taken per os, but I cannot honestly say that they were of any benefit except the ether which could not but act as a general stimulant. The respiration ceased again and again while the action of the atropine was visibly antagonising that of morphia on the pupils and the tonic contractions of the muscles caused by the strychnine made the work of artificial respiration extremely laborious. This alone kept the patient in life but that was all, for when at the end of four or five hours from the taking of the poison natural respiration seemed to be re-established she was still absolutely insensitive to pain or to electric shocks and deglutition was still impossible. The effect, however, of the saline subcutaneous infusion was such as to admit of no doubt and it was startling in the rapidity of its manifestation. So long as no fluids could be swallowed no urine was secreted and there was no reason why the morphia should be eliminated by the bowel until the intra-vascular pressure was raised by the infusion. Then, even, a long and anxious time, not wholly free from danger, would have ensued during which much of the drug would have been re absorbed and circulated again through the brain but for its destruction by the permanganate *pari passu* with its first elimination. In short, I look on the injections as useless, on the artificial respiration as having served to keep the patient alive until means could be taken for washing out the poison, the saline infusion as having effected this, and the permanganate as having greatly aided the result by preventing re-absorption.

Green Lanes, N.

AN INTERESTING PHENOMENON OCCURRING IN TACHYCARDIA.

By HERBERT D. EVERINGTON, M.B., L.R.C.P. LOND., M.R.C.S. ENG.,

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A MARRIED woman, aged 36 years, was admitted into the Royal Hospital for Children and Women Waterloo-road on August 3rd, 1900, suffering from articular pains and swellings which she had had for some days previously. On admission she looked decidedly ill. The face was puffy and congested, the tongue was dry and furred down the centre, and the pulse was of full volume, high tension, and "bounding," the beats numbering 128 to the minute, no irregularity being noted. The temperature was 103° F. Nothing abnormal was found in the chest or the abdomen. The left knee and wrist were acutely tender and were much swollen. The patient was placed on a diet of milk and was given 10 grains each of the bicarbonate and salicylate of soda with half a drachm of sal volatile every four hours. Her condition remained much the same for some days and on the 7th the alkaline salicylate mixture was replaced by doses of 10 grains of salicylic acid given in cachets every six hours. The diet was made more generous. Up to the 9th no undue acceleration of the pulse was noted the range varying more or less with the temperature from 92 to 112 per minute. On the night of the 9th, however, this moderate pulse-rate had given place to one of extreme rapidity. The frequency could no longer be counted at the wrist, the pulse being too rapid and "running." By means of the stethoscope, however, over the heart the beats could be distinguished and were found to number 224 to the minute. No complaint was made with reference to the heart though the patient complained of the pain in the limbs. The salicylic acid was immediately discontinued and five minims of tincture of digitalis with 30 minims of sal volatile were given and repeated every four hours. During the early hours of the morning the pulse maintained an extremely rapid rate and was numbering 210 when the morning round was made. A prescription was ordered containing 10 minims of tincture of digitalis, five minims of tincture of nux vomica, half a drachm of aromatic spirit of ammonia, 10 minims of spirit of chloroform, and distilled water to make up one ounce. This was given every four hours. On the afternoon of the 10th the patient was examined by Dr Guthrie Rankin who found no evidence of organic disease of the heart and no dilatation whatever. The heart beats were counted at about 220 per minute. During his examination Dr. Rankin ordered the patient to take deep breaths and after several of these inspirations it was found that the heart beats had dropped to 124 in the minute, or roughly a fall of 100 beats. A mixture of 15 grains each of the bromide and salicylate of sodium was given every four hours, alternating with the digitalis mixture above mentioned. The pulse was not noticed to be unduly accelerated for several days but the temperature remained high, averaging 100°. The bromide was discontinued on the 18th. The patient gradually went down hill and the tongue became extremely dry and foul, sordes developing on the teeth and lips. On the 22nd she presented a decidedly "typhoid" appearance. Soon after midnight on the 25th the pulse had again risen and it numbered 192 per minute. On taking some deep breaths the rapidity fell immediately to 108. On the night of Sept. 2nd tachycardia was again present—202 beats per minute—but this time the rapidity could not be reduced by deep inspirations as heretofore, nor did they have such an effect subsequently. The patient lost ground continually. On the 5th the highest rate of pulse was noted, the beats numbering no less than 234 per minute at 2.25 P.M., when the temperature was 103°. From being in an extremely critical condition the patient began to show signs of improvement and by the 24th she was out of immediate danger. No further tachycardia was recorded. The knee and wrist improved but never returned to their natural state. The patient's general health became very much better and she finally left the hospital in December.

There are one or two extremely interesting points in connexion with this case. Leaving on one side the question of diagnosis of the articular trouble which presented much difficulty and turning to the condition of tachycardia the case adds further evidence to the already noted fact that alteration of intra-thoracic pressure may influence attacks of heart-hurry. In the above patient the mere mechanical taking of deep inspirations was sufficient to reduce the frequency of the heart-beats by nearly 100 per minute. How this does so is not very evident, but that the dynamical alteration has such an effect is a recognised fact. Sir William Broadbent in his treatise on "Heart Disease" states that "to arrest an attack of palpitation it is sometimes only necessary to take a dozen deliberate breaths." Again, in Dr. Thomas L. Stedman's "Twentieth Century Practice of Medicine," vol. iv., p. 413, Rosenfeld is quoted as describing how a patient made the accidental discovery that after a deep breath the attack of palpitation ceased. Rosenfeld tried increased intra-thoracic pressure as treatment for this condition and with much success. Dr. T. Clifford Allbutt in his "System of Medicine" quotes a case in which, by holding the breath in inspiration and bending down and thereby pressing the abdomen on the thighs, the attack of palpitation was arrested. The high rate of frequency of the heart-beats is an interesting feature in the case described above which, though not as great as some that are recorded, is yet sufficiently remarkable to deserve attention.

Sanderstead, Surrey.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ECLAMPSIA OCCURRING IN TWIN PREGNANCY.

By William B. Mason, M.R.C.S. Eng., L.R.C.P. Lond.

The following case is one which is chiefly remarkable for the number of the fits and for its resulting in complete recovery. The patient was 26 years of age and was married on April 27th, 1901. Menstruation commenced when she was 19 years of age; it was always painful but regular. She never had any fits. When a child she contracted scarlet fever but had no hæmaturia. She suffered from anæmia. In June, 1899, she had an attack of hæmatemesis. There had been amenorrhœa since marriage. On two occasions—namely, on Oct. 30th and Dec. 2nd, 1901—she sent messages to the effect that she was feeling pain in the abdomen. On examination it was found that there was slight general tenderness over the abdomen; it was relieved each time by fomentations. There was no discharge from the vulva and the temperature was not raised. Labour commenced on Feb. 19th, 1902, and was rather long but quite normal up to the protrusion of the head of the first child. When the perineum was stretched to its utmost the patient's legs were noticed to stiffen and a regular eclamptic fit then followed. First there was a tonic stage when her head was turned to the right with the eyes wide open and staring; then her whole body stiffened, producing opisthotonos or pleurosthotonos, according to her position at the time. This stage lasted about three seconds and was then followed by a clonic spasm of all the muscles of the body with production of snoring respiration. After this first fit she regained consciousness in about half an hour and asked if "it would soon be over." As she did not know that there was a second child I told her that it would not be very long now. During the birth of the second child exactly the same thing happened and this fit lasted about the same time as the first. Both children were very small and were delivered without any difficulty. As soon as the third stage was completed I gave a hypodermic injection of one-hundredth of a grain of hydrochlorate of cornutin followed by an injection of one-hundredth of a grain of hydrobromate of hyoscine. As the patient was still having fits in very rapid succession I repeated the hyoscine in one hour's time. After this she slept for four hours and had no fits but when she awoke the fits recommenced. I ordered the following mixture to be taken every two hours: 15 grains of bromide of potassium, one drachm of tincture of hyoscyamus, and syrup of ginger and chloroform water to make up half an ounce. I also directed half a drachm of chloral hydrate to be dissolved in an ounce of water and injected per rectum. Under this treatment the fits became less severe and less frequent, but they nevertheless continued for five days, during which time she had 62 in all and as many as 20 on the third day. During the whole of the five days urine and fæces were passed unconsciously and as soon as some urine could be collected it was found to become quite solid when heated to the boiling point. The patient's temperature was normal throughout. After the fifth day convalescence was uneventful. One of the infants died from inanition on the fourteenth day. The mother got up on the twentieth day and is now quite well except that her memory is slightly deficient. I saw the other infant as recently as April 21st and I do not think that it will survive long.

Southsea.

A CASE OF INTRACTABLE NASAL HÆMORRHAGE.

By G. Hunter Mackenzie, M.D. Edin.,

SURGEON TO THE EYE, EAR, AND THROAT INFIRMARY, EDINBURGH.

On Dec. 29th, 1901, I was asked by Dr. James Mill of Leith to see a case of nasal hæmorrhage of about one week's duration which had proved refractory to the usual methods of treatment. The patient was a man, 49 years of age, rather alcoholic and with slight albuminuria. On examination of the right nostril the seat of the recent bleeding was readily located, as is usually the case, on the anterior third of the septum, about one centimetre above the nasal floor. Under cocaine the hæmorrhagic area was freely galvano-cauterised and a pledget of cotton-wool saturated with a solution of adrenalin chloride was inserted. This treatment proved ineffectual, for on the following day I was again asked to see him on account of frequent recurrence of the bleeding. The cauterisation and applications of adrenalin were repeated over a wider area of the septum and during this process the patient became unconscious and had a convulsive attack. He was assisted to bed, when the hæmorrhage again commenced in a more intense degree than ever. He continued to bleed very freely for the next 24 hours, with the result that his condition became so extremely serious that we had him removed to the Edinburgh Eye, Ear, and Throat Infirmary. Further local treatment having proved unsuccessful, on the morning of Jan. 1st, 1902, chloroform was administered by my colleague, Mr. John Cumming, and with a nasal spoon and curette I stripped off the whole of the mucous membrane of the septum. Very profuse hæmorrhage accompanied this procedure but it soon ceased spontaneously. On the night of the 2nd (34 hours after the curetting) the patient had a moderate bleeding and on the morning of the 4th there was a very slight recurrence. I was fortunately present on the latter occasion and on examining the patient I found that the blood was oozing very slightly from the roof of the nostril in close contiguity to the septum, an area from which the mucous membrane had not been removed. As the bleeding was extremely slight I did not consider further treatment to be necessary. From that date to this (May) there has been no further hæmorrhage and the patient has quite recovered his former good health.

As, so far as I know, this is the first instance in which severe nasal hæmorrhage has been treated by curetting the mucous membrane I have thought it fit to put it on record.

Edinburgh.

A CASE OF INFECTIVE PERIOSTITIS.

By Walter H. Haw, M.R.C.S. Eng., L.S.A.

In The Lancet of March 1st, 1902, p. 589, I notice a clinical note upon a case of infective periostitis by Mr. John R. Griffith. As I have lately attended a patient whose symptoms were in many respects similar to those described in that note a brief record of the case may be of some interest.

On Feb. 25th 1902, I was called to see a little girl, aged 11 years, with the following history. On the 23rd she was apparently well until towards evening, when she complained of chilliness and pain in the left hip but she was able to go to church in the evening. Next day the pain was worse and when I saw her on the 25th she lay in bed on her back evidently in great pain and with an anxious look on her face. Her temperature was 104° F. and her pulse-rate was 120; her tongue was furred but moist. She complained of pain in the region of the left hip and on examination I found that there were swelling and resistance in the area lying between the crest of the ilium and the trochanter and also excessive tenderness to touch and movement. The cutaneous veins coursing over the area of swelling were enlarged. In my opinion the case was one of suppuration in connexion with the iliac bone but I could find no superficial focus from which it could have arisen. There was, however, the mark of a recently healed injury on the left foot but there was no pus. On the previous night she was said to have been slightly delirious and she then stated that her leg was sore because one of the children had been lying on her. Further, it was remembered that on the 20th she had fallen from a tree but I could not directly connect the pain in the hip with the fall. On the 27th her condition suggested cerebro-spinal meningitis, there being pain and acute tenderness over the body generally, rigidity of the posterior muscles of the neck, and delirium and unintelligible speech, while the urine and fæces were passed in bed. On March 2nd these symptoms had disappeared but it was reported that the abscess had burst and on inquiry I found that this idea was due to a purulent light yellow discharge from the vagina. On the 4th it was further reported that the bruise due to the fall was at last coming out; this turned out to be a dusky red discolouration over the seat of pain and resistance with a similar flush upon the left olecranon process. On the left front of the abdomen were some red streaks of lymphatics radiating from a soft, subcutaneous, rose-coloured tumefaction of the size of a sixpence. No fluctuation could be obtained over the seat of trouble but in view of the infection of the blood I cut down upon the ilium and evacuated about two ounces of pus which did not flow until the periosteum was divided. A drainage-tube was inserted and injections of potassium permanganate were employed but no improvement whatever resulted, the case going from bad to worse. On the 6th the left cheek swelled but no pus was detected in it and on the back of the left heel appeared a red patch with purulent foci dotted over the surface. Death occurred in the early morning of the 7th.

The points of interest to me in this case were: (1) the history of a fall; (2) the presence of a yellow vaginal discharge; and (3) the temporary acute involvement of the cerebro-spinal system, due probably to the formation of a cerebro-spinal poison at the seat of suppuration. How far the vaginal discharge was to be connected with the statement made by the patient during slight delirium that a child had been lying on her I cannot say. I made no inquiries in this direction, for I looked upon the discharge at the time as part of the general infection of the blood.

Knysna, Cape Colony.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Professor Virchow has announced that he will not be able to give any lectures during the present summer session; the anatomical and microscopical demonstrations will be given by the assistants—viz., Professor Jürgens, Professor Israel, and Dr. Oestreich.—*Cracow*. Dr. Emil Godlewski has been recognised as *privat-docent* of Anatomy and Embryology.—*Ghent:* The chair vacated by the death of Professor Bouqué is to be divided into a chair of General Surgical Pathology to which Dr. van Imschoot has been appointed and a chair of Special Surgical Pathology which has been given to Dr de Cock.—*Griefswald*: Dr. Fritz Moritz of Munich has been offered the chair of Medicine in succession to Dr. Krehl, who goes to Tübingen.—*Munich:* Dr. Friedrich Müller of Basle has been appointed to the chair of Medicine, known as the second, which has been held by Professor Joseph von Bauer.—*Naples:* Dr. Achille Capaldi has been appointed to the chair of Gynæcology.—*Philadelphia (Polyclinic):* Dr. Joseph Sailer has been appointed Professor of Diseases of the Stomach and Intestines.—*Prague (Bohemian University):* Dr Carl Chodunsky has been promoted to the Ordinary Professorship of Pharmacology and Pharmacognosis. (*German University*): Dr. Alex. Margulies has been recognised as *docent* of Psychiatry.—*Rome* Dr. Michelangelo Luzzato has been recognised as *privat-docent* of Medical Pathology.—*Turin:* Dr Alfonso Cattaneo has been recognised as *privat-docent* of Ophthalmology.—*Vienna:* Dr. Rudolf Matzenauer has been recognised as *privat-docent* of Dermatology.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO-ROAD.

A CASE OF TRANSPERITONEAL NEPHRECTOMY FOR SMALL ROUND-CELLED SARCOMA IN A BOY, AGED FOUR YEARS.[1]

(Under the care of Dr. C. O. HAWTHORNE and Mr. H. J. CURTIS.)

THERE can be no doubt that early nephrectomy is the only treatment for sarcoma of the kidney in infants, even though the mortality from the operation is over 50 per cent. and though statistics show that of the cases which recover 90 per cent. die from recurrence within a year.[2] In the following case it would have been of interest to have had a bacteriological examination of the pleuritic fluid, as that might have explained the occurrence of the pleurisy from which the patient died.

A boy, aged four years, was taken to the Royal Hospital for Children and Women on Oct. 7th, 1901. He was then the subject of a considerable abdominal tumour which, without much difficulty or hesitation, was recognised as a growth arising from the region of the left kidney. The enlargement of the abdomen was accompanied by undue prominence of the superficial veins and had only been recognised by the boy's mother as recently as Sept. 23rd, though it was allowed that the patient's health had not been satisfactory for a period of two months It appears that the boy accidentally fell when running in the street on August 5th and that subsequently to this he had never seemed quite well. This fall had the fortunate consequence of securing for Dr. Hawthorne and Mr. Curtis a knowledge of the boy's condition two months before he came under their own observation, as on August 7th—that is, two days after the accident—he was admitted to St. Thomas's Hospital. Through the courtesy of Mr. P. W. G. Sargent they learnt that on that date the boy was reported to have been continually sick and fretful since his fall; that on examination he was noted to keep his legs drawn up on the abdomen; and that there was dulness on percussion with marked tenderness in the left lumbar region. In the course of the next day or two, however, the boy lost all his symptoms and he was discharged apparently well on August 10th. From this date until the mother's discovery of the abdominal swelling in the latter part of September there appear to have been no symptoms of a definite character. The boy seemed to be weak and listless, and perhaps had lost flesh but he made no complaint of pain. At no time was blood observed in the urine, there was no albuminuria either when the urine was examined at St. Thomas's Hospital or at Waterloo-road, and vomiting was limited to the two or three days immediately after the accident.

On admission the patient was a thin and delicate-looking boy, very quiet, but not complaining of pain or other discomfort, and in the course of a few hours he seemed to be quite at ease, sitting up in bed and playing with toys, apparently entirely unaffected by the presence of the tumour. The family history presented nothing of interest. On examination, the superficial veins over the left flank were seen to be enlarged but there was no œdema of the abdominal wall. A hard, irregularly-rounded swelling could be felt amost half filling the abdomen, occupying chiefly the left flank. Above the umbilicus it crossed the middle line and reached nearly to the right linea semilunaris. Below the umbilicus the tumour did not extend quite as far as the middle line. Its smooth, rounded lower border dipped just below the iliac crest. No notch could be felt anywhere. The swelling did not move with respiration. Though generally of very firm consistence, in places it seemed to be soft and almost fluctuating. Its median half was resonant on percussion, the descending colon evidently lying over it. The urine was of normal colour, with a specific gravity of 1026; it gave an acid reaction and contained no albumin. The chest was normal. The temperature on admission was 96·6° F., rising three days later to normal.

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[1] A paper read before the Society for the Study of Disease in Children on April 18th, 1902.

[2] J. Bland Sutton: Tumours, second edition, p. 134

Transperitoneal nephrectomy was performed four days after admission, the tumour, with the involved left kidney, being shelled out with a good deal of difficulty owing to the firm adhesions to the posterior abdominal walls (especially over the lower half of the back of the growth) and to the tail of the pancreas. There was in consequence considerable shock, but very little hæmorrhage. The ureter at its origin was completely concealed in the growth. The tumour removed weighed three pounds 15 ounces. It was firmly encapsuled and measured about six and a half inches from above down and six inches from side to side. After recovering from the immediate collapse there was persistent vomiting, feeding having in consequence to be almost entirely rectal. Otherwise, during the first week the patient seemed to be doing well, the temperature remaining normal. Five days after the operation the child began to suffer from cough. The temperature was 98·8°; the pulse was 136 and the respirations were 28 per minute. The chest was normal. The wound closed, but owing to the persistent vomiting and the onset of cough the stitches were not removed before the eleventh day. The patient unfortunately developed pleurisy with effusion on both sides and died on the fifteenth day after the operation.

The state of the urine was as follows:—On the same evening as the operation the amount of urine passed was four ounces and the same amount was passed the next day, the specific gravity being 1030; it gave an acid reaction; there was no albumin. On the second day after the operation about 14 ounces of urine were passed but all of it could not be collected. On the next four days the amounts collected were 11 ounces, six ounces, four ounces, and 13 ounces respectively. On the last of these days the specific gravity was 1028; the reaction was acid; there was no albumin or sugar. On subsequent days the following amounts were collected: five ounces, four ounces, 10 ounces, eight ounces, eight ounces, seven ounces, and eight ounces, the bowels at the same time acting freely, once or more a day.

Necropsy.—At the post-mortem examination the wound was found to have united throughout. There was no evidence of peritonitis. There were a few adhesions of the intestine to the parietal peritoneum where it had been divided in order to shell out the kidney tumour, the divided peritoneum having apparently readily united. So far as the nephrectomy was concerned the condition seemed to be perfectly satisfactory, the entire growth appearing to have been removed. There were no secondary growths or enlarged lymphatic glands. The right kidney and the liver were normal. On opening the chest a considerable quantity of fluid was found on both sides, especially on the left side. There was extensive pleurisy on both sides from the apex to the base. Section of the lungs showed them to be practically normal. No secondary growths were present in the brain or elsewhere.

Description of the tumour removed.—A median section through the growth and kidney showed the tumour, as so frequently happens, to be arising from the connective tissue within the hilum of the kidney, the cortex of which, measuring nearly seven-eighths of an inch, presented a fairly normal appearance. From the smooth, rounded appearance of the tumour, as it lay in contact with the cortex of the kidney, it seemed evident that the pelvis, though distended with growth, was still intact. A slit-like cavity in the region of one of the pyramids suggested dilatation of one of the calyces from back pressure. The upper end of the ureter was embedded in the growth. The tumour was limited by a double capsule, that of the kidney proper and of the perinephric fat, the two layers being for the most part intimately blended and of a dense white colour and very firm appearance. The cut surface of the growth was somewhat fibrous-looking, white, and homogeneous, but there were numerous areas of bright-red blood extravasation. There did not appear to be any cystic degeneration. When quite fresh the growth was very soft, granular, and extremely friable, readily escaping on slight pressure after incising the capsule. *Microscopically*, the tumour was a small round-celled sarcoma, rounded masses of sarcomatous tissue containing many new vessels lying embedded in a well-formed stroma of connective-tissue fibre, which only here and there showed any tendency to develop into spindle cells. A very few tubules, probably derived from glands in the hilum, could be seen surrounded by the round-celled sarcomatous elements.

Remarks by Dr. HAWTHORNE and Mr. CURTIS.—The chief interest of the above case is to be found in its surgical aspects. Though a favourable issue cannot be recorded there is no reason to regret that operation was undertaken. In it there resided obviously the sole chance of prolonging or saving the patient's life and the fatal event arose from an unfortunate complication which, so far as can be judged, had no immediate or direct connexion with the operation.

Such a soft, vascular, rapidly-growing, round-celled sarcoma as was present in this case is the most common variety of all and composed 23 out of 43 tumours of the kidney operated on in children since 1890, according to Henry Morris. As is well known, untreated malignant renal tumours are rapidly fatal in children, death following soon after the tumour has become obvious. As regards the diagnosis, it must be remembered that in children pain is often absent, and hæmaturia is also absent in three-fourths of the cases of malignant tumours of the kidney (Tuffier).[3]

Early diagnosis and operation before invasion of the tissues around, and especially of the lymphatics, are essential for the diminution both of the operation mortality and of the liability to recurrence. Nephrectomy is useless in cases where the glands and other tissues around are infiltrated with secondary growth, and should this be found on making an exploratory laparotomy through one or other linea semilunaris the operation should be abandoned.

It is noteworthy that though the first successful nephrectomy in a child was done only in 1877 by Jessop and the operative mortality up to 1890 was as high as 60 per cent., since 1890 the mortality has been reduced two-thirds, so that in 1898 it was only 17 per cent. Albarran has collected 11 cases of children known to be free from recurrence and in good health at periods varying from one to two and a half years after the operation (Henry Morris). The advisability of surgical interference until recently was open to doubt; but two successful nephrectomies by Abbé in 1892, mentioned by Henry Morris,[4] are so interesting and go so far to settle this vexed question, that we venture to quote them in full, though a considerable number of successful cases have also been recorded before and since the date above mentioned. D. R Abbé records in the *Annals of Surgery* of Nov. 22nd, 1895, two cases of round-celled sarcoma of the kidney, one containing a good deal of involuntary muscle, cured by nephrectomy. The patient in the first case was a girl, aged two years, who was operated upon on April 12th, 1892. The weight of the tumour was two and a quarter pounds. She was quite well at the age of five years. In the second case the patient was a girl, aged 14 months, who was operated upon on Nov. 20th, 1892. The weight of the tumour was seven and a half pounds, or just one half the weight of the child immediately after the operation. She was alive and quite well in April, 1895.

One other feature of the present case is worthy of note and it arises from the history of a fall some six or seven weeks before the detection of the tumour. Such a history, of course, raises the question whether injury can reasonably be held in any way responsible for the development of the tumour. The apparent association between traumatism and the eruption of sarcomatous growths has often been observed. In a recent paper[5] Dr. W. B. Coley, summarising his experiences, states that in his entire series of 270 cases 86, or 31·8 per cent., gave a history of injury, and that in 31, or 11·5 per cent., the tumour developed almost immediately after the injury. Whatever significance may be attributed to it the fact remains that in the present case the patient within two months after a fall, and when physical examination failed to detect anything definitely abnormal, was found to be the subject of a sarcomatous tumour arising from the left kidney and reaching nearly four pounds in weight.

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[3] Quoted by Fenger in vol. ii. of the International Text-book of Surgery, by Gould and Warren, 1900.

[4] Surgical Diseases of the Kidney and Ureter, London, 1901.

[5] Quoted in Medical Review, October, 1901, p. 597.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

The Latent Period in Grave Abdominal Inflammation.—Bilharzia in its Clinical and Pathological Aspects.

A MEETING of this society was held on April 28th, Dr W. H. ALLCHIN, the President, being in the chair.

Mr A. H. TUBBY read a paper on the Quiescent or Latent Period in the Course of Grave Abdominal Inflammation, which is published at p. 1305 of our present issue.—Dr T. D. SAVILL referred to the importance of the subject both in its medical and surgical aspect and confirmed the value of the pulse-temperature ratio as an indication of gravity. The temperature was often subnormal in these latent abdominal cases but if the pulse was persistently rapid, say over 100, the case called for further investigation and prompt surgical aid. His experience did not lead him to attach so much importance to the actual number of leucocytes present as an indication of suppuration as the proportion of polynuclear cells to the other white cells. Normally this was 65 per cent. and no obscure pus formation could occur without an increase in this proportion. Blood films which could be easily stained and examined should always be investigated in latent abdominal affections of the kind referred to by Mr Tubby.—Dr J. H. BRYANT was glad that Mr Tubby had drawn attention to the importance of leucocyte counts in the diagnosis of obscure abdominal suppurations. He lamented the fact that so little was done in this country in the way of systematic blood examination and pointed out that at the Johns Hopkins Hospital in America systematic and thorough investigations of the condition of the blood were made in every case admitted irrespective of the diagnosis. He alluded to some cases of appendicitis under his (Dr Bryant's) own care in which the presence of leucocytosis had been an indication for surgical interference and an absence of leucocytosis a contra-indication. The importance of the rapid pulse-rate as an indication for operation he fully endorsed. A slow pulse with a high temperature in his experience had rarely if ever been associated with any form of latent abdominal suppurative disease which had required the surgeon's aid. With regard to the presence of chest complications as an indication for operation he pointed out the great difficulty of distinguishing diaphragmatic pleurisy and basal pneumonia from primary abdominal disease on account of the occasional immobility of the diaphragm and the presence of severe abdominal pain and tenderness in the former conditions.—Mr JONATHAN HUTCHINSON, jun., remarked that there were two classes of quiescent phases, one in which it came on before and the other in which it came on after the more marked signs of abdominal disorder. These required different interpretations and he referred to a case in illustration. The explanation of this latent phase by derangement of the nerves of the intestine did not always obtain. Rigidity of the muscles was not by any means an infallible sign of peritonitis. As to leucocytosis the results seemed to differ in the hands of different observers.—Dr F. DE HAVILLAND HALL referred to the question of the diagnosis of diaphragmatic pleurisy and appendicitis. In some cases of appendicitis the diaphragmatic lesion was evidently, from its symptoms, of a peritoneal nature.—The PRESIDENT congratulated Mr Tubby on having formulated so many points of importance in these cases. Short of laboratory methods the character and rate of the pulse were the most important symptoms. It had been drawn attention to by Dr H. A. Caley some years ago.—Mr TUBBY in replying suggested that the frequent involvement of the diaphragmatic peritoneum in abdominal cases was accounted for by the copious distribution of lymphatics in this region. This also explained its greater vulnerability as compared with the peritoneum for instance of the pelvis.

Lieutenant P. S. LELEAN, R.A.M.C., made a communication on the Bilharzia in its Clinical and Pathological Aspects illustrated by lantern slides and microscopical preparations. After dealing with the morphological relations of this parasite its development was fully discussed. He had demonstrated the actual hatching of an embryo in blood serum kept for 24 hours at a temperature of 30° C. This coupled with the observation of an embryo hatched in undiluted urine established two most important links in the chain of events possible in auto-infection. The hatching of bilharzia ova in serum had been previously regarded as impossible and it completely removed the main objection which had been urged against Sonsino's theory of auto-infection. The adult worm was only found in the portal system but the embryos migrated and might be found anywhere. When death took place it was usually due to pneumonia. The channel of infection was next discussed. The invasion of the parasite through the urethra during bathing was possible, but the evidence pointed to its entry per rectum, thus gaining access to the portal system which was the habitat of the adult worm. The disease was very rare in women who in tropical countries bathed as often as men. Turning to the subject of treatment Lieutenant Lelean regarded three remedies as of value. Urotropin was useful especially for the cystitis and hæmaturia, but benzoic acid and methylene-blue seemed to have more direct effects on the parasite and produced an amelioration almost amounting in some cases to cure. His (Lieutenant Lelean's) practice was to administer every fifth day four grains of methylene blue three times a day for one or two days and benzoic acid in the interval.—Surgeon General A. KEOGH, A.M.S., referred to the growing importance of the subject, because a number of cases would certainly be coming home from South Africa. Such cases were liable to be mistaken for other causes of hæmaturia. A number of cases of so-called dysentery were really bilharzia.—Colonel W. L. GUBBINS, R.A.M.C., remarked that nearly all the cases which he had seen in Pretoria of bilharzia came from one district in the north east portion of the Transvaal.—Dr BRYANT had had three cases under his care in England this year. All had been treated with urotropin without much success, but one case treated with carbolic acid was successful.

PATHOLOGICAL SOCIETY OF LONDON

A New Pathogenic Bacterium resembling Bacillus Pestis.—The Action of High Frequency Currents on Bacteria.—A case of Aneurysm of the Heart.—A case in which a Hat pin remained Embedded in the Heart during Life.—An Epidemic simulating Tuberculosis in Guinea-pigs.—Specimens showing the Results of Experimental Yeast Infection.—The Inhibitory Action on Bacteria of the Fluid from Charcot Joints.—A Method of Demonstrating the Track of Bullet Wounds of the Brain.

A MEETING of this society was held in the laboratory of the Middlesex Hospital on May 6th, Mr W. WATSON CHEYNE, the President, being in the chair.

Dr E. KLEIN exhibited lantern slides and cultures of a bacillus which he had found in the dead bodies of rats which resembled the Bacillus of Plague (bacillus pestis) in its morphological features and in its pathogenic qualities but which differed from that organism in its cultural qualities.

Mr ALEXANDER G. R. FOULERTON and Dr A. M. KELLAS read a paper on the Action on Bacteria of Currents or Discharges of High Potential and Rapid Frequency. The results were given of some preliminary experiments made at the commencement of a systematic investigation into the action of such currents on various micro-organisms. The experiments, as a rule, were carried out by "spraying" the current over the surface of an emulsion in water of the bacteria tested. The current was applied by means of a platinum brush; a platinum wire was sealed through the bottom of the tube containing the emulsion by means of which the current was either carried to earth or discharged into the air. The experiments were carried out at a temperature of from 15° to 16° C. The voltage varied from 35 to 24 and the current from 2·5 to 5 ampères. Small quantities of nitric acid and ozone were probably carried into the emulsion which became acid in reaction. But these substances probably did not materially influence the results obtained. The bacteria which had been tested were bacillus typhosus, bacillus coli communis, bacillus dysenteriæ (Flexner), bacillus anthracis, bacillus pyocyaneus, bacillus prodigiosus, staphylococcus pyogenes aureus and streptococcus pyogenes. In the case of bacillus anthracis (sporing culture) a certain proportion of the bacteria present were destroyed by exposure to the current for 20 minutes and the emulsion was sterilised by an exposure for 45 minutes. In the case of bacillus dysenteriæ the emulsion was sterilised by an exposure for 30 minutes, but for these two species the exact lower limit had not been determined. Emulsions containing the other bacteria were sterilised by exposures of from 10 to 20 minutes' duration.

Mr. T. J. Bokenham also reported observations which he had made on the Action of High Frequency Currents on the following series of micro-organisms—all suspended in watery emulsion—bacillus typhosus, bacillus anthracis (asporogene), bacillus diphtheriæ, streptococcus pyogenes, and staphylococcus aureus. The results varied considerably according to the condition of experiment. With a brush discharge obtained from an Oudin resonator sterilisation was in every case complete after an exposure of from 10 to 20 minutes. With a condenser discharge, obtained from the solenoid portion of the apparatus and so passed through the emulsion as to avoid any sparking, the result was in every case negative as regards sterilisation; indeed, the vegetative growth of the cultures seemed to be in several instances reinforced. These experiments were of a purely preliminary nature and were being continued. So much seemed to depend on the actual tension of the current employed and on the chemical reactions developed at the points of entry of the current.

Dr. Arthur F. Voelcker exhibited the Heart of a man, aged 61 years, which presented an Aneurysmal Protrusion from the Apex of the Left Ventricle measuring two and a half inches by two inches. This had been diagnosed during life but the man refused to come into the hospital. He was brought in dead three days later. In the Transactions of the Pathological Society of London there were a not inconsiderable number of cases of aneurysm of the heart recorded. Of these the greater number occurred in the left side of the heart, and in the ventricles infinitely more commonly than in the auricles. Of those situated in the left ventricle and excluding those in the intra-ventricular septum there were records of 17 cases. Of these, 10 were situated at the base of the heart, six at the apex, and one about the middle of the heart. In Dr. Voelcker's own post-mortem experience he had come across three aneurysms of the heart and all had been situated at the apex, all had occurred in elderly males, and all had been secondary to myo-malacia due to thickening and narrowing of the coronary arteries. In none of the cases had rupture occurred. Aneurysms of the heart appeared to arise in one of three ways—(1) from involvement of the endocardium and myocardium from direct extension or contact from a valvulitis; (2) from gummatous deposits in the heart muscle; and (3) from a myo-malacia due to obstruction to the vascular supply of a portion of the heart muscle, such as arises from thickening and narrowing of the vessel walls or from the presence of a thrombus or embolus within it. Aneurysms arising from the first cause were generally situated at the base or in the septum, while those arising in either of the other two ways might be either basic or apical.

Dr. H. Campbell Thomson read notes of a case in which a Hat-pin was found Embedded in the Heart. The patient was a female, aged 27 years, who had previously suffered from rheumatic fever with pericarditis. She was admitted into Middlesex Hospital on August 19th, 1901, suffering from symptoms of cardiac failure and died on Sept. 27th, 1901. Post-mortem examination showed the heart to be much enlarged (weighing 16 ounces) and the pericardium was universally adherent. There was marked fibroid degeneration of the heart muscle. The portion of a hat-pin—two and a half inches long—was found to be firmly embedded in the wall of the right ventricle immediately below the pulmonary valves; the point of the pin passed through the wall of the aorta just above the valves and projected into its lumen. The point of the pin was covered with blood-clot, some of which was calcified. Although the pin only passed through about half the diameter of the aorta it had evidently at some time or other impinged on the opposite side, as evidenced by a localised injury to the wall of the aorta.

Mr. Leslie Milburn narrated some investigations into an Epidemic simulating Tuberculosis among the laboratory guinea-pigs. It was a nodular disease and the bacillus isolated from these cases was very similar to that obtained by Muir and Klein from the so-called pseudo-tuberculosis occurring amongst birds. Numerous other observers had described bacilli differing but slightly from that isolated by Mr. Milburn. The chief points of difference amongst these various bacilli were seen in the difference of their growth on potato and the varying degree of motility shown by the bacillus when cultivated in broth.

Mr. H. J. Curtis showed some specimens exhibiting the results of Experimental Yeast Infections. The exhibit included a guinea-pig inoculated 18 days previously intraperitoneally with the yeast, saccharomyces neoformans, used by Sanfelice in his famous experiments in 1894, and originally isolated by him from certain fruit juices. The animal was killed by chloroform, but appeared healthy up to the time of death, when numerous cream-white tumours were seen occupying the peritoneum covering certain of the viscera, notably the kidneys and the spleen, which was also itself involved in the disease. Both sides of the diaphragm were greatly affected, being freely sprinkled over with the tiny tumours. The liver and pancreas were not so obviously invaded as in a former specimen. The lungs and pleura were similarly involved in disease. Under the microscope sections of invaded tissues and organs covered by invaded peritoneum were shown and the yeast demonstrated, as also in the case of Klein's yeast isolated from milk and inoculated into the popliteal space of a guinea-pig. The result of injection was to produce an indurated swelling locally, and infection of the superficial and deep inguinal, and the sublumbar glands. There was no involvement of the peritoneum or the abdominal viscera. In the case of both yeasts—one, saccharomyces neoformans, inoculated intra-peritoneally, the other, Klein's yeast, inoculated into the popliteal space—pure cultures were obtained from the heart's blood and these, with pure sub-cultures of the yeast and films prepared from them, were on view. Generally speaking, death resulted in about from two to four weeks' time after either mode of inoculation.

Mr. C. G. Seligmann described some observations made on the fluid withdrawn from two knee-joints in cases of Charcot's Joint Disease associated with Locomotor Ataxy. Both cases yielded a clear orange-yellow, highly viscid fluid with a pronounced alkaline reaction. This fluid completely inhibited the growth of bacteria of the following species: bacillus coli, bacillus typhosus, streptococcus pyogenes, staphylococcus aureus, staphylococcus albus, and staphylococcus citreus. Portions of blood-clot left soaking in the fluid in an open vessel in the laboratory did not become putrid, but fungi grew abundantly on the surface of such a mixture which had dried up. Loops of the fluid in which the above-mentioned bacteria had been placed were transferred to broth at intervals varying from two to 36 days. In every instance growth occurred. The fluid when diluted with 50 per cent. of broth ceased to produce an inhibitory effect. Chemically the fluid did not contain mucin. Microscopically motile coli and typhosus subjected to the action of the fluid were quickly immobilised and to a certain extent clumped. The blood serum of one of the patients had no such effect; that of the other was not tested.

Mr. N. Bishop Harman demonstrated a Method of Ascertaining the Course of the Lesion produced by Bullet Wounds through the Brain. The case demonstrated in this manner was that of a soldier from South Africa shot in the head whilst asleep on the veldt. Measurements of the sites of the shot wounds were made and marked out upon a cadaver whose head measurements coincided with those of the patient. The brain was hardened *in situ* by injection with formalin; the wounds were then produced by trephining and drilling and the brain was removed. In the case in point the symptoms of transient paralysis of the right side, slight speech confusion, and blindness of the right halves of the visual fields, with a persistent weakness of the right arm, homonymous hemianopsia, with an additional complication of the left rim of the left field, were well accounted for by the nature and extent of the brain lesion as demonstrated in this way.

OPHTHALMOLOGICAL SOCIETY.

Exhibition of Cases and Specimens.

A clinical meeting of this society was held on May 1st, Dr. **David Little**, the President, being in the chair.

Mr. H. B. Grimsdale showed a case of Paralysis of the Cervical Sympathetic. There was slight exophthalmos; the pupil was small and reacted very badly. Vision was bare perception of light; tension — 3. Cocaine had no action on the pupil or on the eyelid and there was a grey reflex in the pupil, possibly a detached retina.—Mr. **W. T. Holmes Spicer** thought that a purulent retinitis would explain all the symptoms and he thought that the case was one of those usually called pseudo-glioma.—Mr. **Grimsdale** thought that the failure of the reaction of cocaine proved it to be a paralysis of the sympathetic.

Mr. **Grimsdale** also showed a case of Congenital Unilateral Ptosis in which movements of the eyelid were associated with suction.

Mr. W. ADAMS FROST showed a case of Multiple Ruptures of the Choroid caused by a blow from a buckle of a belt. Some of the lesions seen were more like hæmorrhages than ruptures.—Mr. W. C. ROCKLIFFE had recently seen two similar cases due to a blow with a steel hawser.—Mr. J. H. FISHER said that if some of them were hæmorrhages they were in the choroid and that therefore a rupture of some part of the choroid must have taken place in order to produce them.

Mr. FROST also showed a case of an Unusual Retinal Reflex. The fundus was unusually dark and the patient's father had retinitis pigmentosa. Mr. Frost looked upon this case as physiological.

Mr. TREACHER COLLINS showed a case presenting Unusual *Opacities in the Central Part of each Cornea.* The patient was a carman, aged 33 years, whose sight had been failing for two years. There had never been any real keratitis, but in the central part of each cornea were numerous white radiating lines of opacity; the periphery of the cornea was quite clear. Mr. Collins thought that these opacities were in the anterior layers of the substantia propria and were due to infiltration and degeneration with small calcareous deposits.—Dr. A. BRONNER thought that they were very superficial and might be scraped.—Mr. J. B. LAWFORD had a somewhat similar case in a woman, aged 21 years, who had had recent ulcerative keratitis. This had given rise to a central corneal opacity without injection but with great photophobia. He scraped the cornea and this was now being examined bacteriologically. He suggested that this might be done in the present case.

Mr. L. V. CARGILL showed a case of Corneal Opacity after Instrumental Delivery. The case was a difficult brow presentation in which great force had been used with the forceps. The condition was clearing and only a slight band of opacity now remained across the cornea.

Mr. C. W. THOMPSON showed a case of Obliteration of a Retinal Artery following Attacks of Temporary Amblyopia. The patient was a woman who for the last 10 years had suffered from severe headaches with temporary loss of vision. In September last she had an attack from which the vision had never properly recovered, the dulness she then noticed persisting to some extent. As a rule the vision returned after the attack had passed off. The disc was now partially atrophied.—Mr. LAWFORD thought that this represented a most important class of case seeing how common temporary loss of vision was in association with migraine and how seldom it was that ophthalmoscopic changes were seen in connexion with it. Some of them might be caused by spasm of the vessels which left the artery no less patent than it was before. He had recently had under his care a man, aged 35 years, who habitually overworked himself and who after being much underfed during Lent had developed dimness in the right eye which had persisted. For many years he had had temporary attacks of dimness, but now there was partial obliteration of one of the retinal arteries with hæmorrhages and at other places were seen old changes which apparently indicated lesser lesions of a similar nature in times gone by.—Dr. A. H. THOMPSON asked if it were a case of endarteritis obliterans, as he hardly thought that spasm would last for so long a time.—Dr. JAMES TAYLOR thought that this case was similar to cases of temporary loss of function of some portion of the brain. This sometimes led to permanent changes.—Dr. R. D. BATTEN described a somewhat similar case.—Mr. G. W. ROLL drew a parallel between this condition and Raynaud's disease.—Mr. FISHER thought the tendency of opinion was that arterial degeneration was always present. This he did not consider was the case.—Mr. THOMPSON, in reply, was inclined to the opinion that there was endarteritis present.

Dr. BRONNER showed some sections of a Conjunctival Lipoma in an infant.

Mr. ROCKLIFFE showed a case of very Rapidly Recurring Glioma of the Orbit.

Mr. W. LANG showed a child whose Orbit had been Wounded with a Pitchfork. The ophthalmoscope showed a white patch of exudation where the disc should be and he thought that the optic nerve was torn across close behind the globe.

HUNTERIAN SOCIETY.

Exhibition of Case and Specimens.

A CLINICAL meeting of this society was held on April 23th, Dr. A. L. GALABIN, the President, being in the chair.

Sir HUGH BEEVOR, Bart., showed a case of Probable Complete Atelectasis of the Right Lung from Birth. With regard to the right lung the upper lobe appeared to be represented on the surface of the chest only by a small area against the clavicle. Evidence of fibroid disease, of pleural thickening, or of tumour was wanting and suggested collapse, acquired or congenital. Double coloboma of the iris and sector-shaped opacities of the lens, perhaps also the high and narrow palate, were of congenital origin. These latter deficiencies seemed to render it probable that the case was one of atelectasis from birth. The notes of the case were as follows. A woman, aged 24 years, single, had been three weeks under observation as an in-patient at Victoria Park Hospital. She had sought advice for pain in the chest and this had been alleviated by treatment for dyspepsia. The patient was small and of apparently feeble physique, yet her family history revealed no weakness in the parents or in their children. Her previous history was one of exceptional freedom from even childish ailments, an attack of diarrhœa being all that her mother could recall. A skiagram taken by Dr. Martin showed the heart entirely on the right side. There were no signs suggesting intrinsic disease of the heart but it was displaced extravagantly, the apex or maximum impulse being felt in the right axilla in the third interspace and five and a half inches from the midsternal line. In the first three interspaces pulsation might be seen and felt, it was also just palpable under the left breast. Dulness extended from the right margin of the sternum to the mid-axilla and from the third interspace downward; above this interspace was a less degree of dulness, specially less over the inner portion of the first two spaces and above the clavicle. Percussion elsewhere showed an impaired note only on the right side behind from the middle of the scapula upward and to the axilla. Cardiac auscultation revealed a faint systolic murmur best heard at the base, a common symptom in right-sided displacement. Pulmonary auscultation showed a very faint respiratory murmur above the abnormal cardiac dulness without evidence of consolidation with patent bronchi. Vocal fremitus was equal above the clavicles and was absent below the right. There was no clubbing of the fingers. The other organs were found to be normal.

Mr. JOHN ADAMS showed a specimen of Congenitally Diseased Heart displaying extreme deformity. The patient from whom the specimen described was taken was a woman, aged 23 years; she was shown at a meeting of this society on April 13th, 1898, when many of the following facts relating to her physical condition were commented on. She was of average height, the face and hands were plum-coloured, and there was clubbing of the fingers. As a rule she could do light work; dyspnœa was only present on exertion. She was always able to sleep in a recumbent position and there was no œdema till a few days before her death. She was liable to severe attacks of bronchitis, in which she would become livid and semi-comatose. Death resulted from cardiac failure consequent on a bronchitic attack. Physical examination during life showed an enormously enlarged area of cardiac dulness, six inches in transverse diameter, extending from the apex beat, which was in the fifth interspace an inch external to the nipple line. A loud systolic murmur could be heard all over the front of the chest, less clearly behind; it was most pronounced over the pulmonary area. The heart showed gross congenital defects. The organ was much broader than natural, measuring about four and a half inches from side to side; indeed, its breadth exceeded its height. It was roughly wedge-shaped instead of conical, and terminated below in a ridge which belonged as much to one ventricle as to the other. The two ventricles were nearly equal in size and in the thickness of their walls, but internally the left ventricle had a greater vertical extent than the right, which it thus exceeded in capacity. The size of the right auricle, on the contrary, exceeded that of the left at least threefold and the enormously dilated coronary sinus extended between the left auricle and the base of the left ventricle. The left appendix auriculæ was comparatively small. The foramen ovale was widely patent so as to throw the cavities of the two auricles into one; the septum was practically absent. The inter-ventricular septum was also widely incomplete at its upper part, so that two fingers could be passed from one ventricle into the other. The mitral and tricuspid valves were thickened and the orifices were narrowed, especially that of the tricuspid, which would admit two fingers. Seen from below the curtains of both valves showed some coherence; in addition to this recent vegetations were present in both. The aorta sprang from a wide orifice above the gap in the inter-ventricular septum, springing equally from both ventricles. It had the usual three sigmoid valves. Though of more than normal size at its origin it soon diminished and the arch was much smaller than usual, while the descending aorta showed an even more marked narrowing. The carotid and subclavian trunks arose separately and irregularly from the arch and could not be identified with accuracy. The pulmonary artery arose by a small orifice from the right ventricle immediately in front of the gap in the septum. Only two sigmoid valves were present and these were much thickened and coherent, projecting up into the lumen of the vessel as a dome with the aperture at its apex which just admitted a common penholder. The cavity of the pulmonary artery itself was not much reduced in capacity and it was distributed normally to the two lungs. There was no persistent ductus arteriosus. The chief abnormalities were as follows: (1) patent foramen ovale, (2) perforate septum ventriculi, (3) pulmonary stenosis, (4) *mitral stenosis*, (5) tricuspid stenosis, (6) aorta arising from both ventricles, (7) branches of the aorta irregular, and (8) dilated coronary sinus.

Dr. W. MILLIGAN showed a specimen of Cerebral Tumour. The clinical interest of the case lay in the fact that the following symptoms had been absent: (1) vomiting, (2) optic neuritis, (3) slow pulse, and (4) definite localising symptoms. The course had been variable and the symptoms had yielded partially to iodide of potassium. The necropsy showed a large tumour in the posterior part of the right parietal lobe. The tumour was adherent to the membranes and its central part was necrotic. The vessels had hyaline coats from lardaceous disease. In some parts there was well-marked periarteritis.

The following took part in the discussion of the cases and specimens: Dr. T. H. ARNOLD CHAPLIN, Mr. JOHN ADAMS, Sir HUGH BEEVOR, Bart., Dr. R. HINGSTON FOX, Mr. F. R. HUMPHREYS, Dr. MILLIGAN, Mr. J. H. TARGETT, and the PRESIDENT.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Carcinoma of the Pylorus.—Food Preservatives.—Annual Meeting.

A MEETING of this society was held on May 2nd, Dr. A. G. BARRS, the President, being in the chair.

Mr. G. P. ANNING related a case of Carcinoma of the Pylorus in a youth, aged 19 years. The earliest symptoms were vomiting and emaciation and later marked anæmia. Eight months after the commencement of the illness the patient came under the care of Mr. Anning. The pylorus could not be palpated but the coronary glands arranged along the greater curvature could be felt. There were now frequent vomiting and severe pain. The diagnosis lay between pyloric stenosis with simple enlargement of the glands, malignant disease of the stomach, and tuberculosis.—Mr. H. LITTLEWOOD performed posterior gastro-enterostomy after which the symptoms of gastric disease disappeared. Secondary growths, however, soon appeared in the liver and the patient died. The growth was proved to be a scirrhous carcinoma.—Mr. MAYO ROBSON, Mr. H. LITTLEWOOD, Dr. J. E. EDDISON, Mr. P. J. CAMMIDGE, and the PRESIDENT took part in the discussion and Mr. ANNING replied.

Dr. A. E. PORTER read a paper on Food Preservatives, pointing out that nearly every article of food and drink which was liable to fermentative changes might be adulterated by the addition of boron compounds, salicylic acid, formic aldehyde, sulphites, or similar antiseptics. Dealing chiefly with the boron compounds he showed that this class of preservative was unlikely, in the proportion usually found in foods, to exert a prejudicial effect on the digestive ferments, with the possible exception of rennin and amylopsin in the cases of borax and boric acid respectively, though meat which had been exposed to a mixture of these antiseptics was less readily digested by gastric juice. It was further mentioned that feeding experiments on animals had usually given negative results, though Dr. H. E. Annott's observations on newly-born kittens suggested that in the very young nutrition might be impaired. No such result was, however, noted in the case of three children between the ages of two and a half and five years to whom boric acid and borax were given in quantities exceeding the relative medicinal doses. It appeared, nevertheless, that a considerable proportion of the population were liable to manifest toxic symptoms on account either of idiosyncrasy or deficient excretory powers, and to suffer from vomiting, diarrhœa, and skin eruptions of some severity, upon the administration of medicinal doses of boric acid. The largest daily doses would probably be taken in milk and the result in the case of a patient suffering from Bright's disease or gastro-enteritis therefore might be disastrous. Milk had been found to contain as much as 80 grains of boric acid per pint, probably on account of the opportunities which existed for the successive addition of the antiseptic at different stages of the milk traffic, a practice fostered by the misleading advertisements on some of the patent trade preparations. Amongst other common articles of diet by means of which boron compounds might be unknowingly introduced were mentioned cream, butter, margarine, ham, bacon, sausages, and pork pies. As there should not be the slightest necessity for such an addition in the majority of foods it was considered that the public were exposed to an unnecessary risk. Dr. Porter regretted that no effective legislation existed enabling local authorities to check a practice by which the public were liable to the indiscriminate administration of powerful drugs which should only be taken under medical supervision.

The PRESIDENT, Mr. CAMMIDGE, and Dr. EDDISON discussed the paper and Dr. PORTER replied.

The annual meeting was held at the close of the ordinary meeting. The report showed the society to be in a flourishing condition, the membership being over 350 and the average attendance nearly 60.

On a motion to admit lady practitioners to the membership of the society it was decided to obtain by circular the opinion of the members of the society before proceeding further.

The following officers were elected for the next session: President: Dr. John Irving (Huddersfield). Vice-Presidents: Mr. C. Richardson and Dr. A. Bronner (Bradford). Committee: Mr. C. J. Wright, Dr. F. W. Robinson (Huddersfield), Dr. J. Gordon Sharp, Dr. D. Sanderson Long (York), Dr. Priestley Leech (Halifax), Dr. J. Gordon Black (Harrogate), Mr. Edwin Roberts, Dr. A. H. Bampton (Ilkley), Mr. Walter Thompson, Dr. J. W. H. Brown, Mr. J. G. E. Colby (Malton), Mr. S. M. Hebblethwaite (Harewood), Mr. C. Powell White, and Mr. J. H. Woods (Batley). Treasurer: Dr. J. E. Eddison. Librarian: Dr. A. G. Barrs. Auditor: Dr. C. M. Chadwick. Honorary Secretaries: Dr. E. F. Trevelyan and Mr. R. Lawford Knaggs.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

The Rotunda Hospital Report for 1901.

A MEETING of this section was held on April 18th, Dr. W. J. SMYLY, the President, being in the chair.

Dr. R. D. PUREFOY, Master of the Rotunda Hospital, proposed a vote of condolence and sympathy with the family of the late Dr. Thomas More Madden, a foundation Fellow of the Academy and for many years one of its most regular attendants. His contributions to the Obstetrical Section were numerous and valuable and his pathological exhibits were among the most interesting.—Dr. GEORGE M. FOY having seconded the motion it was passed in silence.

Dr. A. V. MACAN then opened the discussion on the Rotunda Hospital Report for 1901 and congratulated Dr. Purefoy on the satisfactory nature of the report, although there were a few points in it which he thought called for observation. In Table III. he found that in 286 cases of abortion curetting was thought necessary 200 times, which was a very large proportion—two out of three cases. Curetting was attended with danger in the puerperium; he had seen the principal assistant in a South German clinic perforate the uterus at the very beginning of the operation. The application of the forceps in the extern maternity had the low proportion of 1 in 57·2 cases. Personal considerations entered so largely into the greater or less proportion of cases in which they should be used that not much could be said on the question, but he could not understand why it was necessary to have such a high proportion as one forceps delivery in 24·5 of the cases in the hospital, where the patient was throughout under observation and the forceps could, if necessary, be applied at any

Pp. 216. Price 1s.—The purport of this book is explained by the sub-title which is as follows: "A Year-book of Scholarships and Examinations at Schools, Colleges, and Universities for the Year 1902." The scholarships and prizes of the various county councils and of the London School Board are also included. The publication will be found useful by parents and guardians in deciding for what aids to education in the form of scholarships or prizes those for whom they are responsible shall apply.

Transactions of the American Ophthalmological Society, Thirty-seventh Annual Meeting, New London, Connecticut, 1901. Hartford: Published by the Society. 8vo, pp. 405 Press of the Case, Lockwood, and Brainard Company.—The present number of these Transactions contains much interesting material for study and the cases reported are, in many instances illustrated by excellent drawings, chromo-lithographs, and photographs. As there are 30 articles besides a report of a committee on standards and methods for examination in respect to acuteness of vision, colour sense, and hearing, of which Dr. C. H. Williams was chairman, it is impossible to mention any but those that seem to possess special interest. There is a valuable report at the commencement of the volume giving supplementary histories of numerous cases that have been recorded in the Transactions of the American Ophthalmological Society prior to 1900. Dr. Wilbur B. Marple of New York City contributes an article on the Pathology of Vascular Growths into the Vitreous, illustrated with several plates showing the conditions in an interesting case under the author's care. In this case the retina was detached and the appearances were so threatening that enucleation was advised and practised. Dr. Marple has collected the history of several other cases. A case of Melanotic Giant Cell Sarcoma of the Limbus Corneæ associated with an Implanted Secondary Growth in the Lower Eyelid is described and illustrated by Oliver F. Wadsworth, M.D., of Boston, Mass., and Frederick H. Verhoeff, M.D., also of Boston, Mass. A histological description of an Eyeball with Dropsical Degeneration of the Rods and Cones of the Retina Simulating Glioma is given, with illustrations by G. E. de Schweinitz, M.D., and E. A. Schumway, M.D., both of Philadelphia, Penn. Another article, by Dr. G. E. de Schweinitz, is on the Treatment of the Apparently Unaffected, or at most but slightly Implicated, Eye in cases of Monolateral Glaucoma. Dr. de Schweinitz recommends the employment of a myotic and then iridectomy. Charles S. Bull, M.D., of New York, describes a series of Six Cases of Metastatic Choroiditis occurring in the course of Pneumonia due to Grippe; in two of the cases necropsies were performed. Several interesting cases of the Entrance of Foreign Bodies into the Eye are recorded by S. B. St. John, M.D., of Hartford, Conn., who gives an excellent photograph showing the position of the piece of steel; by Alvin A. Hubbell, M.D., of Buffalo, N.Y., in whose case the foreign body remained for nearly 18 years, setting up several attacks of sympathetic irritation which were successively subdued; it was ultimately removed without complete loss of vision in the injured eye and with perfect recovery of vision in the sympathising eye; and by William M. Sweet, M.D., of Philadelphia, Penn., who particularly dwells on the diagnosis of foreign bodies in the eye. A variety of new instruments are described by Carl Koller, M.D., of New York City, who has devised a Corneal Loupe; by Charles H. Williams, M.D., Boston, Mass., who gives a drawing of an Incandescent Lamp for Ophthalmoscopic Examination; by William Thomson, M.D., and Archibald G. Thomson, M.D., of Philadelphia, Penn., who have invented an Improved Means for detecting Colour-blindness; and by Samuel Theobald, M.D., of Baltimore, Ind., who suggests a New Instrument for Preventing Incarceration of the Iris in Iridectomy Operations.

JOURNALS AND MAGAZINES.

Revue d'Hygiène et de Police Sanitaire. Vol. XXIV., No. 2. February, 1902. Paris: Masson et Cie.—This number contains the text of the new French law for the protection of the public health which was adopted by the Senate on Feb. 4th and which will come into operation one year after its promulgation. In the next number we are promised a discussion of the measure. Dr. Vaillard completes his series of articles on Preserved Meats, the accidents which they provoke, their cause, and the means of preventing them. Among the necessary precautions the author insists upon the inspection of animals whose flesh is intended for use as preserved meats, cleanliness during the process of preparation, and the rigorous sterilisation of the meat. Dr. le Roy des Barres gives an interesting account of Five Epidemics of Diphtheria at Saint Denis, the first of which is supposed to have occurred as far back as 1827, and the last took place in 1901. In this latter outbreak the excellent effects of antitoxin were very apparent. Among other papers is an exhaustive one by Dr. Ch. Doptes on Disinfection by Spraying with a Solution of Formol, and a contribution from Mr. M. H. Emery on a Method of Differentiating the Enteric Fever Bacillus from the Bacillus Coli.

Public Health. No. 6, vol. XIV. London: Rebman, Limited.—One of the editorial articles in this number discusses the somewhat difficult question of the relationship of the public vaccinator and the medical officer of health to the general practitioner. The editor thinks that every general practitioner should be the recipient of Government lymph and that he should also act as a local public vaccinator. The other editorial article deplores the unfortunate *impasse* which has taken place at Glasgow, and surely it might be added in certain large towns in England, in consequence of the sanitary inspector occupying a position which enables him to act independently of the medical officer of health. Other articles comprise papers on Plague and its Prevention, by Dr. D. S. Davies, Dr. E. W. Hope, and others, and an interesting study by Dr. W. H. Symons on the Distribution of Phthisis.

The Cornhill Magazine—The number for April is full of good things. The paper which appeals most to us in our capacity of medical journalists is the "Londoner's Log-book," wherein the "Londoner" gracefully banters the self-styled Christian Scientists. We quote the passage: "Great was my consternation when the other day I found added to the collection a pamphlet entitled 'The Wonders of Thought-Force.' The title startled me. Since she was vaccinated Selina has lost all fear of small-pox, declares that she was a goose for giving way to Dr. Snuffin's nonsense, and affirms her belief that, if people would only set to work in the right way, they could be perfectly healthy without any doctors' abominations. True it is that Grape-nuts have proved a failure and the Salisbury Treatment has palled; but I am not free from apprehension that she is turning her mind in directions even less compatible with orthodoxy. This I trace to the influence of young Lady Farringford (*née* Sally Van Oof), who, I feel certain, has given her the pamphlet on 'Thought-Force,' setting forth the miraculous cures of physical and mental ailments effected by Helen Wilmans Post, Sea Breeze, Florida, U.S.A. From that pamphlet I cull two or three quotations—'racy,' as Pennialinus would say of the Great Republic—and of that 'high faith' which Mr. Lowell commended. 'John M. White, North Wales, Pa., S.S.—Mrs. Wilmans Post,—I most cheerfully give you my testimonial of the great good you have done me by your absent treatment. Five years ago I was a physical wreck beyond the reach of the best medical doctors, as five years of experience proved. I went to the best doctors to be found here and in Philadelphia, and as a last resort I went oment considered advisable. In his own practice he now ldom applied the forceps and he thought that the less ey were used the better. Table V. (cases of contracted lvis) recorded the case of a woman with an antero-sterior measurement of 7 5 centimetres who, unaided, gave rth to a living child eight and a half pounds in weight. his case was remarkable, for the measurement was below at which was considered necessary for the birth of a ving child. In the treatment of accidental hæmorrhage e observed that the oxytocic properties of quinine were elieved in. As for himself he had never found evidences the alkaloid possessing such properties, and he thought at five grains of it would not have much effect. The case Cæsarean section was rather obscurely reported. "Large broid lifted out of pelvis; pedicle transfixed and tied." as it the pedicle of the tumour or of the uterus? If of the atter the operation performed was that of Porro.

Dr. H. JELLETT congratulated Dr. Purefoy on his nteresting report. There were just a few points left for riticism. He thought as he read it over that somebody had orked very hard at it for 24 hours in collecting a great mass materials and then had neglected to spend a couple of ours in putting them into shape. In the case of rupture of he uterus and vagina he considered that the accident was ue to the plugging, the tampon being allowed to remain fter the uterine contraction had commenced. He considered hat the tampon should be removed when the uterine pains ere well begun. Quite recently a student of the Rotunda ospital told him that the plug was allowed to remain n position until expelled with the child. He could not elp thinking that the measurements given in the table eaded "Contracted Pelvis" must be wrongly taken. enstruation appeared to him to be a misnomer for the red ischarge that occurred in newly-born female children. It as an isolated hæmorrhage, not a menstrual flow.

The PRESIDENT congratulated Dr. Purefoy on his excellent eport and on the very low mortality of three out of 1600 ases. While he (the President) was Master of the Rotunda ospital ophthalmia neonatorum was one of the troubles hich he prided himself on keeping the house clear of and et on one occasion when some ophthalmic surgeons were resent in the section now sitting he heard that their hospital linics were crowded with cases of disease in the children who came from the Rotunda Hospital.

Dr. PUREFOY said that he thanked the members of the ection for the reception which they had given to his report, articularly those who had pointed out its defects. Dr. Macan had waxed eloquent on the unwisdom of curetting, but he did not agree with him at all. He had had a very large experience both in the Coombe and in the Rotunda hospitals, and he was of opinion that the sooner the accoucheur curetted and removed all septic matter from the womb the better. Forceps were used under the indications plainly pointed out. He acted according to the nature of the case and the condition of the patient. The oxytocic properties of quinine were known and advantage was taken of them to stimulate uterine action. He found that five-grain doses of the alkaloid every four or six hours were an excellent oxytocic remedy. The success of the prophylactic treatment of ophthalmia neonatorum was shown by the fact that they had only four cases among more than 1600 children. They used from one to three drops of a 2 per cent. solution of nitrate of silver. As for the objection to the term "menstruation" it was futile; for all he (Dr. Purefoy) knew the child might have menstruated at the next monthly period

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BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 15th, Mr. Philip E. Miall being in the chair.—Dr. F. W. Eurich gave a Microscopical Demonstration.—Dr. A. Bronner showed (1) cases of Extraction of Senile Cataract without Iridectomy; and (2) a patient whose Nose had been Improved in Appearance by the Subcutaneous Injection of Paraffin.—Dr. C. F. M. Althorp showed a skiagram of a Fractured Ulna with dislocation inwards of the head of the radius.—Dr. T. Jason Wood showed (1) a Meckel's Diverticulum of the Ileum removed by operation from a child who had had a discharging sinus at the umbilicus since birth, and (2) a Gangrenous Appendix Vermiformis from a case of general peritonitis.—Mr. W. H. Horrocks read a paper on the Remains of the Hymen. He pointed out that in a certain number of women the tags of the hymen, instead of being insensitive, became acutely inflamed and tender. The inflammation was perpetuated by marital intercourse and by any discharge or moisture there might be about the parts. Great pain was caused when the parts were touched and when the patient walked about smarting was set up. A state of spasm might be induced which was called by Marion Sims "vaginismus." The treatment for the condition was free stretching of the vaginal orifice together with removal of the inflamed tags of the hymen. This was usually quite successful in relieving the symptoms. A number of cases were detailed which had been cured by the treatment advocated.—Dr. Althorp read notes on a case of Hydatidiform Mole which had been expelled after dilatation and packing of the uterine cavity with gauze.—Mr. E. Prothoroe Smith read notes on a case of Chronic Inversion of the Uterus. The patient was admitted to the Bradford Royal Infirmary in January, 1902, complaining of menorrhagia and metrorrhagia. She was 24 years of age and was married. She had had good health with regular menstruation till her first and only pregnancy in 1899 She was delivered of a child in November of that year. She stated that she had lost a good deal of blood after the birth of the child, but she did not know much about it as she was under chloroform at the time. Three weeks after the confinement, nothing unusual having previously occurred, the "womb came down" and she had to press it back. The same thing had happened five or six times since. Menstruation had occurred every three weeks since the confinement and had been excessive. There was no pain except on sexual intercourse. In November, 1901, she began to have frequent floodings. An anæsthetic was administered and an inversion of the uterus was discovered which it was not found possible to reduce by manipulation. On admission the patient was pale and she complained of constantly losing blood per vaginam. Examination by the vagina showed a smooth rounded tumour projecting through the os uteri which bled readily when touched but was not tender The finger and sound could be passed through the external os to the base of the tumour but could not be passed beyond the cervix. Rectal examination showed that the body of the uterus was not in its usual position. A dimple could be felt on the top of the tumour. Galabin's modification of Aveling's repositor was applied on Jan. 26th at 1 P.M. The patient complained of pain nearly all the time that it was in position and twice during the following day she said that she felt something slip in her inside. The repositor was removed at 8 P.M. on the 27th. The tumour was found to have disappeared from the vagina. The os was dilated and a finger passed through it felt no tumour but a rough surface on the left side of the internal os. The body of the uterus was felt in the normal position. The temperature rose to 101·2° F. in the next three days and it then fell steadily. On Feb. 8th some offensive discharge was followed by a cast of the uterine cavity. She left the hospital on March 4th, the cervix uteri still being rather softer than normal.

ROCHDALE AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on May 1st.—Mr. S. Lord showed a case of Nervous Disease. The patient, a woman, aged 37 years, had suffered from tuberculous adenitis and ulceration of the face. The present illness began in October last and was characterised by ataxia of the lower limbs with exaggerated reflexes and no loss of power. About December there had been girdle pain lasting two months and incontinence of urine lasting six weeks. There was no tender spot over the spine. The case was probably one of tuberculous pachymeningitis of the cord in the course of which there had been a localised acute attack of myelitis.—Mr. W. Atkin Thompson had seen a similar case in which the necropsy revealed caries of the body of one vertebra.—Dr. W. J. Kerr showed the Kidneys from a boy, aged one year and ten months. Both were enlarged and cystic, the left extremely so. There had been no noticeable abnormality in the quantity of urine during life. Respiratory movements had been much embarrassed by the size of the left kidney.—Dr. Kerr also read notes of a case of extensive Diabetic Gangrene in a girl, aged two and a half years. The child was not known to be ill when the gangrene appeared in the left leg in the course of the night and in the morning extended from the foot to the knee. The right foot and hip became affected the following day. The temperature rose to 107° F. just before death —Mr Thompson read notes of three cases: (1) Ludwig's Angina treated by free incision with good recovery; (2) Sublingual Abscess; and (3) Surgical

Emphysema as a complication of Measles and extending from the neck over the chest and abdominal walls.

GLASGOW SOUTHERN MEDICAL SOCIETY.—A meeting of this society was held on May 1st, Dr. John Stewart, the President, being in the chair.—Dr. Carstairs C. Douglas read a paper entitled "Life Assurance Examination and the Relation of the Medical Examiner to the Company." In introducing his subject Dr. Douglas made reference to the different kinds of life assurance companies at present in existence and gave a description of the method by which such important businesses were conducted. Speaking with special reference to the relationship of the medical examiner of the company to the person about to be assured he remarked that any statements made during the examination were presumably confidential and no action for damages could legitimately be brought against the medical practitioner. Dr. Douglas then referred to the want of proper remuneration of medical examiners by assurance companies, citing during his review some glaring examples of the kind. Important points in the course of the examination itself were next alluded to, the speaker dealing first in a general way with the different systems of the body. The different organs were then in turn reviewed, and lastly was discussed the importance to be attached to the presence of syphilis, glycosuria, and albuminuria.—The paper was favourably criticised by many members and on the motion of the President Dr. Douglas received the thanks of the society.

Reviews and Notices of Books.

The Motor Car, its Nature, Use, and Management. By Sir HENRY THOMPSON, Bart., F.R.C.S. Eng. London: Frederick Warne and Co. 1902. Small crown 8vo. Price 2*s.* 6*d.*

Motors and Motor Driving. By Various Writers. London: Longmans, Green, and Co. 1902. Crown 8vo, pp. 456. Price 9*s.*

CONSIDERATION of these two volumes may well be taken together and in the columns of THE LANCET the works may be considered mainly from the point of view of the medical practitioner and as dealing with an alternative to the horse-drawn vehicles of everyday practice. To take Sir Henry Thompson's little volume first. In the course of some 80 pages, he deals clearly and with much judgment with motor cars driven (1) by petrol vapour, or rather by its admixture with atmospheric air, fired either by electric spark or ignition tube; (2) by steam; and (3) by electricity. Equally important are the papers, mainly letters reproduced from the *Times*, on the duty of the motor car driver to the public and to the drivers of horses. If all motor car drivers would take to heart Sir Henry Thompson's well-chosen words on this matter there would be less unreasonable prejudice raised against their vehicles. But with his contention that drivers of horses are often more to blame for accidents than are either the horses themselves or the motor cars we are compelled to agree. Sir Henry Thompson very truly observes that the worst possible preparation for an encounter with a motor car is to begin to pull the reins tightly and to lash the horse with the whip. Yet that is what we often see done. Sir Henry Thompson's plan on meeting a horse which shows symptoms of terror is to stop his engine and to beg of the driver of the horse to allow him "to lead the animal quietly up to the motor, so that he may look at it quietly, and then perchance give him a mouthful of fresh grass from the roadside." This is unquestionably the way best calculated to allay the hostility both of the horse and of its driver. Sir Henry Thompson tells us that "he had passed his eightieth year before he gained his first experience of a motor-car drive, and trusts, though a late beginner, he may yet live a year or two longer to enjoy the same pleasure and profit which he has already derived from the practice" hope that will receive the cordial endorsement of all hers of his profession.

The book contains clear illustrations of the working part of a Daimler engine and of the gear box, showing the working of the change speed and differential gears. An appendix contains a list of upwards of 20 routes out of London with mileage. White blank sheets for notes are inserted at the end. Altogether it is a useful little book for the would-be "motorist."

A much larger and more comprehensive work is the volume of the well-known "Badminton Library" which may be said fairly to cover the field and to be an up-to-date review of the subject. With this book before him and the catalogue of the recent exhibition, or the advertisement pages of the *Autocar* or the *Motor Car Journal*, the practitioner should have not much difficulty in deciding which particular car will best meet his requirements, though on this point we would gladly have welcomed a chapter on the question of cost. As in the case of the stable and the saddle room, the amount spent upon the motor car will largely depend upon the individual. One man will always keep one horse, or perhaps two or more horses, more than may be really necessary to do his work and will make a point of hunting one or two days a week through the season, the horses taking their turns at work and sport; another will keep only what he finds actually necessary for professional work and will to all intents and purposes use his horses for nothing else. One man will keep two horses and a dog-cart with a groom-gardener; another will keep a brougham and pair with a coachman and a helper. It is obvious that their saddle and harness-room expenses will differ widely, entirely apart from the mere question of oats and hay. So with the motor car, while one man will be content with a three and a half horse-power car with a boy to oil and to grease it, another may be satisfied with nothing less than a 12 or 16 horse-power car with an expert *mécanicien* and will be regardless of expense in the matter of 90 millimetre pneumatic tyres. On the whole it may be said that the initial outlay on a motor car or on motor cars—for many will prefer to have two and thus to run less risk of being stranded—will be larger than on a reasonably priced horse or two and a dog-cart and that the economy in annual expenditure will be problematical and will depend largely on the question of pneumatic tyres or solids. The motor car from different points of view is dealt with by experts and may—nay, should—be studied for guidance by an intending purchaser. We may particularise the chapters on the Utility of Motor Vehicles, by the Hon. John Scott Montagu; the Choice of a Motor, by Mr. Alfred C. Harmsworth; the Motor Stable and its Management, by Sir David Salomons; the Petrol Engine, by Mr. R. J. Mecredy (editor of the *Motor News*); Ignition, by Mr. Hutton; the Caprices of the Petrol Motor, by the Hon. Chas. Rolls; Tyres, by Mr. C. I. Freeston; Motor Driving, by Messrs. Edge and Jarrott; a useful chapter on Some Points of Law, by the Chairman of the Automobile Club, Mr. Roger Wallace, K.C.; and a useful Glossary in the Appendix.

Possibly the most important section to readers of THE LANCET is that dealing with the "choice of a motor"; and Mr. Harmsworth commences by saying that "of the three or four hundred types and varieties now in existence, many are of no practical use, some are extremely complicated, not a few dangerous, and many more or less faulty in construction"—a premiss to start from with which we entirely agree. Nothing could be more utterly useless to the country practitioner than a small under-powered car not capable of dealing with the hills in his neighbourhood. Those that are too complicated may be ruled out of court at once, even if the buyer resides quite near the manufactory. Amidst the "dangerous" we should certainly be inclined to class for professional, daily, and possibly rough, use, all cars depending on tube ignition, though perhaps it may be passed as a *dernier ressort* in the event of the accumulator giving out. We would recommend the purchase of no car in which really heavy (relative) weights have to be carried and the "drive" borne by balls such as ordinarily are used in bicycle construction; and until vast improvements in their manufacture have been made we cannot—and we speak from personal experience—advise any practitioner to purchase any car running on pneumatic tyres. The annoyance and delay of a "puncture" are hardly to be regarded with equanimity. No matter how seldom it may occur, when it *does* occur it will upset the day's work and cause endless worry, confusion, and expense, for it will probably mean hurried hiring, getting on as fast and as best one can, and telegraphing to the nearest motor works or cycle agents to send out to repair the tyre. Furthermore, the use of pneumatic tyres entirely prohibits the independence which is one of the charms of the motor. To be alone on a lonely road with a collapsed tyre on a heavy car with night coming on, and perhaps in bad weather, is an experience which makes the unhappy owner think a motor car not worth having The frequency of punctures may be judged by the fact that at the "reliability" trials at Glasgow last year it was decided that stops for punctured tyres should "not count," though the original intention was an "absolute non-stop" trial and deductions of marks made for every stop. This may be taken as an *ex cathedrâ* announcement of the Automobile Club of Great Britain and Ireland that punctures are inevitable and "do not count." We may be thought to labour this point, but it is about the most important that the medical practitioner has to consider in the purchase of a car. Perhaps the "New York," or some similar tyre may obviate the difficulty. The ordinary pneumatic tyre with the ordinary outer cover is anathema. With reference to the question of petrol, electricity, or steam, Mr. Harmsworth gives it as his opinion that "a good petrol engine is infinitely the best for all-round work," a view with which we are in accordance. The electric car can obviously only be of use in localities which have facilities for prompt re-charging, while our experience of steam cars is that, though very pleasant vehicles by daylight and while all goes well, they require too much watching and are rather too delicate for use after dark. Those that require a hot "torch" as a preliminary to starting we can hardly recommend for the everyday work of medical practice, and those that are not entirely trustworthy in a high wind must be ruled out of court for the same reason, and perhaps also on the ground of safety.

We have left ourselves but little space for the consideration of other sections, but the chapter on "Caprices" may be studied with advantage by the novice. The advice as to dress, both in Sir Henry Thompson's book and in the Badminton volume, should be carefully studied. Clothing differing from that worn for driving or riding or, in fact, for any other form of travelling is required, and it may be remarked parenthetically that the "motorist" will find his tailor's, draper's, and laundress's bills increased A motor car cannot be touched without gathering grease.

A word must be said for the illustrations The technical ones convey their meaning clearly and if the would-be "motorist" should take alarm at the possibilities of "side slip" we can assure him that incautious driving on a suitable road may produce quite as embarrassing a situation. If the illustration inculcates caution it will not be in vain. In this connexion we are bound to say a word for Wilkinson's tyres. We found a "Century Tandem" very prone to "side slip" on ordinary tyres but since being fitted with Wilkinson's this tendency seems to have disappeared even on very "greasy" roads Even "solids" will skid if the car is permitted "to coast" down hill on a greasy surface but we have not found them to do so unless the car be permitted "to run free."

To sum up, we can strongly recommend the study of these books to any practitioner contemplating the purchase of a motor car.

A Monograph of Culicidæ or Mosquitoes. Mainly compiled from the collections received at the British Museum from various parts of the world in connexion with the investigation into the cause of malaria conducted by the Colonial Office and the Royal Society. By F V. THEOBALD, M.A., F.E.S. London: Printed by order of the Trustees. 1901. Three vols. Vol i., pp. xviii. + 424; vol. ii., pp. viii + 39; and vol. iii., pp. xxxvii. + five plates. Price £3 3s

IN these days of scattered and abundant zoological publications it is of the greatest possible importance to unite into one work what is known of each particular group, a procedure which saves infinite labour for those who are to come after. Inasmuch as Mr. Theobald quotes no less than 13 fairly closely-printed pages full of references to the literature of this, comparatively speaking, minute subdivision of the diptera it is plain that his work has not been undertaken before it was needed. Further than this, the group with which he deals has at the present moment the greatest possible interest in connexion with recent discovery concerning malaria, of which certain species of gnats are the bearers and the sources of infection in human beings. The trustees of the British Museum are therefore to be congratulated on their especially well-timed liberality. The monograph could not have appeared at a more propitious moment. That it is not complete is obviously a foregone conclusion. These insects of small size and absolute ubiquity are most varied in details of organisation; the species, in fact, are quite multitudinous, and it will be long probably before the collections in the Natural History Museum and the descriptions of the same are in a state approaching completion. Indeed, since the appearance of this large monograph, recent though that appearance is, at least one paper, and that a lengthy one, has added a number of new species to those previously known.[1]

The chief aim of the monograph, which is the work of an author already well known as an authority upon the diptera, or two-winged flies, is zoological; the preponderant bulk of the work is devoted to the explanation of the structure of these flies and to the systematic arrangement and the definition of genera and species of the same. It will thus be of great advantage (to quote Professor Lankester's editorial preface) "to enable the medical men engaged in tracing the connexion between mosquitoes and human disease to identify and speak with precision of the species implicated." There is, however, a short and valuable *résumé* of the rôle which these insects play in the dissemination of disease. Probably the public at large connect the culicidæ with the conveyance of malaria only But these insects are intimately connected with the transference of yellow fever and filariasis, and there are grounds for suspecting them to be prime movers in the distribution of other complaints. It is, however, clear that a given mosquito is not necessarily dangerous as a possible carrier of disease. To the non-expert the difference between the genus anopheles and the closely allied culex is not great and even to the better informed not always patent But while the anopheles has been conclusively proved to be the pest which not only carries but helps in engendering malaria, the culex is quite guiltless and its bites may be received with impunity so far as the more deadly consequences of such bites are concerned. Investigations by Major Ronald Ross, late I M.S, have shown that the parasite, a protozoön which is directly related to malaria will not live in the body of the culex, or rather that it will not undergo development therein. Hence a monograph setting forth plainly, as does Mr Theobald's monograph, the anatomical differences which distinguish these two genera is necessary to the practitioner as a manual. But more than this, it is not certain that all species even of the deadly anopheles can act as germ-carriers. It is therefore of the highest importance to state which species have been ascertained to nourish the parasite in malaria-haunted districts. But the two genera just mentioned by no means exhaust the generic types into which the culicidæ may be divided. Mr. Theobald allows no less than 20 other genera, but less appears to be known of their import as disease-bearers. One, and perhaps the most singular, feature about these biting flies is that their natural food would appear to be the juices of plants. The transition from piercing and sucking the tender shoot of a plant to treating in the same fashion the skin of a human being is from one point of view not great, though the difference in the nature of the food would seem to preclude such a change of habit. Furthermore, it has been estimated, or, indeed, according to some, under-estimated, that not one mosquito in a million ever gets a taste of human blood. How do the millions flourish that have not the opportunity of this more stimulating diet? The problem is hard to solve. It is more easy to grasp the meaning of the fact that with rare exceptions it is the female insect only which sucks blood. The female needs more nutriment than the male for the development of her large and yelk-laden eggs. There is, however, at least one species, the *Stegomyia fasciata*, referred to by Mr. Theobald in which the male is as carnivorous as the female. But according to one authority quoted by the author the male mosquito varies his vegetable diet when he can with wine. "Male mosquitoes are fond of wine," writes this gentleman, "and every evening at dinner I see some on the stopper of the decanter or at the edge of a wine-glass." It is fortunate for us that mosquitoes like most other creatures have their enemies; but, unfortunately, these foes are not sufficiently bloodthirsty or are without sufficient energy to do much in checking the crowds which feast upon our blood in so many parts of the world. The larvæ are pursued and enjoyed by fish; and the introduction of fish into pools suspected to harbour the insects has been often advised as a precautionary measure. Mr. Budgett, who has lately made two expeditions to the Gambia in order to investigate the development of certain fish, found himself immune from malaria owing to the fact, as at least he interpreted it, that the available standing water near to the scene of his labours had been carefully stocked with the fry which he was engaged in examining. Birds take their toll of the mosquitoes and the fierce dragon-fly catches them, as it does other insects, upon the wing. The proverbial fly in amber is often a mosquito; and in those early days there were clearly less chances of tasting human blood, so that the appetite has plainly developed recently. Still more so in the case of "a wingless gnat" described by Brodie from the Purbeck beds, a geological stratum which is of course of mesozoic age and long antedates the appearance of man upon this globe. Of all of these and of other matters does Mr. Theobald treat in his extensive monograph. The structure of the flies is illustrated by "process" blocks in the text; the use of these has led to the employment of smooth glittering paper which is not quite satisfactory and is even a little trying when the volumes are studied by artificial light. The various species are largely illustrated in a series of very beautiful plates which fill the third and smallest volume of the three. These plates are coloured and their execution can hardly be too highly praised.

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[1] Proceedings of the Royal Society, No. 468, p. 267.

A Text-book of Physiology. Edited by WILLIAM H. HOWELL, Ph.D., M.D., Professor of Physiology in Johns Hopkins University. Vol. II. London and Philadelphia: W. B. Saunders and Co. 1901. Pp. 553. Price 13s. net.

THE subject of physiology has become so vast, the constantly increasing mass of its literature is so great, that few even amongst the best teachers find themselves competent to write to their own satisfaction on all its branches. The contributions of skilled physiologists to the English journals may perhaps be read through and understood in the course of two or three evenings, but many of the articles in such periodicals as Pflüger's *Archiv*, Hoppe Seyler's *Zeitschrift für Physiologische Chemie*, and Dubois Reymond's *Archiv* cannot be thus lightly dismissed. Few men are so familiar with foreign languages as to follow the thread of a long argument with the same facility that they can pursue it when written in English. It would not be difficult to indicate several recent articles in each of the above journals that require very close and prolonged attention to enable the statements of the author to be thoroughly understood. It is not surprising, then, that when a new text-book is contemplated even the most accomplished writer should shrink from attacking every branch and should prefer to call upon those who have made special study of each department, reserving for himself one or two in which he is specially interested. This practice has been adopted by Professor Schäfer in his recently-completed "Text-book of Physiology," by Richet in his "Dictionnaire de Physiologie" now in course of publication, and by Professor W. H. Howell in the fine work before us.

A large portion of the first volume, to which we called the attention of our readers a few months ago, was written by Professor Howell who was the author of the articles on Blood, Lymph, Secretion, Digestion, Nutrition, and Movements of the Alimentary Canal, Bladder and Ureter; that on Respiration and Animal Heat was written by Dr. E. T. Reichert; that on Circulation by Dr. John G. Curtis and Dr. W. T. Porter; and that on the Chemistry of the Animal Body by Dr. Graham Lusk.

The present, second, volume contains the following articles. The General Physiology of Muscle and Nerve and Special Muscular Mechanisms, by Warren P. Lombard, professor of physiology in the University of Michigan; the Central Nervous System, by Henry H. Donaldson, professor of neurology in the University of Chicago; the Special Senses, by Henry P. Bowditch, professor of physiology in the Harvard Medical School, and Henry Sewall, professor of physiology in the Denver College of Medicine, medical department of the University of Denver—the former writer taking vision and the latter the ear, cutaneous and muscular sensations, the equilibrium of the body, smell and taste, and voice and speech; and finally, Reproduction, by Frederick S. Lee, adjunct professor of physiology in Columbia University.

The long and carefully written article by Professor Warren P. Lombard on the General Physiology of Muscle and Nerve in the second volume is interesting from many points of view. In considering the subject of fatigue in particular he sums up the results of the numerous experiments that have been made of late years by Mosso, Lombard himself, Lee, Maggiora, Waller, Bernard, Hodge, and others. The cause of fatigue is not even yet quite clear. Raymond, a recent authority, for example, explains it in the case of the muscle-nerve preparation on the supposition that the destruction of the muscular tissue predominates over its anabolism or building up and that consequently after a time its contractile power is lost; but he immediately adds that fatigue also results from the accumulation of the products of contraction, sarcolactic acid and acid potassium phosphate which to a certain extent act in preventing contraction but being removed during a period of rest enable the contractile power to be recovered. In the fatigue of muscle following volitional exercise the cause is chiefly in the voluntary motor cells. Professor Lombard, however, very justly remarks that not only the muscles employed in work but other muscles, even when kept at rest, have their irritability reduced, which would suggest that the fatigue which finally asserts itself is due to some general, rather than local, influence. No reference is given by Professor Lombard to the remarkable observations on the microscopic changes in fatigued and exhausted muscle made by H. M. Bernard and C. F. Hodge.

Professor Donaldson in his article on the Central Nervous System gives a good *résumé* of the numerous experiments that have been made by Goltz, Ferrier, Schrader, Schäfer, and others, elucidating the functions of the several parts of the encephalon. On turning to the account of the cerebellum to ascertain whether any advances have been made in our knowledge of the functions of this remarkable organ it is astonishing to find how limited that knowledge is. Many of the statements made in the older treatises are no longer admissible and have been gradually eliminated, but little of a positive nature has been added. The cerebellum is a mine for research that has yet to be explored. Looking at its size, its great complexity of structure, and its extensive connexions with other parts of the nervous system, it is hard to believe that it is merely associated with the proper contraction of the muscles and the maintenance of the equilibrium. Professor Donaldson devotes a little more than one page to its consideration, but observes in the first paragraph of his account of it that it is almost as variable in its development amongst the vertebrata as the mantle of the cerebral hemispheres, and that in many fish and mammals it is asymmetrical in its gross structure. Where this variety exists the actions and movements and sensory endowments of the animals should obviously be subjected to close scrutiny.

The Physiology of the Special Muscular Mechanisms has been intrusted to the hands of Professor Warren Lombard of Michigan and Professor Henry Sewall of Denver who give a short account of the joints, the method of action of muscles upon the bones, and the mechanism of the different positions of the body in standing, walking, and running The greater part of this section is devoted to voice and speech A curious case is described of a pupil of Professor Sewall who possesses a whistling register in his larynx having a range of about one and a half octaves. The lips have nothing to do with this sound and no other tones can be produced simultaneously with it.

Professor Lee's article on Reproduction describes the process as far as to the formation of the placenta, but the author does not attempt to give any account of the development of the several parts of the embryo The various doctrines that have been advanced to explain the phenomena of heredity are very concisely but well given. He cannot accept Darwin's theory of pangenesis.

Professor Bowditch of Harvard University, under the heading of the Senses, without contributing much that is novel, gives a description of each sense that is thoroughly intelligible and supplies, especially in the case of the hearing, some good and original drawings.

By the selection of a large octavo page the editor and the authors of the several articles have contrived to introduce a very large amount of information in the 1100 pages at their disposal. The illustrations are clear and good and are fairly numerous. The present volume contains 229. There is a remarkably good index. We are of opinion that this is one of the best as well as least expensive treatises on physiology that has yet appeared.

Clinical Pathology of the Blood By JAMES EWING, A.M., M.D., Professor of Pathology in Cornell University. Illustrated with 30 Engravings and 14 Coloured Plates. London. Henry Kimpton. 1901. Pp. 432. Price 18s.

THIS volume is concerned with a branch of clinical pathology which is rapidly assuming a position of considerable importance in the educational curriculum of medical students. Within the last few years great advances have been made in our knowledge of the pathology of the blood and several critical works on this subject have been published; but knowledge grows apace, and at the present time few of them are altogether suited to the purposes of teaching or for the requirements of the present-day clinician; moreover, it must be remembered that a large proportion of the more recent contributions to this comparatively new science remain buried in the archives of foreign societies and medical journals until some enterprising author such as Professor Ewing sifts the wheat from the chaff and includes in book-form all that is really important to the student. Immense pains have obviously been taken in the compilation of this book to bring the subject with which it deals completely up-to-date, and for those who desire to pursue the study of any particular subject beyond the scope of the author's scheme a most elaborate bibliography is appended at the end of each chapter For the convenience of different classes of readers all matter of importance is embodied in the main text, while abstracts of special articles of theoretical or academic interest are printed in small type for occasional reference. The general design of the book is excellent: the opening chapter describes the practical technique of the various methods employed in hæmatology. The particulars and minute description of these methods have evidently been written with a view to assist the student who has to work without elaborate resources. This is a feature which will commend itself to teachers in many of our own pathological laboratories in which the equipment is not always on a generous scale. The subsequent chapters of Part I. are concerned with the chemistry, morphology, and physiology of the blood, in those the results which have been, or may be, attained by the application of the methods already described are referred to in detail and their bearing on clinical diagnosis is fully indicated. The second part contains an account of the diseases themselves to which the methods of hæmatology are applicable These diseases are divided into groups or natural orders and particulars are supplied for the differentiation of the members of each group by the simplest and best methods of examination. As each disease comes under consideration the blood condition is systematically described with reference to its physiological, morphological, chemical, and physical characteristics, and in those cases in which micro organisms play a part the bacteriological aspect of the disease is given in detail—in fact, full instructions are supplied in each case for establishing a diagnosis by the expedients of hæmatology Taking, for example, enteric fever as a typical example of a disease in which such methods have been proved to be of value, we find in the first paragraph of the chapter which discusses this disease a general description of the blood as a whole. The succeeding paragraphs are concerned respectively with the general characteristics of the red cells, of the leucocytes, and of the other formed elements in the blood. Next are described the variations which occur in different types of this disease with respect to the several elements of the blood, as also are the changes which occur under treatment and as the result of complications. Then follows the application of the information thus acquired to the purposes of diagnosis and prognosis, and finally the bacteriological features of typhoid fever are briefly alluded to.

As would naturally be expected, great importance is attached to the value of the "blood count." This is a trump card in hæmatology, since the evidence it affords is more trustworthy than that of a purely chemical or physical examination. The author draws largely upon the writings of Ehrlich in his description and classification of leucocytes and on those by Rieder in the nomenclature of white cell pathology Among the new words which have been invented for descriptive hæmatology we notice the term "eosinophilia," which is applied to the condition of the blood which is characterised by an excess of eosinophile cells. This example of the new nomenclature does not appeal to us as altogether satisfactory, though there is more to be said in its favour than for the abbreviated form of eosinophile cell—namely, "eosin"—which is generally used by Professor Ewing. It is to be hoped that this objectionable term will not creep into British literature.

Far less satisfactory are the chapters which are confined to the purely chemical side of hæmatology, but this is no fault of the author, for at the very threshold of the subject we are faced with difficulties which have not so far been overcome. For instance, the estimation of the alkalinity and basic capacity of living blood—a fundamental requirement for further chemical investigation—can at best only be determined approximately. In view of the influence of alkalinity on the absorption of carbonic acid by the blood and again of carbonic acid exchange in many pathological conditions, it is greatly to be regretted that this department of hæmatology is of so little practical use at the present time.

The illustrations, both coloured and uncoloured, especially those which show the congregating cycle of the tertian malarial parasite and the cells of blood differentiated by triple staining, are excellent and for the most part original. With the exception of the statement which appears on page 286, and which is to the effect that the blood of rheumatic fever is sterile, it is difficult to find any opening for adverse criticism either as regards the general design of this book or its execution.

Lehrbuch der Gynäkologie. (*Text-book of Gynæcology.*) By Professor MAX RUNGE. With numerous Illustrations in the text. Berlin: Julius Springer. 1902. Pp. 468. Price 10 marks.

THIS text-book of Professor Runge is written with a true conception of the place that modern gynæcology should take in medical practice. It is not sufficient, as we are told in the preface, to treat merely the local disease, it is usually necessary also to treat the patient herself. The tendency of gynæcology is so much towards a narrow specialism that such a warning is by no means out of place at the present day. The best gynæcologist is he who is also a general physician and who is therefore in a position to take a comprehensive view of the condition of the patient as a whole. Written in such a spirit the book cannot fail to attract attention. It is a book of considerable merit and the author has carried out his design with success.

The chapter on the Diet and Special Hygiene of Women is written clearly and concisely and in it useful rules as regards personal habits and other matters are laid down for the guidance of women at the different periods of their life. Professor Runge lays particular stress upon the importance of physical exercises for young girls to be carried out whenever possible in the open air.

In the chapter on Displacements of the Uterus he points out that the round ligaments would hardly contain so much muscular fibre did they not play a more important part in the maintenance of the normal position of the uterus than some writers credit them with. The inflammatory conditions in the pelvis producing acquired anteflexion of the uterus are regarded as of more importance than the displacement itself, and support is given to the view that the condition is really one of pathological fixation of the uterus, a view which enables the surgeon to form a better idea of the prognosis and treatment of the disease than if he regards it primarily as one of the varieties of displacement of the uterus. For bad cases of prolapse treatment by ventrofixation combined with plastic operation upon the vagina and perineum is recommended.

The chapter on Metro-endometritis of the Cervix and Body of the Uterus is very complete and gives a good account of the best methods, medical and surgical, of treating such cases. In considering the operative treatment of cancer of the uterus the surgeon is warned to give due consideration to the fact that women with a carcinoma of the uterus, the complete removal of which is a matter of doubt, often live a long time, whilst a difficult hysterectomy, especially if carried out through the abdomen, is attended with a very considerable risk to life without giving the patient any sufficient guarantee, even if she recovers, that she will enjoy any long immunity from recurrence.

The illustrations are good and the book is one of reasonable dimensions.

LIBRARY TABLE.

An Industrious Chevalier. By S. SQUIRE SPRIGGE. London: Chatto and Windus. 1902. Pp. 311. Price 6s.—Dr. Sprigge's book starts well from the very title. Readers of Perrault will remember the "morality" which that prince of story-tellers affixes to the immortal tale of "Puss in Boots":—

> "Quelque grand que soit l'avantage
> De jouir d'un riche heritage,
> Venant a nous de père en fils ;
> Aux jeunes gens, pour l'ordinaire,
> L'industrie & le sçavoir faire
> Vallent mieux que des biens acquis."

Dr. Sprigge's Chevalier and the hero of "Puss in Boots" both exhibit the same kind of industry, merely differing in degree. The former had only his own unaided talents upon which to depend, while the industry of the latter mainly consisted in corroborating the unblushing lies told by that very astute animal the cat. He received his reward in a princess and half a kingdom, while Dr. Sprigge's hero retired with a modest competence to a rural retreat in Essex. With regard to the manner in which he made this competence we must refer the reader to the book itself which will be found delightful reading. It is naturally difficult for us to say much about a work written by one so closely connected with ourselves as is Dr. Sprigge, but we may remark that the author of "The Life and Times of Thomas Wakley" in the work before us gives evidence of great versatility, while his knowledge of medical life and medico-legal situations is turned to excellent account.

JOURNALS AND MAGAZINES.

Annals of Ophthalmology: a Quarterly Journal and Review of Ophthalmic Science. Edited by H. V. WÜRDEMANN, Milwaukee. St. Louis, Mo., U.S.A.: Jones H. Parker. Vol x., No. 4, October, 1901; Vol. xi., No. 1, January, 1902. Price $4 per annum.—The articles contained in this well-conducted journal—each of the parts of which run to about 150 pages—are both numerous and interesting. The October number contains a translation of an article by Dr. Hugo Woff of Berlin, entitled "Observations with the New Electric Ophthalmoscope," the advantages of which are strongly insisted on. Dr. M. F. Weymann of St. Joseph, Mo., in another article gives the Pathogenetic Eventuations of Chalazial Tumours The editor of the *Annals* gives the Treatment of Recent Embolism of the Retinal Arteries by Deep Massage, with a report of two cases of embolism cured by this method. Dr. L. Steiner of Soerabaya, Java, contributes an article on Trachomatous Spots in the Malay in which he states that trachoma in the Malay is accompanied in many cases with pigment patches on the conjunctiva. Dr. F. O. Heath of Indianopolis, Ind., describes a case, with a drawing, of Amblyopia from Carbon Bisulphide Poisoning, a very rare affection. Dr. W. Campbell Posey of Philadelphia gives a case, with a drawing, of an Unusual Form of Superficial Punctate Keratitis. Dr. W. R. Broughton writes upon Residual Sensations as a Test for Diplopia or Heterophoria. Dr. R. Blysma of Middelburg, Netherlands, gives a brief account of a case of Opacities in the Vitreous associated with Amenorrhœa which was cured by rational general treatment. Dr. Albert C. Snell of Rochester, N.Y., gives a report of a case of Dermoid Cyst of the Iris not preceded by Trauma. Both numbers of the journal contain numerous abstracts from the ophthalmological literature of Germany, France, Russia, and other continental nations.

THE LANCET.

LONDON: SATURDAY, MAY 10, 1902.

The Royal Colleges in England and the General Medical Council.

IN another column we publish the report made by Dr. NORMAN MOORE, the representative of the Royal College of Physicians of London on the General Medical Council, upon the proceedings of the Council at the special session held in February of this year. The importance of the questions involved is so great that we make no excuse for recapitulating the various events that our readers may fully appreciate how the matter stands. It will be remembered that in December last at the winter sitting of the Council for 1901 a committee of the Council was appointed to prepare a report on the differences existing "between certain licensing bodies on the one hand and the General Medical Council on the other regarding the courses and conditions of study and the recognition of the institutions and schools in which the required courses may be taken." We have on more than one occasion referred to the unfortunate, and unfortunately acute, divergencies of opinion which have arisen between certain of the licensing bodies, notably the Royal College of Physicians of London and the Royal College of Surgeons of England, and the central authority in the kingdom respecting the education of our medical students. We took it on ourselves to make certain suggestions that we believed would pave the way for an amicable settlement but we do not see many signs of the disputants approaching one another; nor can the proceedings at the special session of the Council, which were fully reported in our columns during the sitting, be described as constituting a peace congress.

The main point at issue between the parties is of course that the General Medical Council claims a right to select the institutions in which the preliminary scientific studies of the medical students of the various curricula may be undertaken after the students have registered. The General Medical Council has, in fact, refused to recognise certain institutions which, after investigation, have been accepted as suitable places of study by the two Royal Colleges. The Council at the special session in February received the report of the committee appointed to investigate thoroughly the delicate matter at issue, but the meeting was productive of no final settlement. The committee issued eight recommendations. All of these formed more or less interesting reading but several were of such a nature as to be obviously doomed to failure. The first five recommendations stated with some particularisation that in consequence of the differences of the methods under which students, working under varying regulations, are accepted as candidates for examinations, the qualifications of certain universities and licensing bodies do not ensure that the persons holding the qualifications possess the requisite knowledge and skill for the efficient practice of their profession. Included in this list were the University of Oxford, the University of London, the Royal College of Physicians of London, and the Royal College of Surgeons of England. A further clause recommended that the Council should, after preliminary warning, represent this fact to the Privy Council with a view to deprive the above bodies of their power of granting qualifications to practise unless they altered their regulations with regard to the preliminary training of their students. It is no matter for wonder, therefore, that the tone of the discussion of the recommendations at the special session was not completely favourable to the adoption of the report. The most important of our corporations and the most ancient and learned of our universities are as much bound in honour and in law to assist the General Medical Council to keep medical education at a high standard as are the most recent and least influential of the qualifying corporations. But while the Council recognised this—as do all of us—it could not, sitting in conclave, seriously suggest that the bodies which we have named should be threatened with the intervention of the Privy Council, unless the clearest proofs of culpable obstinacy or wilful blindness to the needs of the student were forthcoming. It is no matter of surprise, therefore, that Dr. D. C. MCVAIL, chairman of the committee, asked leave of the Council to withdraw the recommendations, while the leave was granted without a division. The Council then resolved to request the Conjoint Board of the Royal Colleges of Physicians of London and Surgeons of England to furnish it with certain information regarding the courses of study in the preliminary subjects which the Royal Colleges required and also regarding the steps which were taken to ascertain whether the various schools and colleges recognised by the Conjoint Board were worthy of that confidence. Dr. NORMAN MOORE, who with Mr. T. BRYANT sat on the committee and signed a minority report dissenting from the recommendations, gave an undertaking that the Royal Colleges would furnish the utmost possible information to the Council. And so the matter was left.

Dr. NORMAN MOORE has now made a report to the Royal College of Physicians of London upon the situation that has been created. It will be observed (see p. 1354) that he adheres to the position of independence claimed by the corporation which he represents. He points out that in his opinion the Council has no power of visitation of institutions and no power to compel the Colleges to visit the institutions which they recognise for any part of the course. If this be so it seems doubtful whether the Council has power to demand under the Medical Act the information which he has undertaken shall be supplied. However, he thinks that the Royal College of Physicians of London would be acting rightly in furnishing what is requested of them. We entirely agree with him. We have before urged on both the parties the obligation to give and take a little, and in acting as Dr. NORMAN MOORE suggests the Royal College of Physicians of London, without in the least departing from the dignified position it has rightly assumed, might give information which would greatly help to bring matters to a satisfactory issue. The Royal Colleges devote a great amount of time and trouble to visiting and revisiting the institutions which they recognise for preliminary study and if the laboratories or teaching staffs do not, in the opinion of the visitors, reach the necessary standard the school or college is not added to the list. If the defaulting institutions are already on the list and are found to have deteriorated to such an extent as no longer to satisfy the requirements of the Royal Colleges their names are removed. We believe, therefore, that the General Medical Council may, without sacrificing any of the power which it claims to hold over the examining bodies of the United Kingdom, meet the Royal Colleges in this respect by acknowledging these institutions and so end the *impasse* which now exists. We should not make this suggestion if we thought that there was the slightest danger of the central authority being jeopardised by the concession. In concluding his report Dr. Norman Moore states that he has endeavoured to make clear to the Council that as the powers of the Royal College of Physicians of London as regards its own curriculum rest not only upon Acts of Parliament and charters but also upon its obvious competence to deal with questions of medical education, it cannot permit any encroachment upon its sphere of responsibility, but that it will always in the future, as it has since the General Medical Council came into existence, do all in its power to aid the Council in the duties which the Medical Acts have prescribed for it. We trust that the approaching session of the General Medical Council will result in harmony being restored between parties to a quarrel who have one and the same object in view—namely, the furtherance of medical education.

The Coal Smoke Abatement Society and Domestic Grates.

The Coal Smoke Abatement Society is a most useful institution which has not received from the public anything like the attention which it deserves. Especially would we urge upon medical men that the work upon which this society is engaged is worthy of their support, for the part that is played in pathology by the murky atmosphere of London and other of our great cities can hardly be exaggerated. The society needs more subscribers and its justification in asking for them lies in its published work. A glance at the balance-sheet of the society, issued with the last annual report, shows that the small sum which has been placed by the public at the disposal of the executive has been most judiciously used. Unlike many other somewhat similar societies nothing has been wasted in the multiplication of direct or indirect advertisements, but the money has been spent in actual and valuable work, often of an arduous and delicate nature. We have chronicled in our columns a good many examples of the society's activity; especially we have called attention to its vigorous support of actions instigated by the metropolitan boroughs, or late vestries, against the owners of foul factory chimneys. We have felt, however, when recording with pleasure the fining by magistrates of those responsible for smoky factory chimneys, that it was not exactly fair that the domestic chimney should be permitted to create a nuisance with impunity. A factory chimney will produce a much more imposing volume of black smoke than a domestic chimney, but the numerical proportion of domestic chimneys to factory chimneys is out of all proportion large, and it is unjust to saddle the factories with all the damage that is done to our health, our public buildings, our works of art, and our gardens by coal-smoke. The domestic chimney plays its wicked part in adding to the virulence and opacity of fogs, and to reform the domestic chimney would preserve plant life where it now often succumbs, and would allow trees and shrubs to show the town-dweller some of the beauty of nature's differing shades of green, instead of presenting merely a grimy monochrome of sooted leaves and blackened bark. And, which is far more important than æsthetic considerations, such reform would have an enormously beneficial influence upon our health statistics. We are glad, therefore, to see that the Coal Smoke Abatement Society has projected an inquiry into the subject of domestic grates and has undertaken the task in exceptionally favourable circumstances. The control of the production of coal smoke in large towns is obviously a big question and really important results must await probably the active assistance of the Government. Such assistance has already, we see, been forthcoming in the investigation which is fully described at p. 1342 of this issue. The object of this investigation was to discover a grate which would permit the domestic use of smoky coal without the accompanying smoke that is now provided by thousands of private chimneys. As the report says, there is no expert on the subject and no manufacturer of grates has turned his attention to the production of a smokeless form of grate, while at the same time the great majority of householders are at present unwilling to accept anything but open grates burning smoky coal. The Coal Smoke Abatement Society therefore instituted an investigation into the subject of domestic grates, inviting manufacturers by advertisement to offer their grates for the tests. The work has been excellently planned and energetically carried out by Dr. H. A. Des Vœux, the treasurer of the Coal Smoke Abatement Society, and the late Mr. Bryan Donkin, by whose recent death the Institute of Civil Engineers and the Institute of Mining Engineers have suffered a heavy loss. From the charts accompanying the article our readers will gather the facts elicited and also will see at a glance the order of merit in which the grates that were submitted for examination stand. It is to be regretted that so few manufacturers answered the invitation and that therefore it cannot be asserted even that the best grate in the market has been demonstrated. Moreover, one important difference between the conditions under which the grates were tested and those under which the domestic grate is ordinarily used provided a fallacy in the results. The grates were stoked so that the fire never fell below a certain level—that of the top bar. In actual everyday use this, of course, would not obtain and a grate that was comparatively smokeless with so constant a fire might be extremely smoky when the fuel was much less regularly provided. The investigation, however, demonstrates marked differences between the coal-absorbing and the smoke-supplying properties of various grates, and the Coal Smoke Abatement Society may well be encouraged by the results of its experiments.

The London Water Bill.

MR. LONG has doubtless been surprised at the treatment meted out to his Bill by the Joint Select Committee which was appointed to consider it by the two Houses of Parliament. We cannot say that we also are surprised. At the eighth sitting of this Committee it was decided to delete the representation of the metropolitan boroughs from Schedule E of the Bill and to delete also the representation of the urban districts and of all the boroughs in the counties of Essex, Middlesex, and Surrey, with the single exception of the borough of West Ham. The promoters of the Bill, Mr. LONG, Mr. RITCHIE, the Attorney-General, and Mr. GRANT LAWSON, were, moreover, requested to prepare a fresh schedule on the plan indicated by this decision of the Committee for a Water Board consisting of about 35 members, including the chairman and vice-chairman, but without giving a majority of the Board to the representatives of any one county. It was announced by Lord BALFOUR of BURLEIGH that this was not a unanimous decision but was that of a majority of the Committee. It was inevitable that the Government should make a move in defence of the Bill, and accordingly on Tuesday last Mr. J. D. FITZGERALD, counsel for the Local Government Board, but speaking expressly as the mouthpiece of a regretful Government, urged upon the Committee to reconsider its drastic resolve. To this course, upon consideration, the Committee agreed, and a decision, presumably a final decision, is promised after an adjournment until Monday next.

The schedule which was referred back to the promoters of the Bill provides solely for the representation of authorities on the Water Board, and the authorities named are classified under the counties in which they have jurisdiction. Representation is given also to the Conservators of the Thames and to the Lee Conservancy. It cannot be said that under the Government scheme the metropolitan boroughs were inadequately provided for, for six of the larger boroughs were to have two representatives each and the remaining boroughs one representative each. In THE LANCET we have from the period of their creation constantly urged on the representatives of the London boroughs the importance of the privileges entrusted to them, especially those concerning the water-supply. Had they shown a just appreciation of their duties they would have taken the precaution of being adequately represented before the Joint Select Committee when their claims to representation on the proposed Water Board would not have been deleted, whether only temporarily or permanently remains to be seen, with the stroke of a pen. It is, of course, possible that the metropolitan borough councils thought that they had done all that was required of them to vindicate their position when they passed resolutions and forwarded copies of them to the President of the Local Government Board. Mr. RAM, K.C., stated at the eighth sitting of the Committee that metropolitan borough councils representing 2,500,000 people were in favour of the Government proposal and that those opposed to it represented 500,000 only of the population. The metropolitan boroughs may, it is permissible to conceive, have thought that they were safe in leaving their case in the hands of the Local Government Board, but the attitude of the Joint Select Committee must have opened their eyes.

Some of the witnesses who gave evidence before the Joint Select Committee stated their opinion that the provisions made for the election of representatives on the proposed Water Board were more unsatisfactory than were those contained in the Bill which Lord JAMES of HEREFORD introduced in the year 1896. This Bill, which was entitled the "Metropolitan Counties Water Board Bill," was of a more simple character than is the present Government measure. It contained no more than 10 clauses and occupied only four pages. The composition of the Board proposed by Lord JAMES has now received the modified approval of the Right Honourable G. J. SHAW LEFEVRE, late President of the Local Government Board, and of the Parliamentary agent of the London County Council. Under Lord JAMES'S scheme the London County Council was to appoint 16 members, the City of London, the county councils of Middlesex and Essex, and the borough of West Ham two members each, and the county councils of Hertford, Kent, and Surrey, the borough of Croydon, the Conservators of the River Thames, and the Lee Conservancy one member each. Lord JAMES'S proposal, therefore, was to give a majority on the Water Board to the London County Council and the opposition to the measure was on that account so general and so strong that the Government had to drop it. The Joint Select Committee which is now sitting, in returning the present Water Bill for revision, by advising that the proposed Water Board should not contain a majority from any one county, has evidently tried to induce Mr. LONG to avoid the error which wrecked Lord JAMES'S Bill. But neither Mr. LONG nor the Government sees the matter in that light.

The Government Bill, as we have already pointed out, pleases no one. In one respect Lord JAMES'S Bill was infinitely preferable to Mr. LONG'S Bill. The Water Board proposed by Lord JAMES would not have been compelled to buy the present defective undertakings of the metropolitan water companies. It would not have been in its first unprotected infancy thrust with tied hands into a series of expensive arbitration cases for which it was entirely unprepared, and this may well be the fate of the Water Board if it should be constituted according to Mr. LONG'S scheme. On the contrary, Lord JAMES'S Water Board would have had power to inquire into and to enter into negotiations, to make and to adopt provisional agreements respecting any matters relating to the water-supply, and to take such steps for promoting or opposing any Bills in Parliament as might appear to the Board necessary or expedient in relation to the water-supply. There is a homely country proverb which expresses the idea that it is always inexpedient at market to purchase an animal which is protected from observation by an extraneous covering. The popular phraseology of the adage should be known to Mr. LONG, but the Bill which he has introduced shows that he has made no use of the teaching which it conveys. Happily, he still has time to reconsider his position and we trust that the value of the water companies' undertakings will be accurately ascertained.

The proceedings of the Committee have resulted in the production of some interesting evidence. We now know that Mr. LONG'S Bill was drawn up by a secretary or assistant secretary to the Local Government Board and that the gentleman selected for this work had, according to his own account, no practical knowledge of matters pertaining to water-supply. Counsel who appeared on behalf of the Local Government Board stated that the Bill was drawn up on the recommendations of the recent Royal Commissions on London Water. In the case of the Balfour Commission, however, counsel did not add that the evidence given to the Commissioners in regard to the amount of water available has since been proved inaccurate. The Balfour Commission gave its report on the strength of this evidence and is not too severely to be blamed because it was misled in matters of fact. Nor, on the other hand, can an expression of opinion founded on erroneous data be treated as gospel—perhaps it should be classified as apocrypha, a designation suggested by Lord LLANDAFF in regard to some of the dicta of the Balfour Commission. The statement made by the counsel for the Local Government Board that the Water Bill was in accordance with the Llandaff report was promptly disposed of by Lord LLANDAFF, whose opinion it was that the water-supply of the metropolis could be best carried on by men who had a practical knowledge of the matters pertaining to the supply of water.

Annotations.

"Ne quid nimis."

TYPHOID FEVER AND PREGNANCY.

THOSE of our readers who have followed the course of the illness of the Queen of Holland will not have been surprised to hear that she has had a premature confinement. Typhoid fever complicated by pregnancy is always a condition of great gravity, although, happily, the old view taught by Liebermeister and others that these cases always have a fatal issue is no longer held Cazeaux was the first to combat this teaching and further experience has shown it to be false. The mere presence of the fœtus in utero does not appear materially to affect the course of the fever but it exposes the patient to all the dangers of a premature delivery. This results in from 63 to 83 per cent., or in about two-thirds of all the cases. The likelihood of its occurrence depends partly upon the stage of the pregnancy and partly upon the severity of the attack of the fever. It occurs more frequently in the early than in the later months of pregnancy and more frequently when the general disease is running a severe than when it is running a mild course. In some cases, no doubt, the fever causes the death of the fœtus, in other cases hæmorrhages occur into the decidua, hæmorrhages similar to the so-called "uterine epistaxes" of Gubler which occur from the uterus in patients suffering from typhoid fever who are not pregnant, while in other cases, again, the typhoid bacilli or their toxins find their way directly into the fœtal blood and tissues In 1841 Manzoni published a case in which he found what he thought were characteristic typhoid ulcers in the intestines of a fœtus born at seven and a half months and dying some 30 minutes after its birth. Eberth, Widal, and others have demonstrated the typhoid bacillus in the blood of the placenta and also in the blood and tissues of the fœtus. Of late years further proof of the transmission of the poison has been shown by the recognition of fœtal typhoid fever. In a case recorded by Ernst the fœtus lived for 93 hours and the typhoid bacillus was found in the spleen, the brain, and in the marrow of some of the bones. Quite recently, too, Widal's reaction has been obtained in the blood of the fœtus and it has been shown that various degenerative and sclerotic changes can at times be found in the tissues of a fœtus born of a mother suffering from typhoid fever. These are no doubt due to the action of various toxins and may be the cause of the death of the fœtus in certain cases. A question of much importance in connexion with the illness of the Queen of Holland is the effect of the occurrence of a miscarriage upon the prognosis of the disease. An early abortion appears to involve more danger than a premature delivery, no doubt owing to the greater likelihood of severe hæmorrhage occurring in the former instance. The danger, however, depends most of all upon the stage of the disease at which the pregnancy is interrupted. The earlier the contents of the uterus are discharged the better, no doubt because the patient's strength is not yet greatly reduced. Goldschmidt found that death occurred without abortion in 3·1 per cent. of the cases, after abortion in 27·5 per cent., while recovery took place in 25 per cent. without abortion and in 44 per cent. after abortion. In 38 cases collected by Duguyot in patients before the seventh month of pregnancy 18 recovered after aborting, while 13 recovered without aborting. The prognosis in any given case will depend upon the duration and the severity of the fever, the duration of the pregnancy, and the presence or absence of severe hæmorrhage or septic infection following the delivery. Gusserow considers that these patients are especially prone to septic poisoning, and no doubt this is true in so far that their powers of resistance must be greatly lessened. The treatment of these cases does not differ from that of any ordinary case of typhoid fever. If premature delivery occurs the great danger which the patient runs from hæmorrhage or septic infection must be borne in mind and every means must be taken to diminish the strain of the delivery as far as possible.

THE INVESTIGATION OF CANCER.

THE recent appeal for £100,000 to be devoted to the investigation of cancer has stimulated our lay contemporaries to draw the attention of the public to the continuous extension of malignant disease and to the urgent need of a careful and thorough study of malignant growths. The articles have been numerous and for the most part sound, useful, and likely to stimulate generosity. In an article published in the *Morning Post* of May 2nd there is, however, an attempt to explain to the public the whole *modus operandi* of a malignant tumour in which the writer rather loses himself in describing the how and the why of the growth of a cancer. He starts with the statement that the "working hypothesis" now generally accepted by investigators is the autositic theory. This is certainly not in accord with facts. There are, it is true, a few pathologists who still cling to the autositic theory, but the tendency at the present time is certainly to accept the microbic hypothesis, and those who have done most within recent years to advance our knowledge of the subject both in this country and abroad are investigating the subject chiefly from this aspect. The writer goes on to make clear to the lay mind what is meant by the "autositic theory." He explains that certain cells "rebel" against a weakened nervous system, indulge in a "cannibal diet" by feeding on the neighbouring tissues, form "colonies of autosites" in every part of the body, and so lead to death. This is all very pretty, but it is, at least so far as we know at present, pure imagination. The very basis of the whole theory is a weakening of the nervous system and we have absolutely no evidence at present that in malignant disease there is any change in the nervous system. Where the nerve supplying a part of the system is divided certain very definite phenomena appear, but there is no special proneness before a clinic of doctors and the late Professor Pepper, at the University of Pennsylvania, and they all pronounced my case incurable, as they said the stomach *was gone*; therefore nothing to build on; then I gave up in despair until I found one of your circulars, and, like a drowning man, grasped it, and I bless the event ever since, for you built me up beyond my hopes—yes, saved my life. To-day my stomach can digest almost any kind of food and I am in high hope of being a stronger man than ever I was. As you know, my case was a desperate one and I had lost all interest in life.' 'Mrs. B. C Copeland, Evansville, Ind, S S —I can truly say that I have been successfully treated and *cured* by you of diseases that the old school doctors have failed to cure and even went so far as to say I could *not* be cured. I am now almost 72 years of age and am feeling well and can stand more work than the generality of younger people and people who do not know me take me to be about 50 years of age. And in truth I must give the power of your mind the honour and credit of all my good health and youthful appearance. 10 years ago I was a perfect wreck—could not walk any distance without stopping for breath and strength I now can walk miles with comparative ease.' On the attractions of this system it were superfluous to enlarge To have one's stomach restored to one after it was 'gone'; to be able to digest 'almost any kind of food', never to need another dose of medicine; and to look 50 when one is really 72, these are boons not lightly to be esteemed. But what most attracted the pensive taxpayer over whom an impending War Budget begins to cast its shadow, is Helen Wilmans Post's treatise on 'The Conquest of Poverty' Of this its gifted authoress boasts, and probably with justice, that it is 'the most popular book in the range of mental science literature. It brings freedom to the mind, and through the mind to the body' With a steadily decreasing income and an expenditure pitched high enough to satisfy the social demands of Stuccovia, that is, indeed, a freedom devoutly to be wished but not, I fear, to be attained"—"In Praise of Birds," by E. V B, is written with all the charm of language which we expect from the translator of the "Story Without an End"

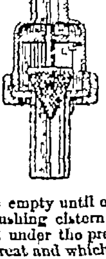
The Practitioner—The March number contains a paper entitled "The Health of the People" by Mr James Cantlie, in which he touches upon many points that concern the physical well being of the community He asks the question, "Why is town life so detrimental?" and considers that there are several reasons why such a state of affairs should exist The absence of fresh air in our cities is, of course, a potent factor and the disinclination to take exercise is a further detriment to good health. Mr Cantlie points out that the great health problems which immediately present themselves resolve themselves into two—namely, "How are we to maintain the health of our town-dwellers and the numbers of our country districts?" The former he considers to be impossible without, so far at any rate as the youths of the poorer classes are concerned, military conscription, and the latter requires improved conditions of living for those who till the soil Dr Arthur P Luff contributes an interesting paper on Gout, Observations on its Pathology, Forms, and Treatment, and Dr J A. Gibson gives some good illustrations of Graves's Disease. Dr F W Burton-Fanning's paper on the Etiology of Pulmonary Tuberculosis is also worthy of note seeing that it contains some original observations on the exciting causes of tuberculosis which have hitherto not been sufficiently recognised. For instance, he shows that physical over-exertion is a most powerful determining cause of the system's limiting or protective agencies against the disease.

The Quarterly Journal of Microscopical Science Edited by E. RAY LANKESTER, F R.S., ADAM SEDGWICK, F R.S., F. R. WELDON, F R.S, and SYDNEY J HICKSON, F.R.S. With Lithographic Plates and Engravings on Wood. London: J. and A. Churchill. New Series. No. 180 Vol. XLV., Part 4 8vo. Pp 60 Price 10s.—The following articles are contained in this number. 1. On the Structure of the Excretory Organs of Amphioxus, Part 1, by Edwin S. Goodrich, M.A, Fellow of Merton College, Oxford, with a plate Mr Goodrich describes the excretory tubules as forming a series which open into the atrium but not into the cœlom They are provided at their blind internal ends with a large number of solenocytes. He concludes from his observations that in their segmental arrangement, in their function, and in their histological structure the excretory organs of amphioxus and the nephridia of phyllodoce are in all essentials identical. 2. A contribution to the Morphology of the Teleostean Head Skeleton, based upon a study of the developing skull of the three-spined Stickleback (gasterosteus aculeatus) with four plates and five text illustrations; by H. H. Swinnerton, B.Sc. This is a very elaborate and carefully worked out description of the development of the skull of this little fish. 3. The development of Admetus Pumilio (Koch), a contribution to the Embryology of the Pedipalps; by L. H. Gough, with two plates. 4 On the Teeth of Petromyzon and Myxine; by Ernest Warren, D Sc. 5. Typhlorhyncus Nanus, a New Rhabdocœle; by F F. Laidlaw, B.A. This part completes vol. xlv and contains the index for that volume.

New Inventions.

(1) A CLOSED WATER STORAGE SYSTEM, AND (2) AN AUTOMATIC FLUSHING APPARATUS

1. Two sanitary appliances, the inventor of both of which is Mr Grundy of 13, King William street, London, E C., are deserving of attention inasmuch as they promise to remove many serious drawbacks to existing systems. To start with, the objections to an open storage system are well known, to overcome which it has been suggested to make the cistern a kind of expansion of the rising main, but hitherto this has not been found convenient Mr. Grundy, however, appears to have found a solution of the difficulty though we are not sure that his system does not present some practical obstacles. The cistern is completely closed and is placed sufficiently high to supply all the services in the house, the water passing from the main *via* the storage-tank without being exposed to the atmosphere. This is done in part by abolishing entirely the ball valve and substituting for it the check valve shown in the illustration Water passes upwards through this valve but cannot return. At the top of the cistern an outlet is provided at the foot of which is a valve float which, as soon as the cistern is full, checks an overflow while trapping the water in the cistern at the pressure of the main at that level In the event of the main supply failing the cistern contains a store which is easily drawn off, air gaining entrance at the float valve. The valves are of excellent workmanship and design and would replace with advantage the old and somewhat clumsy ball valve, while they avoid the exposure of the water to contamination from without 2. The automatic flushing apparatus is started in action either by the seat of the closet or by a foot lever acting on a two-way valve. The cistern is empty until either the seat or foot lever is actuated. The flushing cistern is closed, so that the water contained in it is under the pressure of the main which in most instances is great and which thereby effects a powerful yet comparatively silent flush. It is obvious that by this system the pollution of water by the return of foul air up the pipe is prevented, while the cistern being closed there can be no contamination from impure air coming into contact with the surface of the water. Both appliances are a decided advance upon



to the development of malignant growths and many other facts might be brought forward in opposition to the nervous hypothesis. We hold no brief on behalf of the microbic theory, but we cannot admit that the fact that "the subsidiary growths always have the organisation of the tissue in which the original colony is situated" is "utterly inexplicable" on the assumption that there is a specific microbe of cancer. It is not necessarily a bacillus that we are dealing with, as the writer of the article seems to imagine. A microbe living in a cell, multiplying rapidly and stimulating the cell to division, will explain fully all the phenomena of malignancy. Be this as it may, it is unwise to base the treatment of cancer on so unstable a foundation as the unproved autositic theory. The writer suggests that the profitable pathways of research are to find "some non-surgical means of strengthening the resisting power" of the tissues and "some means of causing disease in the colonies." We fear that there is not much to be hoped for in these directions. When we possess accurate knowledge of the cause of malignant growths our aim will be to prevent and not merely to cure cancer. It would be unduly optimistic to hope that within the next few years this knowledge will have been attained entirely, but we confidently look forward to progress.

THE WATER-SUPPLY OF ISOLATED HOUSES.

IN the *Builder* of May 3rd an article is devoted to the water-supply and drainage of isolated or detached houses. In such cases the rain-water is usually conveyed by a separate system of drains to an underground tank from which it is pumped to a cistern in the building. As a rule the roof of the house is utilised as a collector and two sets of drains, for sewage and rain-water respectively, must be laid. Unless care be taken there is, therefore, danger of the sewage-drain being connected to the rain-water drain with deplorable consequences. In a case known to the writer of the article the water stored in an underground tank for domestic purposes gradually deteriorated in quality until it became unfit for use. After a careful investigation it was discovered that the drain from a water-closet was connected with the rain-water system. This, the writer adds, was a new house, and if a mistake of this kind can be made during construction it can certainly also be made during subsequent alterations when the position of the two systems has been forgotten. The *Builder* is doing good service by drawing attention to the most common sanitary errors and defects connected with buildings in a series of articles intended for students but nevertheless of great general interest. When a drain is buried out of sight and reach it becomes a source of danger to the whole neighbourhood. There ought to be a manhole at every angle or change of direction in a drain, and it would be well if this safeguard were to be enforced by law.

REMOVAL OF SMALL-POX PATIENTS.

ON May 2nd the Divisional Court was moved on behalf of one Quelch, who had been convicted by Mr. T. J. Jones, one of the justices for Surrey, for obstructing the removal of his son who was alleged to be suffering from small-pox. It appeared that the medical officer of health (Mr. C. M. Fegen) had granted a certificate under Section 124 of the Public Health Act to the effect that the patient was suffering from small-pox and that there was no proper accommodation at the father's house. It was contended on the part of the father, who had endeavoured to prevent the justices' order from being carried into effect, that he had had no notice of any application for an order, that there was in fact sufficient accommodation at the premises in question, and that the magistrates were not justified in acting upon the certificate of the medical officer without more investigation. The court refused to grant any relief, the Chief Justice saying that the magistrates had exercised their discretion and that that could not be interfered with. We trust that this case may serve to emphasise the fact that the justices, acting through the medical officer of health, have an absolute discretion to order removal in every suspicious case, whether the step is taken for the protection of the patient or of those who may be exposed to infection. It is obvious that an order of this kind must be made *ex parte*, that a suspicion of small-pox must be sufficient to justify an order for removal, and that the justices must adopt the opinion expressed by the medical officer. Were it possible for parties to appeal against, or to appear and to give evidence in opposition to, an application for an order that section of the Public Health Act under which the orders are made would become a dead letter. It is also well for medical officers of health to bear in mind that they are under no personal liability if in granting certificates for removal they carry out the instructions of the local authority.

THE CAMBRIDGE MEDICAL SCHOOL.

DR. P. W. LATHAM has addressed to the members of the Senate of the University of Cambridge a remarkable memorandum concerning the medical school of the University. The medical school of the University of Cambridge is now one of the most important in the kingdom and Dr. Latham's memorandum is a wholesale indictment of its business arrangements. We shall be interested to see what steps are taken by the Senate of the University, which body must be fully aware that the medical school is an important branch of the educational tree. It is hardly too much to say that of late years the workers in the Cambridge physiological and pathological laboratories have constituted the best-known group of Cambridge scholars, while the praise that has been bestowed upon the medical school has been unstinted both at home and abroad. Consequently Dr. Latham's memorandum will come as a great surprise to many who have accepted the view that all was for the best in the best of scientific centres.

THE DIAGNOSIS OF CYSTIC KIDNEYS.

CYSTIC kidneys are seldom diagnosed during life. In *American Medicine* of March 22nd Professor William Osler points out that the clinical features are sufficient for diagnosis and he relates the following case. A woman, aged 28 years, who usually enjoyed good health, was admitted to hospital on Jan. 21st, 1899 About a year before the urine was blood-red for nearly a week. In December, 1898, she had for two weeks paroxysmal pain in the right side and the urine was bloody. She also noticed some distension of the abdomen. The prostration and weakness from loss of blood caused her to remain in bed for nearly three weeks. When she got up she noticed that her feet were a little swollen and that her eyelids were puffy. Since the attack micturition had been more frequent by day; sometimes it was performed at intervals of one and a half hours On admission she looked healthy but was rather sallow. The pulse was of increased tension. The radial and temporal arteries were sclerotic. The cardiac impulse could be felt in the fifth space in the anterior axillary line. The second sound was accentuated. Both flanks showed fulness and were occupied by large irregular tumours. The red blood corpuscles were 2,400,000 per cubic millimetre and the hæmoglobin was 40 per cent. of the normal. The urine was of specific gravity 1007 or 1008 and contained a trace of albumin and usually a few red blood corpuscles. Once a hyaline cast was seen. The quantity passed in the 24 hours was rarely more than a litre. Cystic kidneys were diagnosed. The patient left hospital on Feb. 11th, 1899, feeling comfortable She was readmitted on Feb. 27th, 1900, with urgent dyspnœa. She had remained well but had at times passed bloody urine. The dyspnœa had existed for four days. The thorax showed no signs of disease. In the throat were a few white patches which did not yield diphtheria bacilli. She became so cyanosed that tracheotomy was performed on Feb. 28th but without relief. The urine was of specific gravity 1013 and contained many red blood corpuscles but no casts. She gradually sank and died on March 1st. The necropsy showed greatly enlarged kidneys consisting of congeries of cysts. The left kidney weighed 1400 grammes and the right 950. There were marked cardiac hypertrophy and general arterio-sclerosis. The general characteristics of cases of cystic kidney are (1) bilateral tumours in the flanks (in only two out of 88 cases was the disease unilateral); (2) the cardio-vascular changes and urine of interstitial nephritis; and (3) hæmaturia which may occur in paroxysms and be associated with much pain. Diagnosis may be important, as the following case shows. A large cystic kidney was exhibited at a medical society. Professor Osler asked what was the condition of the other kidney and the surgeon said that he had not examined it as his attention was not called to it. The patient died in a few days with uræmic symptoms. As a rule, operation is contra-indicated, for removal of one kidney simply takes away one-half of the available renal tissue. But Mr. Henry Morris has successfully operated in cases of unilateral disease. He says that when the opposite kidney has been ascertained, either by inspection or palpation, to be unaffected the relief from pain and hæmorrhage and the immunity from the danger of suppuration offered by nephrectomy should not be withheld.

INTERMITTENT CLAUDICATION OR LIMPING.

DR. J. H. LEVY describes in the *Philadelphia Medical Journal* of April 12th last the rare and little known disease called "intermittent claudication" or "limping," which was first recognised by Charcot in 1858. Recent researches have tended to show that the disease is one of a neuro-vascular group of ailments which includes other rare affections, such as Raynaud's disease and erythromelalgia. Among the etiological factors, states Dr. Levy, might be included all conditions which produced arterio-sclerosis. Yet the curious fact remained that while arterio-sclerosis was a common affection, intermittent claudication was rare. The most common causes were alcohol, syphilis, undue exposure, and the excessive use of tobacco. The disease occurred almost exclusively in males, a fact which has been already alluded to in these columns.[1] Among the cases recorded by Dr. Levy is one of special interest as showing the relations between intermittent claudication and its allies, Raynaud's disease and erythromelalgia. It is as follows. A man, aged 33 years, a Russian subject, had malaria when he was 14 years of age. He suffered from whitlows on the fingers of his right hand at the ages of 14, 16, and 24 years respectively. At the age of 20 years he joined the army and had to undergo much hardship and exposure. At 25 years of age he emigrated to the United States and followed the occupation of a pack-pedlar. For several years he consumed about three ounces of whisky daily and smoked about four ounces of tobacco weekly. In the autumn of 1898 he suffered from pain in the right hip and over the sciatic nerve which grew worse at night. Later the pain spread to the knee and heel, first one knee and then the other being affected. In the spring of 1900 sharp pains developed in the big toe and cramps in the calf of the left leg. There was much difficulty in walking, for cramps came on after taking a few steps, stopping when he rested and recurring when he started to walk again. The right foot eventually became swollen and discolourations appeared about the heel and toes in the form of bluish spots. The skin in the affected areas was exquisitely sensitive and tender to pain and pressure. He also suffered from insomnia and had to remain in bed, being unable to walk. The foot was cold and dry and the bluish painful areas closely resembled those observed in Raynaud's disease. The muscles of the calves and thigh were wasted, especially on the right side. Pulsation was absent in the posterior tibial and dorsalis pedis arteries on both sides. He was treated with morphia (three grains daily) to relieve the pain, while bromides and iodides were given internally and massage and electricity were applied locally. The disease, however, progressed and gangrene followed in the fourth toe and big toe successively, a condition very like that in erythromelalgia. The gangrene spread upwards and amputation above the knee was subsequently performed. He appeared better for a while after this but the disease continued to progress in the other leg. Microscopic examination showed marked arterio-sclerosis in the tibial and pedal arteries of the amputated limb. Dr. Levy states that the most constant pathological findings in the few cases known were endarteritis and sclerosis of the smaller peripheral arteries with little or no neuritis.

THE NEW REGULATIONS FOR ADMISSION TO THE ROYAL ARMY MEDICAL CORPS.

ON p. 1339 will be found the text of the new regulations for admission to the Royal Army Medical Corps. They must, of course, be read in connexion with the recently published Royal Warrant for the Army Medical Service, the text of which was published in our issue of March 29th, p. 912. The new regulations both for admission to the Royal Army Medical Corps and for promotion when once admitted—for despite their title the regulations do not deal solely with admission—are obviously designed to attract the best class of man, and we hope for the sake of the service that this result will follow. The entrance examination is, it will be seen, of a thoroughly practical nature and one which any medical man who is duly qualified and who has attended diligently and with common-sense to five years' hospital practice should have no difficulty in passing. As, of course, it is a competitive examination the standard of knowledge required for admission to the service may vary a little from time to time, but it will never fall below a fairly high one. The examination before promotion to major, to be taken at any time after completing five years' service, is a purely professional one, for the surmounting of which it will be necessary for the candidate to keep his knowledge of medicine, surgery, hygiene, and bacteriology from getting rusty, while a good list of optional subjects will enable him to secure consideration for any special work that he may have done.

"THE CASE OF AN ELECTION."

IN our issue of April 6th, 1901, p. 1044, we published a letter from Dr. J. A. Shaw-Mackenzie detailing the somewhat extraordinary circumstances of his election to, and dismissal from, the post of physician to out-patients at the Samaritan Free Hospital for Women and Children. The facts are these: In September, 1900, the vacancy in the post of physician to out-patients was advertised, without any notification that the appointment when made would have to be confirmed. On Nov. 14th, 1900, the secretary wrote to Dr. Shaw-Mackenzie informing him that he had been elected. A like intimation was sent to the editors of the Medical Directory. Nothing was said about the appointment being provisional. Dr. Shaw-Mackenzie did the work of the post for a month, when he received an intimation from the secretary of the medical committee that the election was not confirmed and therefore that he need not attend as out-patient physician. On Dec. 21st the secretary of the hospital wrote to Dr. Shaw-Mackenzie that the election not being confirmed the post was vacant. On Jan. 23rd, 1901, he wrote that matters reverted to the *status* of Oct. 23rd, 1900, the date at which the report of the medical committee on the candidates was sent in. Eventually another medical man was appointed in place of Dr Shaw-Mackenzie and the latter gentleman has now received the following letter:—

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[1] Intermittent Claudication, THE LANCET, June 22nd, 1901, p. 1773.

Samaritan Free Hospital for Women and Children,
Marylebone-road N W, April 16th 1902.

DEAR SIR,—The Committee of Management of the Samaritan Free Hospital understand that some misapprehension has arisen as to the circumstances attending your provisional appointment as honorary physician to the hospital and the subsequent election of another candidate The committee willingly state that your non-election, permanently, was not attributable to any fault or shortcoming on your part. You gave your valuable services to the hospital for some weeks and the committee had no reason whatever for dissatisfaction

The committee take this opportunity of expressing their regret that the letter to you, and the communication to the *Medical Directory* notifying your appointment, omitted to state that it was provisional only

I am, dear Sir, yours faithfully,
W GUNTRIP KING, Secretary.

To J A. Shaw-Mackenzie, Esq M D &c.,
31, Grosvenor-street, W

We are glad to see that "the committee take this opportunity," &c., but it seems odd they should have allowed 14 months to elapse before doing so

THE HEREDITY OF POETIC TALENT

IN a discussion opened at the Société Médico-Psychologique of Paris and reported in the *Archives de Neurologie* for April Dr P. Chaslin referred to the subject of the heredity of poetic talent, basing his remarks chiefly on a recent publication by Dr Möbius which dealt exhaustively with the same topic. Dr Chaslin and Dr. Möbius arrived at the following conclusions first, that great poetic talents were solitary and exceptional, even amongst persons exhibiting a taste or aptitude for poetry, secondly, that the mother of a poet was always an intellectually gifted woman, whereas the son of a stupid woman was always stupid; and, thirdly, that poetic talent was hereditary and was transmitted through the mother alone. Dr Chaslin cites numerous instances in support of these conclusions. It is not often that a great poet has left behind him reflections or observations bearing upon the origin of his special talent, but in this connexion we can cite the well-known instance of Goethe who made the confession that he inherited from his father his stature and seriousness but from his mother "a joyous nature and a turn for poetising."

ON THE EARLY SYMPTOMS AND DIAGNOSIS OF TABES DORSALIS.

AN interesting paper based on careful observation and study of 54 cases of tabes dorsalis, with special reference to early symptoms and diagnosis, is contributed by Dr D Fulton to the *Journal of Nervous and Mental Disease* for April last. Dr Fulton emphasises the importance of differential diagnosis from early general paralysis, a procedure which is by no means easy. Paræsthesiæ about the limbs and body were often the first symptoms in tabes dorsalis and they were observed in the early stages of the disease in 70 per cent. of cases In six cases difficulty in micturition was the first symptom and in four cases double vision was the initial symptom. Among the earliest symptoms of general paralysis, and antecedent to indications of insanity, there might be found loss of knee-jerk, Argyll Robertson pupil, "lightning pains," incoördination and weakness of the bladder, so that differentiation in these respects from tabes was impossible If, however, the characteristic clumsiness of speech and tremor of the tongue and lower facial muscles were present, general paralysis might be diagnosed to the exclusion of tabes. In reviewing the 54 cases it was surprising, says Dr Fulton, to note that a large proportion of patients (85 per cent.) gave a definite history of gastro-intestinal disturbance, such as "army diarrhœa," gastric and intestinal catarrh, chronic gastritis, chronic constipation, gastroptosis and enteroptosis, and chronic liver troubles, these having preceded the tabes by periods of time ranging from a few months to a few years. He thought that some obscure toxæmia of gastro-intestinal origin, combined with syphilis, constituted the exciting cause of tabes. Of the patients 52 were males and two were females Hereditary influences were rare; 54 per cent. of the cases gave histories of alcoholism or excessive smoking, 42 per cent. were obviously syphilitic, 11 per cent. had followed influenza, and in 4 per cent. the tabes had followed very shortly after typhoid fever, more than one cause being observed in the majority of cases. The general symptoms and their frequency were as follows loss of knee-jerks in 88 per cent. of the cases, Romberg's symptom (static ataxia) in 80 per cent, ataxic gait in 77 per cent., lightning pains in 73 per cent., paræsthesiæ in 70 per cent., Argyll-Robertson pupil in 67 per cent., incoördination in 65 per cent., vesical disturbances in 60 per cent., ocular paralyses in 27 per cent., and sexual weakness in 25 per cent. Other symptoms were less frequent. Treatment included extension, rest in bed with massage and passive movements, and, above all, hydrotherapy and systematic graduated exercises for the muscles so as to regain the power of coördination.

WHAT'S IN A NAME?

THE medical superintendent of one of the county asylums has had the courage to christen the institution of which he is the official head by a name suggestive of a residential estate with ancestral antecedents, thus discarding the old title of "asylum" with all its objectionable associations. There is much to be said in favour of this stroke of policy, and, indeed, the arguments against it are almost entirely of a technical nature. If the rich person who has to be confined under certificates can be lodged in a "park," "villa," or "moorings," why may not the poor man whose local habitation is paid for out of the rates be domiciled under a name with artistic associations? The law is not given to sentimentalism and it speaks in cold, brutal terms of institutions for the insane as "asylums, hospitals, or licensed houses." If, then, a "licensed house" may be generally known as "*Dottyville*," and so spoken of by the Lunacy Commissioners in their report to the Lord Chancellor, why may not the county asylum be known as "Muddleport"? There is plenty of scope for imagination in the new departure opened up by this enterprising superintendent, we would, however, suggest that the new styles should not be of too connotative a character, but that they should be rather colourless in kind, so that neither may the melancholy patients be made more depressed by the dismal name of their abode nor the general paralytics unduly elated by the "castle" that they have at last found. It has always been a sore point with the chief officers of asylums (and their wives) that they should be spoken of in the neighbourhood as "the asylum people" and that their residences should be part and parcel of the establishment and their letters so addressed that they very often fall into the hands of patients who happen to carry a similar name, and it is not to be wondered at that strenuous efforts are usually made to dissociate the quarters of the medical staff from the main structure and to give names which are bewildering to the postman, but there is now an example in actual existence where the hated word "asylum" disappears once and for all and life may be enjoyed in the most socially approved surroundings Seriously speaking, there is much to be said for this bold stroke, and if it does eventually relieve people from the prejudices which do undoubtedly, though often wrongfully, militate against the future of those who have had to spend some time in an asylum, the originator may be congratulated upon having initiated an advance.

THE DISTRIBUTION OF PLAGUE.

THE following shows the distribution of plague throughout Egypt during the week ending April 27th: Mit-Ghamr, 1 case and no deaths; Mit-Samanoud, 3 cases and no deaths; Dechneh, 3 cases and 2 deaths; Tala, 3 cases and 4 deaths; Tantah, 4 cases and 2 deaths; and Maghaga, 4 cases and no deaths. An outbreak of the disease has occurred among Bedouins living near the town of Maghaga (Upper Egypt). The first case traced was a Bedouin woman who left Korachieh in March.

SANITARY WORKS AT BUCKINGHAM PALACE.

THE drainage and other sanitary arrangements which were carried out at Buckingham Palace by the officials of His Majesty's Office of Works a few years ago have been thoroughly inspected and tested by Dr. W. H. Corfield, the consulting sanitary adviser to His Majesty's Office of Works, who has reported "that the drainage arrangements have been very well planned and carried out and reflect credit on all concerned with them." He has, however, suggested a number of improvements in the sanitary arrangements generally, the most important of which have been carried out already under his supervision and to his satisfaction. The remainder, which consist chiefly of certain rearrangements, will be carried out in the autumn.

THE METROPOLITAN WATER-SUPPLY.

THE report on the condition of the metropolitan water-supply during the month of March, 1902, has recently been issued by the Water Examiner. The Thames water was in good condition at Hampton, Molesey, and Sunbury from the 5th to the 16th and from the 19th to the 31st day of the month. On the 17th the engineer to the Chelsea Waterworks Company described the state of the river water as bad. The height of the river varied from three inches above to seven inches below the average summer level. The average daily supply delivered during the month was as follows: from the Thames, 111,171,611 gallons; from the Lee, 52,772,200 gallons; and from springs and wells, 36,001,249 gallons. The proportions of brown tint observed in a two-foot tube ranged from 5° to 24° of the standard in use. The water of the Lambeth Company exhibited the deepest average tint of brown and a sample of water drawn from the mains of that company was found (by Dr. T. E. Thorpe, F.R.S., the Government analyst) to contain a higher proportion of organic carbon than that found in any other sample of London water examined during the month. Dr. Thorpe examined 11 samples of the water supplied by each company during the period under review. Samples collected on March 17th were fully analysed. The most important results of this examination are given in the appended table showing the results of the analysis expressed in parts per 100,000.

Company.	Organic carbon.	Organic nitrogen.	Nitrogen as nitrates and nitrites	Total combined nitrogen.
Chelsea	0·205	0·017	0·270	0·287
West Middlesex .	0·205	0·018	0·260	0·287
Southwark	0·184	0·020	0·228	0·248
Grand Junction	0·246	0·023	0·259	0·282
Lambeth	0·249	0·021	0·271	0·292
New River	0·052	0·008	0·222	0·230
East London	0·236	0·019	0·445	0·464
Kent	0·041	0·006	0·466	0·472

THE PREVALENCE OF SMALL-POX.

THE returns of small-pox in London for the past week show the following figures. On Saturday, May 3rd, there were 38 fresh cases notified and removed; on Sunday, the 4th, there were 44 fresh cases; on Monday, the 5th, there were 40 fresh cases; on Tuesday, the 6th, there were 35 fresh cases; and on Wednesday, the 7th, there were 17 fresh cases. In the county of Essex for the week ending May 3rd there were notified 63 cases, making a total from Jan. 1st of 953 cases throughout the county. During the month of April 183 cases were notified in the Essex urban districts and 63 cases in the Essex rural districts.

AT a meeting of the Grand Lodge of English Freemasons held at Freemasons' Hall on Wednesday, April 30th, amongst the Grand Officers appointed for the ensuing year by the M. W. Grand Master, H.R.H. the Duke of Connaught, were W. Bro. A. E. Sansom, M.D., F.R.C.P. Lond., W. M. of the London Hospital Lodge, and W. Bro. Thomas Wakley, jun., L.R.C.P. Lond., W. M. of the Cheselden Lodge (St. Thomas's Hospital), who were appointed respectively to the offices of Senior Grand Deacon and Junior Grand Deacon.

THE annual dinner of the Indian Medical Service will take place at the Café Monico, Piccadilly-circus, on Thursday, June 12th, at 7.45 P.M., when the chair will be occupied by Dr. William S. Playfair. Officers intending to be present at the dinner should communicate without delay to the honorary secretary, Mr. P. J. Freyer, 46, Harley-street, London, W.

THE annual dinner of the Chelsea Clinical Society will be held in the Princes Room, Criterion Restaurant, on Thursday, May 22nd, at 7.45 for 8 P.M. Communications should be made to the honorary secretary, Dr. A. E. Cooper, 104, Buckingham Palace-road, London, S.W., not later than Thursday, May 15th.

THE ninth "Robert Boyle" Lecture of the Oxford University Junior Scientific Club will be delivered in the hall of Balliol College, Oxford, on May 13th, at 9 P.M., by Professor T. Clifford Allbutt of Cambridge, the subject being "The Growth of the Experimental Method in Oxford."

His Excellency the High Commissioner for South Africa has appointed Dr. Henry Shinglewood Taylor, Justice of the Peace, to be the commissioner for receiving the oath of allegiance to His Majesty King Edward VII. for the district of Ficksburg, Orange River Colony.

THE Committee of University College Hospital have decided not to hold this year the usual festival dinner in aid of the funds of the charity. They are, however, compelled to issue a special appeal for funds, the hospital owing a debt of over £9000.

THE forty-second annual dinner of King's College, London, will be held at the Monico Restaurant on Monday, June 16th, with the Bishop of London in the chair.

DR. J. E. WOLFHAGEN has been appointed Consul for Germany at Hobart, Tasmania.

WINDOW-WASHING APPARATUS.—An American inventor has patented a method of cleaning windows; it seems to consist of bars attached to the sides of the sash and a mechanical contrivance for causing a "window brush or cleaner" to travel over the surface of the glass. An engraving and the specification will be found in the *Official Gazette* of the United States Patent Office issued on April 22nd, 1902.

THE ROYAL ARMY MEDICAL CORPS.

THE following is the text of the new regulations for admission to the Royal Army Medical Corps.

[*Promulgated by Army Orders dated 1st May, 1902.*]

REGULATIONS FOR ADMISSION TO THE ROYAL ARMY MEDICAL CORPS, 1902.

CANDIDATES FOR COMMISSIONS.

QUALIFICATIONS.

1. A candidate for a commission in the Royal Army Medical Corps must be 21 years and not over 28 years of age at the date of the commencement of the entrance examination.

2. He must possess, under the Medical Acts in force in the United Kingdom at the time of his appointment, a registrable qualification to practise.

3. He must complete the form of application and declaration shown in Appendix I., and submit it to the Director-General, Army Medical Service, in sufficient time to permit of reference to the medical school in which the candidate completed his course as a medical student.

4 The Dean, or other responsible authority, of such school will be requested by the Director-General to render a confidential report as to his character, conduct, professional ability and fitness to hold a commission in the corps, and to this report special importance will be attached

5 After the form of application and the confidential report above alluded to have been received, the Director-General will decide if he may be allowed to compete for a commission in the Royal Army Medical Corps.

6. If approved, he will then be examined as to his physical fitness by a board of medical officers in accordance with Appendix II.

7. If the candidate is pronounced to be physically fit for service at home and abroad, he will be eligible to present himself at the entrance examination, which will be held twice in the year, usually in January and July, for the admission of qualified candidates as lieutenants on probation.

8. The Secretary of State reserves the right of rejecting any candidate who may show a deficiency in his general education.

9. An entrance fee of £1 is required from each candidate admitted to the examination and is payable at the conclusion of his physical examination if pronounced fit.

10. Officers who have served with the Royal Army Medical Corps (Militia) when embodied, or who as officers of the Royal Army Medical Corps (Militia) or Royal Army Medical Corps (Volunteers), medical officers of yeomanry or volunteers, or as civil surgeons served with an army in the field, after the 1st October, 1899, may be allowed to reckon such service towards retired pay and gratuity. [*Secretary of State's Instructions on Pay Warrant*.]

Candidates in any of these classes may be permitted to compete under the above rules provided they were not over 28 years of age at the beginning of their last period of service and shall be allotted special marks for such service on a scale approved by the Secretary of State. The duration of service is to be reckoned from the date on which the candidate commenced such service, except in the case of candidates who have served for two or more periods at short intervals. In such cases the total period of service to be considered in granting marks at the entrance examination shall be specially determined.

APPOINTMENTS, &c.

11. A candidate successful at the entrance examination will be appointed a lieutenant on probation, and will be required to pass through such courses of instruction as the Secretary of State shall decide, and after passing the examinations in the subjects taught, and satisfying the Director-General that he possesses the necessary skill, knowledge, and character for permanent appointment to the Royal Army Medical Corps, his commission as lieutenant will be confirmed The commission shall bear the date of the officer's appointment as lieutenant on probation.

12. Before the commission of a lieutenant on probation is confirmed he must be registered under the Medical Acts in force in the United Kingdom at the time of his appointment.

13. The precedence of lieutenants among each other shall be in order of merit as determined by the combined results of the entrance examination and the examinations undergone while on probation, except that the position on the list of a lieutenant on probation seconded under Article 349 Royal Warrant shall be determined by the place he has gained at the entrance examination. In the case of a lieutenant so seconded the subsequent examinations referred to in paragraphs 18 and 19 will be of a qualifying character and will not influence his position on the seniority list of the corps.

14. Lieutenants when appointed on probation will receive instructions as to the provision of uniform

EXAMINATIONS.

SUBJECTS FOR THE ENTRANCE EXAMINATION.

15. Candidates will be examined by the examining board in medicine and surgery. The examination will be of a clinical and practical character, partly written and partly oral, marks being allotted under the following scheme:—

Medicine (written).

	Maximum marks.
A. Examination and report upon a medical case in the wards of a hospital	125
B Commentary upon a case in medicine	125
(Three hours allowed for A and B together)	

Medicine (oral)

A. Clinical cases; clinical pathology	75
B. Morbid Anatomy and Morbid Histology	75
(One quarter of an hour allowed for each table.)	

Surgery (written).

A. Examination and report upon a surgical case in the wards of a hospital	125
B. Commentary upon a case in surgery	125
(Three hours allowed for A and B together.)	

Surgery (oral).

A Clinical cases, including diseases of the eye; surgical instruments and appliances	75
(One quarter of an hour allowed for this table.)	
B. Operative surgery and surgical anatomy	75
Total marks	800

The following headings are published as a guide to candidates in drawing up their reports on cases:—

(a) A brief history of the case as given by the patient, including such points only (if any) in the family or personal history as have a distinct bearing upon the present illness or incapacity.
(b) A detailed account of the subjective symptoms and physical signs elicited by the candidate's personal examination of the patient, noting the absence of any which might be expected to be present in a similar case.
(c) Where there is any reasonable doubt in the mind of the candidate as to an exact diagnosis, he is to give the alternatives, with his reasons for making the selection
(d) A commentary upon the case as a whole, pointing out the symptoms which may be considered typical and those which appear to be unusual or only accidental complications
(e) Suggestions as to treatment, both immediate and possibly necessary at a later date.
(f) A forecast of the progress and probable termination of the case.

Similarly the commentary on the report of a case submitted to the candidate should discuss:—

(a) The family and personal history and other conditions preceding the development of the condition described.
(b) The relative significance of the physical signs, symptoms, other indications of disease noted, and the general clinical aspects of the case.
(c) The diagnosis, with reasons for selection of the most probable, when a positive diagnosis cannot be attained
(d) The treatment, *dietetic*, medicinal, operative, &c., including a criticism of the plan adopted, and alternative schemes of treatment in cases of disagreement.
(e) The morbid appearances, and an account of the *post-mortem* examination (if any)

16. The examination will be held in London, and will occupy about four days.

17. The appointments announced for competition will be filled up from the list of qualified candidates arranged in the order of merit, as determined by the total number of marks each has obtained.

18. Having gained a place in this entrance examination, the successful candidates will undergo two months' instruction in hygiene and bacteriology, after which they will be examined in these subjects. The maximum number of marks obtainable at this examination will be 100

19. On completion of the above course lieutenants on probation will be ordered to proceed to the depôt of the Royal Army Medical Corps at Aldershot for a three months' course of instruction in the technical duties of the corps, and at the end of the course will be examined in the subjects taught The maximum number of marks obtainable at this examination will be 100

20. A lieutenant on probation who fails to qualify in either of these examinations will be allowed a second trial and should he qualify will be placed at the bottom of the list. Should he again fail in either examination his commission will not be confirmed.

REGULATIONS FOR THE EXAMINATION FOR PROMOTION IN THE ROYAL ARMY MEDICAL CORPS.

21 These examinations are intended to test the progress and proficiency of officers in those branches of knowledge which are essential to their continued efficiency

Lieutenant before Promotion to Captain

(For Lieutenants appointed after March 31st, 1901)

22. This examination may be taken at any time after completing 18 months' service and will be held in the military district in which the officer is serving

The subjects of this examination, which are detailed in the King's Regulations are as follows:—

1. Regimental duties.
2. Drill
3. Military law
4. Duties and accounts connected with military hospitals and their supplies
5. Other duties of executive medical officers.

Captains before Promotion to Major

(For captains promoted to that rank after July 27th, 1895.)

23. Captains will be examined under the rules laid down in Paragraph 24, and will be eligible for acceleration in their promotion to the rank of major under Article 352 of the Royal Warrant, subject to the following restrictions:—

(a) The acceleration which can be gained by a captain promoted to that rank in January 1896, will be limited to six months, and an officer gaining this acceleration will take precedence after the last captain promoted major on completion of twelve years' service.
(b) The acceleration which can be gained by a captain promoted to that rank in July, 1896, will similarly be limited to twelve months and an officer gaining this acceleration will take precedence next after the last captain promoted to that rank in January, 1896, who may have gained six months' service.
(c) A captain promoted to that rank in January, 1897, can gain the full acceleration but will take precedence after any captain promoted to that rank in July, 1896, who may have gained 12 months acceleration
(d) Officers gaining acceleration under (a) will take precedence inter se in order as they have obtained a special certificate or passed

in the first, second, or third class, and a similar course will be followed under (*b*) and (*c*).

(*e*) In all other cases an officer who gains accelerated promotion will be placed for precedence after the last officer (whether subject to acceleration or not) promoted approximately, three, six, 12, *or* 18 *months* before him.

24. This examination, which may be taken at any time after completing five years' service, will be held in London on the termination of a *period of special study. The examination* will consist of written papers, essays, oral and practical examinations in the following subjects, which are detailed in the King's Regulations:—

1. *Medicine.*
2. Surgery.
3. Hygiene.
4. *Bacteriology* and *tropical* diseases.
5. One special subject from the subjoined list, to which additions may from time to time be made:—(*a*) Bacteriology, including the preparation of antitoxins; (*b*) dental surgery; (*c*) dermatology; (*d*) laryngology; (*e*) midwifery and gynæcology; (*f*) operative surgery, advanced; (*g*) ophthalmology; (*h*) otology; (*i*) pædiatrics (*k*) psychological medicine; (*l*) skiagraphy; (*m*) specific fevers.

25. Captains serving in that rank before July 27th, 1895, will be promoted under the old regulations contained in Appendix I., Regulations for Army Medical Services, and will not be eligible for acceleration.

Majors before Promotion to Lieutenant-Colonel.

(For majors promoted to the rank after March 31st, 1895.)

26. This examination, which may be taken at any time after three years in the rank of major, will be held in the military district in which the officer is serving at times which will be duly notified.

The subjects of this examination, which are detailed in the King's Regulations, are as follows:—

1. Military law.
2. Army medical organisation.
3. Sanitation of towns, camps, transports, &c.
4. Epidemiology and the management of epidemics.
5. One special subject from the subjoined list to which additions may from time to time be made:—
   (*a*) Medical history of important campaigns.
   (*b*) A general knowledge of the army medical services of other Powers.
   (*c*) The laws and customs of war in relation to the sick and wounded.

APPENDIX I.

APPLICATION OF A CANDIDATE FOR A COMMISSION IN THE ROYAL ARMY MEDICAL CORPS.

1. Name in full.
2. Address.
3. Date of birth.

(A certificate of registration of birth or other satisfactory evidence of age, such as a declaration made before a magistrate by one of his parents or guardians giving the date of his birth to be furnished.)

4. Registrable qualifications.

(A *reference to be given to the* Medical Register, or, in the absence of such *reference, other satisfactory* evidence to be furnished.)

5. Academic and other distinctions.
6. Name of the Dean or other responsible *authority of the* school in which the candidate *completed* his course as a medical student.
7. Particulars of any commission or appointment held in the public services.
8. Date *of* examination at which the candidate proposes to present himself.

DECLARATION.

(*N.B.*—A mis-statement by the candidate will invalidate any subsequent appointment and cause forfeiture of all privileges for services rendered.)

I hereby declare upon my honour that the above statements are true to the best of my knowledge and belief, and that I am a British subject of unmixed European blood.

(Signed)

A candidate whose application is regarded as satisfactory will be directed to appear before the Director-General, Army Medical Service, usually on the fourth Thursday of the month preceding his examination. If allowed to compete he will be required, a few days before the examination, to present himself before a medical board to be certified as to physical fitness. He will be informed in due course of the time and place at which such board will be assembled.

All communications to be addressed to the Director-General, Army Medical Service, 18, Victoria-street, London, S.W.

REVISED CLASSIFICATION OF CAUSES OF DEATH IN THE NATIONAL RECORDS.

IN THE LANCET of April 26th, p. 1196, we briefly acknowledged our indebtedness to the Registrar-General for a copy of the new official list of causes of death which was adopted at the beginning of the present century for the abstraction of deaths in England and Wales. Except for a few unimportant modifications the classification which has now been superseded is identical with that which had been in use at the General Register Office ever since its establishment in 1837. It was compiled by the late Dr. William Farr, F.R.S., shortly after his appointment to the office which he made illustrious throughout his long period of faithful service. And although we can readily believe that the classification which it embodied requires modification at the present time it is beyond question that in earlier years at any rate Dr. Farr's classification effected substantial improvement in the records of mortality not only in this country but in most other parts of the civilised world.

The new list of causes of death which we print *in extenso* is obviously the work of Dr. John Tatham who, as a member of the committee of the Royal College of Physicians of London which prepared the last edition of the Nomenclature of Diseases, is presumably familiar with the views of his professional colleagues at Pall Mall on the subject of classification. And, further, we believe, from the great interest which he has always shown in the progress of State Medicine and especially in the science of Vital Statistics, that any serious departure from the methods of his distinguished predecessor would have been decided upon by Dr. Tatham only after the most painstaking and mature reflection.

Although, as we mentioned in our issue of April 26th, the time-honoured grouping of diseases by Dr. Farr under the titles "Zymotic," "Constitutional," "Developmental," &c., will be missed in the new list, nevertheless, inasmuch as the names of groups only, not the names of diseases themselves, have been discontinued, it will be found on examination that the instances are few and unimportant in which the records of future years cannot readily be compared with those of the past.

Attached to the new list of causes of death are a few appropriate suggestions for its use. We commend these to the careful perusal of our medical brethren who will find them helpful in regard to the certification of cause of death. We are glad to note that copies both of the new official list of causes of death and of the suggestions referred to will be included in all future books of certificate forms issued from the General Register Office. Consequently these documents will be at hand just when they are most useful to the medical practitioner—namely, at the very time of filling up his certificates.

We are gratified to find on inquiry that the new list of causes of death has been adopted by the Registrars-General for Ireland and Scotland, so that uniform official statistics of mortality will henceforth be published for the three divisions of the United Kingdom.

NEW LIST OF CAUSES OF DEATH

AS USED IN THE ANNUAL REPORTS OF THE REGISTRAR-GENERAL FOR ENGLAND AND WALES.

N.B.—The terms printed in *italics* being the names of symptoms merely, or being otherwise objectionable, should be used in medical certificates only when precise information is wanting.

GENERAL DISEASES.

Small-pox { Vaccinated.
Not Vaccinated.
Doubtful.
Cow-pox. Effects of Vaccination.
Chicken-pox.
Measles.
Epidemic Rose Rash, German Measles.
Scarlet Fever.
Typhus.
Plague.
Relapsing Fever.
Influenza.
Whooping-cough.
Mumps.
Diphtheria, Membranous Croup.
Cerebro-spinal Fever.
Simple Continued Fever.
Enteric Fever.

Asiatic Cholera.
Epidemic Diarrhœa, Epid. or Zym. Enteritis.
Diarrhœa, Choleraic Diarrhœa.
Dysentery.

Malarial Fever.
Hydrophobia.
Glanders, Farcy.
Anthrax, Splenic Fever.
Tetanus.
Syphilis.
Gonorrhœa, Stricture of Urethra.

Puerperal Septicæmia, Sapræmia.
Puerperal Pyæmia.
Puerperal Phlegmasia Dolens.
Puerperal Fever.
Infective Endocarditis.
Epidemic Pneumonia, Pneumonic Fever.
Erysipelas.
Septicæmia (not Puerperal).
Pyæmia (not Puerperal).
Phlegmon, Carbuncle (not Anthrax)
Phagedæna.

Other Septic Diseases.

Tuberculous Phthisis (Pulm. Tuberculosis).
"*Phthisis.*"
Tuberculous Meningitis.
Tuberculous Peritonitis.
Tabes Mesenterica.
Lupus.
Tubercle of other Organs.
General Tuberculosis.
Scrofula.

Parasitic Diseases.
Starvation.
Scurvy.
Alcoholism, Delirium Tremens.
Opium, Morphia Habit.
Ptomaine Poisoning.
Industrial Poisoning { by Lead.
by Phosphorus.
by Arsenic and other Metals.
Rheumatic Fever, Acute Rheumatism.
Rheumatism of Heart.
Chronic Rheumatism.
Rheumatic Arthritis, Rheumatic Gout.
Gout.

Carcinoma.
Sarcoma.
Malig. Dis., Cancer.

Rickets.
Purpura.
Hæmophilia, Hæmorrhagic Diathesis.
Anæmia, Leucocythæmia.
Diabetes Mellitus.
Premature Birth.
Congenital Defects.
Injury at Birth.
Atelectasis.
Want of Breast Milk.
Teething.

LOCAL DISEASES.

DISEASES OF NERVOUS SYSTEM.

Meningitis, Inflammation of Brain
Softening of Brain.
General Paralysis of Insane
Insanity (not Puerperal).
Chorea.
Epilepsy.
Convulsions.
Laryngismus Stridulus.
Locomotor Ataxy.
Paraplegia and Disease of Cord.
Neuritis, Periph. Poly-Neuritis.
Brain Tumour (not specific).
Nervous System, other Diseases.

DISEASES OF ORGANS OF SPECIAL SENSE.

Otitis, Mastoid Disease.
Epistaxis, Nose Disease.
Ophthalmia, Eye Disease.

DISEASES OF HEART AND BLOOD-VESSELS.

Valve Dis., Endocarditis (not Infective)
Pericarditis.
Hypertrophy of Heart.
Angina Pectoris.
Dilatation of Heart.
Fatty Degeneration of Heart.
Syncope, Heart Disease (not specified).
Cerebral Hæmorrhage, Emb., Thrombosis.
Apoplexy, Hemiplegia.
Aneurysm.
Senile Gangrene.
Embolism, Thrombosis (not Cerebral).
Phlebitis
Varicose Veins.
Blood Vessels, other Diseases

DISEASES OF RESPIRATORY ORGANS.

Laryngitis.
Membranous Laryngitis (not Diphtheritic).
Croup (not Spasmod. or Membr.)
Larynx, other Diseases (not specified)
Bronchitis.
Lobar, Croupous Pneumonia.
Broncho, Catarrhal, Lobular Pneumonia.
Pneumonia.
Emphysema, Asthma.
Pleurisy
Fibroid Disease of Lung
Respiratory Diseases, other.

DISEASES OF DIGESTIVE SYSTEM.

Tonsillitis, Quinsy.
Mouth, Pharynx, Disease (not specific).
Gastric Ulcer.
Gastric Catarrh.
Stomach, other Diseases (not Malig.).
Enteritis (not Epidemic).
Gastro-enteritis.
Appendicitis, Perityphlitis.
Hernia
Intestinal Obstruction
Other Diseases of Intestines.
Peritonitis (not Puerperal)
Cirrhosis of Liver.
Liver and Gall Bladder, other Diseases
Digestive System, other Diseases.

DISEASES OF LYMPHATICS.

Spleen Disease.
Lymph System, other Diseases
Thyroid Body, Disease.
Supra renal Capsules, Disease.

DISEASES OF URINARY AND GENERATIVE ORGANS

Nephritis, Acute.
Chronic Bright's Disease, Albuminuria.
Calculus (not Biliary).
Bladder and Prostate, Disease
Urinary System, other Diseases
Ovarian Tumour (not Malig.)
Other Diseases of the Ovary.
Uterine Tumour (not Malig.).
Other Diseases of Uterus and Vagina.
Disorders of Menstruation.
Gener. and Mam. Orgs., other Diseases.

ACCIDENTS OF CHILDBIRTH.

Abortion Miscarriage.
Puerperal Mania.
Puerperal Convulsions.
Placenta Prævia, Flooding.
Other Accid. of Pregnancy and Childbirth.

DISEASES OF JOINTS.

Caries, Necrosis.
Arthritis, Periostitis.
Other Diseases of Locomotor System.

DISEASES OF SKIN.

Ulcer, Bedsore.
Eczema
Pemphigus
Skin Diseases, other.

SUGGESTIONS TO MEDICAL PRACTITIONERS RESPECTING CERTIFICATES OF DEATH.

It is highly desirable that medical practitioners should use in their certificates of death only those terms which are recognised by the Royal College of Physicians

> The list of diseases now used in the Registrar General's Reports is condensed from the nomenclature of the Royal College of Physicians, with the addition of certain unofficial terms which are still in common use but which are objectionable either as being the names of symptoms merely or as being otherwise indefinite. In the copy of the list here given those objectionable terms are printed in *italics*, and it is hoped that medical practitioners will use them only when accurate information is wanting.

1. The cause of death should be stated precisely and briefly, English names for diseases being used in preference to their equivalents in other languages. Vague terms such as *decline, consumption, tabes cachexia*, &c., should be avoided, and *hæmorrhage* should not be assigned as the cause of death without indication of its origin and probable cause. *Dropsy* should never be returned as the cause of death without particulars as to its probable origin—e g., in disease of the heart, liver, kidneys, &c.

2. SMALL-POX.—In certifying deaths from small pox the patient's condition with respect to vaccination should be carefully stated—say, in one or other of the following forms:—(1) No evidence of vaccination. (2) Vaccinated in infancy only—Number of scars. (3) Vaccinated only after infection from small pox. (4) Stated to have been vaccinated but no scars. [If the patient has been revaccinated, the date should be given when possible.]

3 PUERPERAL FEVER AND OTHER SEPTIC DISEASES.—The term "*puerperal fever*" should no longer be used. Pyæmia, septicæmia, or sapræmia occurring in puerperal women should be described as puerperal pyæmia, puerperal septicæmia, or puerperal sapræmia respectively (Nomen. R.C.P., p. 11). In the new list of diseases provision exists for the separate entry of the several forms of septic infection.

4. DIARRHŒA.—Attention is especially invited to the subjoined decision of the Royal College of Physicians concerning the use of authorised names for this malady dated Jan. 25th, 1900.

"The Royal College of Physicians is convinced, after careful inquiry: (a) That various unauthorised and misleading terms, such as '*gastro-enteritis*,' '*muco-enteritis*,' '*gastric catarrh*' &c., are now commonly employed to designate the disease officially known as '*epidemic diarrhœa*,' whereby its specific character is in danger of being ignored, and great confusion ensues. (b) that the present confusion of terms renders it impossible to determine accurately either the prevalence of the disease in special places and at special times, the extent to which it influences the public health, or the effects produced by sanitary measures; (c) that there is a widespread objection on the part of medical practitioners to the employment of the term '*diarrhœa*' in certifying the cause of death, probably because that term is generally held by the public to imply a mild disease, insufficient by itself to cause death

"The College, therefore, has sought to discover as an alternative for the authorised term (epidemic diarrhœa) some other name, which, whilst equally accurate, should convey to the public the idea of a more serious affection. But the College regards it as essential that the idea of specificity, intended to be conveyed by the term 'epidemic,' should be retained.

"As the result of much deliberation, the College has agreed to authorise the use of the term '*epidemic enteritis*' (or if preferred by the practitioner, '*zymotic enteritis*'), as a synonym for epidemic diarrhœa. The College has further decided to urge upon practitioners the entire disuse, in medical certificates of death, of such terms as '*gastro-enteritis*,' '*muco-enteritis*,' or '*gastric catarrh*,' as synonyms of epidemic diarrhœa."

5. MALIGNANT DISEASES.—Among cancerous affections "carcinoma" is now distinguished from "sarcoma." This distinction should be observed wherever possible. A separate line is, however, still retained for those forms of malignant disease the nature of which cannot be specified precisely. The part of the body affected should always be stated in the certificate

6 TUBERCULOUS DISEASES. "*Phthisis.*"—When this condition is due to tubercle, the term "tuberculous phthisis" or "pulmonary tuberculosis" should be used instead of the ambiguous term *phthisis*, which is sometimes used to designate other besides tuberculous diseases of the lungs. "*Tabes mesenterica*"—The use of this term to describe tuberculous disease of the peritoneum should be discontinued, as it is frequently used to denote various other wasting diseases which are not tuberculous. "Tuberculous peritonitis" is the better term to employ when the condition is due to tubercle. *Hydrocephalus*.—In certifying deaths thus caused it would be advantageous if those due to tuberculous infection were distinguished from those due to meningitis or to other affections of the brain. "Congenital hydrocephalus" should always be returned as such.

7 CONVULSIONS.—It is hoped that this indefinite term will henceforth be restricted to those cases in which the true cause of convulsions cannot be ascertained. At present more than 11 per cent. of the total deaths of infants under one year old are referred to "*convulsions*" simply.

8. PARALYSIS.—The classification of deaths would be much facilitated if brain paralysis were always distinguished from paraplegia. In certifying deaths from brain paralysis, the terms "*hemiplegia*" and "*apoplexy*," which denote symptoms merely, might usefully be replaced by the names of such definite lesions as "cerebral hæmorrhage," &c., &c.

9. PNEUMONIA.—Three separate forms of acute pneumonia have now been added to the list—viz.: Croupous or lobar pneumonia, broncho, catarrhal, or lobular pneumonia, and epidemic pneumonia, the old line for undefined cases of pneumonia being still retained. The term "*typhoid pneumonia*" should never be employed, as it may mean either enteric fever, with pulmonary complication, on the one hand, or pneumonia, with so-called typhoid symptoms, on the other.

10 CROUP.—It were greatly to be wished that the use of the term "*croup*" to designate non-diphtheric affections of the larynx or trachea should be abandoned. Diphtheritic croup or membranous croup should be returned as such.

11 CHILDBIRTH.—Whenever parturition or miscarriage has occurred within one month before the death of the patient the fact should be certified, even though childbirth may not have contributed to the fatal issue

12. VIOLENCE.—In every case of death by violence, or by suspected violence, the medical practitioner, in addition to stating the fact in his certificate, should advise the friends of the deceased to inform the coroner forthwith

13. When the cause of death has been verified by a post mortem examination the letters P.M. should be added

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HEALTH OF KEYNSHAM RURAL DISTRICT.—Mr. J. O. Heaven, the medical officer of health, in his annual report for 1901 estimates the population at 8295, the area being 21,406 acres. 114 deaths were registered during the year against 120 in 1900, corresponding to a rate of 13·74 per 1000. 173 births were registered, compared with 101 in 1900, equal to 20·85 per 1000 living.

DONATIONS AND BEQUESTS.—By the will of Mr. Thomas James of Aylmer House, Weston-super-Mare, and of Messrs. Stiff and Co., Limited, starch manufacturers, of Bristol, £100 are bequeathed to the Weston-super-Mare Hospital and £50 to the Weston-super-Mare Convalescent Home for Children.—The late Mrs. Stephen Wilson of North Kinmundy has bequeathed £1000 to the Royal Hospital for Sick Children, Aberdeen, for the endowment of a cot to be named the "Stephen Wilson Memorial Cot."—The Court of Directors of the Bank of England have granted a donation of £100 to the funds of the Middlesex Hospital in response to the appeal which the governors made for the sum of £70,000.—By the will of Miss Eleanor Agnes Carr £200 are bequeathed to the Alnwick Infirmary.—Captain John Borlase Tibbits by his will has bequeathed £100 to the Northampton Infirmary.

TESTS OF DOMESTIC OPEN FIRE-GRATES.

WE publish below the account of a preliminary investigation into the subject of open sitting-room fire-grates, which has been undertaken at the instance of the Coal Smoke Abatement Society by Dr. H. A. Des Vœux and the late Mr. Bryan Donkin, C.E. The medical and sanitary world have had, since the writing of the report, to regret the death of Mr. Donkin, whose practical and scientific experience in this and allied subjects was probably greater than that of any other observer in the kingdom.

When in 1899 the Coal Smoke Abatement Society was formed to grapple with the problem of the pollution of the air of London with smoke, it soon found itself engaged in a conflict with an enemy which had remained supreme for over 500 years. On the first introduction of coal into London there was some opposition to its use in the City as being prejudicial to the health of the inhabitants, but its undisputed value and the impossibility of finding an efficient substitute soon left coal in possession of a field where there were no serious rivals. Its use, however, was at first limited; it was a luxury and therefore could only be enjoyed by a few; and the damage then done by smoke was small compared with that occasioned in modern times. This increased damage is owing to the ever-increasing use of coal among a population which is in itself rapidly augmenting, not only in numbers, but also in wealth. An increased population with an increased wealth per head means a vastly greater spending power on the luxuries of life; and warmth in the home is one of the first luxuries which comfort demands. The enormous advances which have been made in manufacturing by machinery during the last hundred years have caused the opening of an ever-increasing number of factories and mills, and therefore the demand for coal "to produce steam" has grown *pari passu* with its increased use on the domestic hearth.

In 1819 the attention of Parliament was directed to the question of the nuisance created by coal smoke and a Select Committee was appointed "to inquire how far persons using steam-engines and furnaces could erect them in a manner less prejudicial to public health and comfort." This committee gave an encouraging report. In 1843 another Select Committee recommended the introduction of a Bill prohibiting the production of smoke from furnaces and steam-engines. In 1845 yet another Select Committee reported that such an Act could not, *in the existing state of affairs*, be made to apply to dwelling-houses. The Acts of 1845 and 1847 followed as the results of these inquiries. But it was not until 1875 that there was any effective legislation on the subject, when the Public Health Act, 38 & 39 Vict., was passed, cap. 55, Part III., sec. 91, paragraph 7 of which enacts as follow:—

> Any fireplace or furnace which does not as far as practicable consume the smoke arising from the combustible used therein, and which is used for working engines by steam, or in any mill, factory, dye-house, brewery, bakehouse, or gaswork, or in any manufacturing or trade process whatsoever; and any chimney (not being the chimney of a private dwelling-house) sending forth black smoke in such quantity as to be a nuisance, shall be deemed to be nuisances liable to be dealt with summarily in manner provided by this Act: Provided, secondly, that where a person is summoned before any court in respect of a nuisance arising from a fireplace or furnace which does not consume the smoke arising from the combustible used in such fireplace or furnace, the court shall hold that no nuisance is created within the meaning of this Act, and dismiss the complaint, if it is satisfied that such fireplace or furnace is constructed in such manner as to consume as far as practicable, having regard to the nature of the manufacture or trade, all smoke arising therefrom, and that such fireplace or furnace has been carefully attended to by the person having the charge thereof.

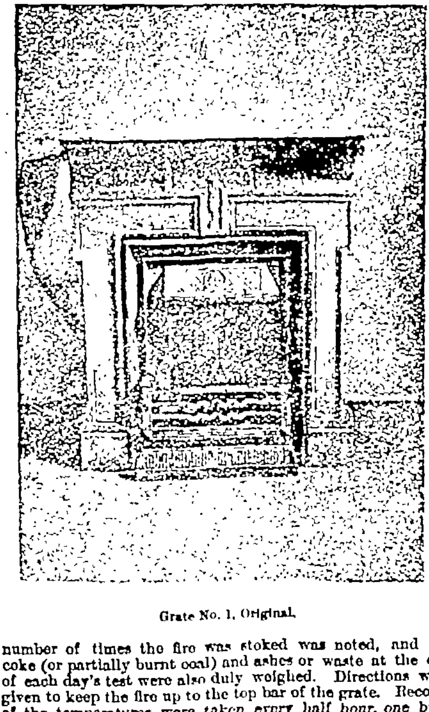
This Act of Parliament still holds good for the country but for London another Public Health Act was passed which contained almost the same clauses as that of 1875 but transferred the power to act thereunder from the police to the local authorities. For various reasons this Act was allowed to fall into abeyance, and when the committee of the Coal Smoke Abatement Society first commenced operations its lines of procedure naturally lay in two directions—viz., first, to impress upon the local authorities the importance of enforcing their powers under the Act of Parliament; and secondly, to study the question of the pollution of the atmosphere by smoke from domestic fires. The first line has been continuously followed up with great success and it is pleasing to note that many of the authorities are now exercising their powers in a satisfactory manner. The society hopes that in another year or two their work in that direction will perhaps come to an end. But the second project is even more important though little progress has up to the present been made with it. There are various causes for this. In the first place, many persons have asserted that if the smoke emitted from factory chimneys were stopped the amount from private chimneys would not be sufficient to cause much harm in London and other large cities and towns. In the second place, the society had to contend against the apathy born of the custom of centuries and the inherent conservatism of the English people who, despite their dislike to "dirt," seemed quite prepared to put up with it if the price of cleanliness were the abolition of their coal fires. Another difficulty was experienced in refuting the false idea that the smoke in the atmosphere was one of the causes of the general healthiness of London. This sophistry has probably arisen from the analogy of the carbon filter—i.e., if carbon purifies water, why should it not purify air?

But opinion is changing steadily; more people are becoming interested in the question of smoke abatement and it is very likely that in the next few years we shall see not London only but all large towns demanding that something shall be done to diminish smoke. The society has been consulted many times as to the best method of abolishing smoke not only by the users of domestic grates but also by manufacturers using steam boilers and furnaces. Up to the present it has refused to give any counsel on this question, as it was not in a position to advise upon the many devices now employed with success in factories. It had no expert experience or knowledge as to boiler furnaces and it therefore refrained from pretending to be wise. Moreover, there existed expert engineers on this subject and the society considered that they were the persons to be consulted thereon. But on the subject of domestic grates there were no experts and although there exists an abundance of specifications and drawings of improved grates and appliances connected therewith no large manufacturer of grates has thought it worth his while to study the question of a smokeless grate, the manufacturers' idea appearing to be that there is "no money in it"—i.e., no demand on the part of the public for a type of grate which diminishes the emission of smoke. The society therefore stepped into the breach and authorised a subcommittee to institute a series of tests on a few domestic grates. Before describing these it is well to premise that the Coal Smoke Abatement Society is fully aware that the object it principally aims at—viz., smokelessness—can be attained by the use of smokeless fuels, such as anthracite coal, coke, gas, or oil. Any one who is interested in the question can coöperate by using at least one of those fuels and he may rest satisfied that he is contributing his part to remove one of the greatest evils from which London and all coal-burning cities suffer. Fortunately, too, each of these fuels in its different degree is within reach of everybody; but, as it appears that the great majority of householders are at present unwilling to accept anything but open grates burning smoky coal, the society has confined its tests to grates claiming more or less to be smokeless under such conditions.

In order to secure the most comprehensive results the society inserted in two London newspapers—viz., the *Daily Telegraph* and the *Daily Mail*—advertisements calling the attention of manufacturers to the tests which they proposed to make. To these advertisements a large number of replies were received, describing various grates the majority of which, however, did not fall within the specified limits—viz., an open grate burning smoky coal. A certain number therefore had to be selected, the specifications of which showed them to be such as the society was seeking, and the manufacturers of these selected grates were invited to send samples to be tested. Six only responded to the invitation and were willing to have the tests made by the society and to have the results published. In the meanwhile Lord Esher, C.B., Secretary to the Commissioners of His Majesty's Office of Works and Public Buildings, had expressed a strong interest in what the society was undertaking, and finally he offered to place at its disposal a room in which the tests could be properly instituted and the services of two skilled employés to conduct them. The assistance of the Government at such a moment was, of course, invaluable, as it ensured the tests being conducted in such a manner that each grate could be judged absolutely upon its merits. It was especially unfortunate in view of the exceptional opportunities afforded by the Government that more manufacturers did not compete. Since so few came forward with suitable grates the results cannot be regarded as comprehensive. It cannot be for a moment asserted that the best open grate in the market has been discovered. All that can be claimed is that certain preliminary results of the highest importance have been obtained and that it has been shown to be capable of proof that there is a great difference in effectiveness and economy between the various types of so-called smokeless grates and that it is possible to produce them so as to reduce smoke pollution from domestic chimneys to a great extent while still using ordinary coal and an open grate.

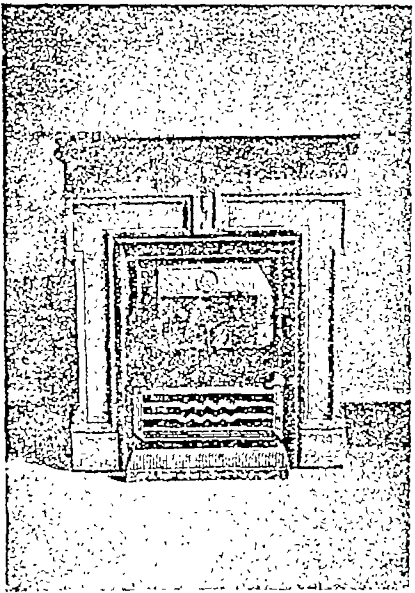
The following is a general description of the circumstances in which the tests were made. A sitting-room on a ground floor in central London was selected, 21 feet 6 inches by 14 feet 6 inches by 10 feet 6 inches. Its two glass windows were always kept shut, but a small glass ventilator in one window was continually open, as was also a door leading to a narrow hall. The street door was whenever possible kept shut. The chimney measured 69 feet from hearth to pot, with a nine-inch pot on a flue 14 inches by nine inches. No high buildings were situated near. The tests were made in the months of June, July, and August, 1901. The meteorological observations for the days of the tests were noted and are added in an appendix. Each grate was placed in position by the maker's fixer with the intention of testing it for three days of eight hours each. The manufacturer's directions were given either verbally or in print to the man whose duty it was to attend to and to stoke the fire and to note the temperature of the room. The following orders of the sub-committee were observed. The amount of wood used in lighting and the amount of coal put on each time throughout the day were ascertained by weight, the number of times the fire was stoked was noted, and the coke (or partially burnt coal) and ashes or waste at the end of each day's test were also duly weighed. Directions were given to keep the fire up to the top bar of the grate. Records of the temperatures were taken every half hour, one by a thermometer six feet from the fire and two feet above the floor level in order to give approximately the radiant heat; another at the far end of the room away from the window and the door, and five feet off the ground; and a third in the hall outside the room. The amount of smoke emitted was recorded by means of a smoke intensity scale or "smoke-shade," as indicating the proportion of unburnt carbon, on a time smoke chart (Bryan Donkin). It was estimated by a skilled man sitting in a window on the third floor of the opposite house at an angle of about 30° from the top chimney and about 35 feet away. He was watching during the whole working day continuously without going away for meals. Every precaution was taken to avoid error and each grate was tested in exactly the same way. The coal was ordinary household bituminous smoky coal of rather poor soft quality and was all taken from one truck, the name of the colliery being unknown.

FIG. 1.



Grate No. 1, Original.

FIG. 2.



Grate No. 1a, Original with regulator. (We have omitted the plotted diagram of degrees of intensity of smoke on a time basis (see p. 1345) with reference to this grate.—ED. L.)

The following are the possible sources of error—the summer weather, the variation in outside conditions of atmosphere (although, as will be seen upon reference to the meteorological reports, the weather differed little throughout), and, finally, the fact that orders were given to keep a bright fire up to the level of the top bar, whereas in an ordinary room the fire is often allowed to become extinguished or to fall low, when it has to be relighted or carefully stoked. With all of the grates the densest smoke was noticed immediately after stoking. It would have been better to have made tests during winter.

Six grates were tested, each for three days, in addition to the one which had been in use in the room previously, which being rather old-fashioned was taken as a standard and noted as No. 1.

Grate No. 1.—The following is a description of this grate. Fire-brick back with iron sides, three horizontal bars in front. The bottom of the grid was formed of horizontal iron bars with alternate air spaces, and was about four inches above the hearth level. (*Vide* Fig. 1 and Chart 1.)

The daily consumption of coal was 28,[1] 30½, and 32 pounds.

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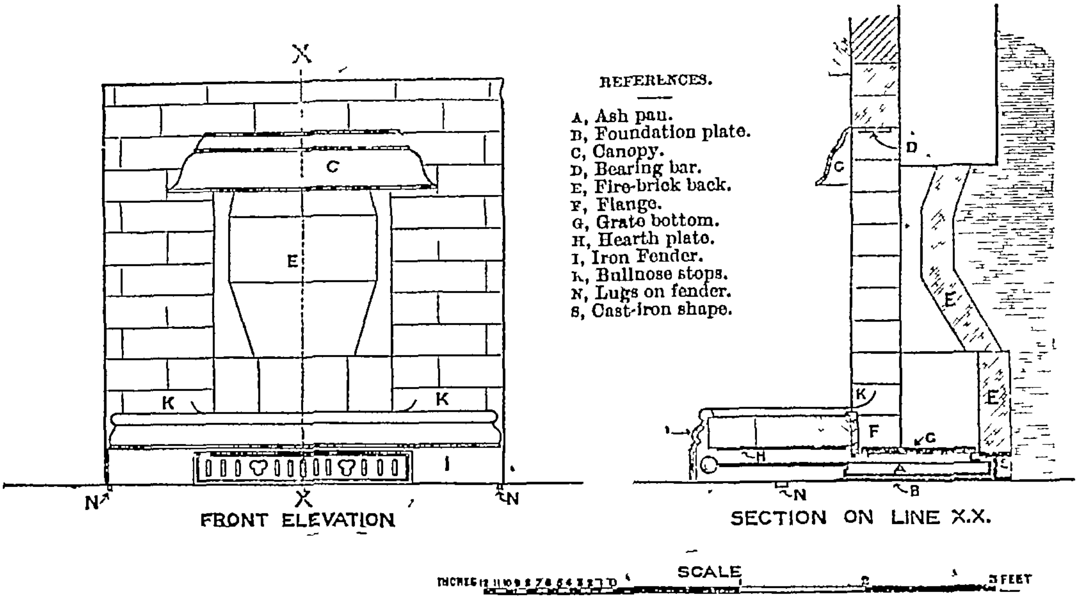
[1] The 28 pounds represent the coal consumed between the hours of 10 A.M. and 5 P.M.; the other two amounts that consumed between the hours of 9 A.M. and 5 P.M.

FIG. 3.



Details of construction of Teale's patent front hob fire-place.

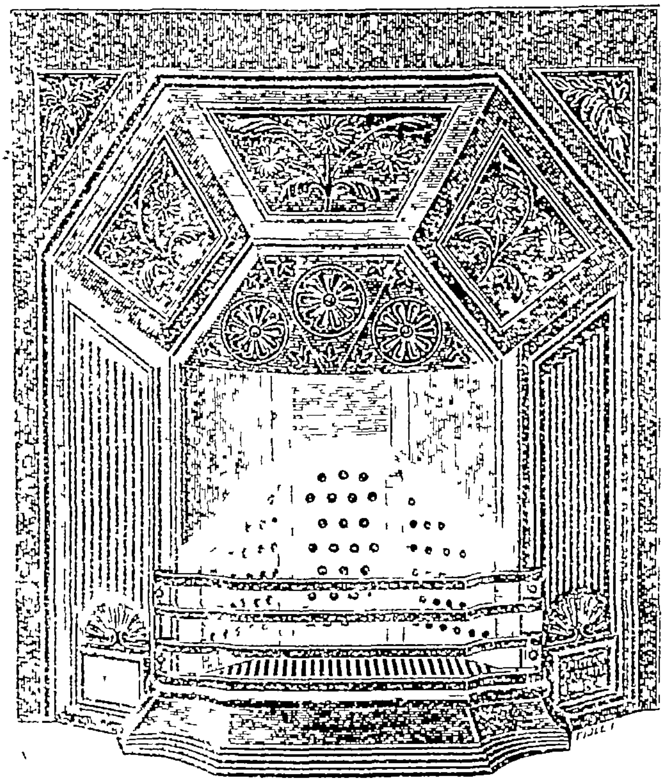
respectively; the amount of incompletely burnt coal left, three pounds, one and a half pounds, and three pounds; and the amount of ashes three and a half, one and a half, and three and a half pounds. The average daily differences in temperature between the outside thermometer and the radiant heat thermometer were 18·6°, 24·0°, and 26·24° F. The average time taken in raising the temperature from the morning scale to its average height was two hours, one and a half hours, and one hour respectively. The average number of times it was stoked (per day) for the three days was nine or ten times.

Grate No. 1a.—This was No. 1 grate with Lee's regulator added. This regulator is described as "a blower fitted with a damper. ...... It controls the supply of air to the grates and provides the proper velocity up the chimney." "The blower is joined to the regulator or damper at its lower edge by a hinge and is worked by means of a quadrant rachet." (Fig. 2.) The result of adding the regulator was as follows. The daily consumption of coal was 44, 33½, and 29 pounds respectively; the amount of incompletely burnt coal was two pounds per day; and the amount of ashes two pounds per day. It was stoked between 10 and 11 times each day. The average differences in range of temperature were 29·29°, 22·06°, and 20·29° F.; the time taken to raise the temperature of the room to its mean temperature was one and a half hours, one hour, and one hour respectively. [N.B.—This is the only appliance of which the testing exhibited somewhat contradictory results on each of the three days, and it is possible that some source of error was introduced which escaped notice. It gave the greatest heat with the greatest consumption of coal on the first day. This cannot be accounted for by the only known source of error—namely, that the chimney was not swept before its use. It was swept after and there was not much soot found.] The chimney smoked badly throughout independently of the amount of coal burnt.

Grate No. 2.—Teale's Patent "Front Hob" Fireplace (*Vide* Fig. 3 and Chart 2.) This grate is constructed almost entirely of firebrick with a hot-air chamber below the fire which burns in a hollow or well. It is manufactured by the Teale Fireplace Company and is described by them as being of their standard pattern and the smallest size they make—viz., 13 inches. The bricks are salt-glaze. It has a canopy, a firebrick back and sides, and a cast-iron bottom or grid. It burnt 28, 28, and 23 pounds of coal on the respective days and left two, two and a half, and two pounds of partially consumed coal, and two, two, and one and a half pounds of ashes. Its heat production for the three days was 20·17°, 20·88°, and 18·47° F. respectively. One hour each day was occupied in producing this average heat and the grate was stoked between five and six times each day.

Grate No. 3.—Helyear's Patent "Tropic" Grate. This grate has no register and is entirely closed on the top. It possesses a canopy, a cast-iron back, and hexagonal projecting cast-iron sides consisting of flues down which the heated gases pass on their way to the chimney. The lower portions of the back and sides are covered by a lining of cast-iron perforated plates or cheeks. The front consists of three horizontal iron bars and the bottom or grid of horizontal iron bars. (*Vide* Fig. 4 and Chart 3.) It burnt 23, 23, and 22 pounds of coal in the three days respectively, left one pound of

FIG. 4.



Grate No. 3. Helyear's patent "Tropic" grate.

the usual fittings used for this purpose and their installation would undoubtedly provide a most sanitary method of storing water and of using it both for drinking and flushing purposes. The disadvantages to the system are its cost and the great weight of the storage cistern. Everything would require to be made particularly strong to withstand the pressure of the main supply which, as we have said, in many instances is great. It is only fair to add that the fittings are beautifully made and are of first-rate material. We have inspected an installation which we found to be working most satisfactorily.

AN IMPROVED CISTERN.

IT is desirable that the cistern containing the water-supply for domestic use should be as free as possible from projections on which dirt and decomposing matter can easily accumulate. As a rule, the average cistern presents rivets and other projections which are favourable to the deposit of dirt in the storage tank. In order to remove this real objection Mr. T. B. Leech (of the Blackwall Galvanised Iron Co., Limited) has designed a steel-welted cistern with a uniform surface and with no projecting rivets. Moreover, the corners at the bottom of the cistern are filled in with triangular sheets of metal slanting downwards. The whole surface is carefully galvanised. The cistern may be commended since its object is to maintain the cleanliness of the domestic water-supply.

ASYLUM-SHYNESS.

(FROM A CORRESPONDENT.)

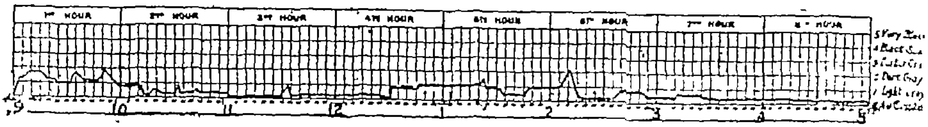
IT is now so well established that insanity may result from disease of any organ of the body and that it is not necessarily dependent on primary affection of the brain and nervous system that there is difficulty in understanding the rooted objection in the upper classes to placing people in private asylums or hospitals, where at any rate there is some amount of official supervision, whilst they do not hesitate to put them in "homes" which are in no way supervised and which may or may not be carried on in the most unexceptionable manner. To account for this the general notion of hereditary taint has much to answer for. It seems to be thought that because a person has been placed in an institution for the insane the offspring of necessity is tainted with an opprobrious history which handicaps them in the race of life. That such a dread of the very name of an asylum does exist cannot be denied, but it is a most unreasonable idea to hold, and the result is that another form of imprisonment is substituted for the comparative freedom of the hospital for the insane. If it were generally accepted, as it ought to be, that insanity due to the direct hereditary transmission of primary disease of the nervous system is by no means common and that the "asylum" is merely a place where the nervous symptoms due to general disease are treated there should be no more objection to acknowledging that a friend or relative has been treated in such a hospital than there is in saying that he has been ill in bed from jaundice or pneumonia. It cannot be denied that insanity is in some instances distinctly hereditary—and if so, what is the use of trying to burke the fact and so to establish an entirely false relationship of the individual to the community? —but very often the fact of having had an insane progenitor is not of the least consequence *quâ* the sanity of the offspring, and it is only ignorance that makes people speak in bated breath of the fact of somebody's wife or husband having been placed under certificates. That an individual has never been in an asylum does not prove his sanity—it merely shows that he has not been certified to be insane and it leaves the task of finding out a neurosis to those whose concern it may be. Do those who for matrimonial, business, or other purposes inquire if a person has at one time been in an asylum ask if he or she has ever been placed in a "home," and do they recognise that these "homes" are often asylums without the name, but with possibly harsh and at times cruel conditions? There are numbers of places where people suffering from nervous and early insane states are confined, without external supervision, under restrictions of enforced stay in bed, of complete isolation from their friends and from the external world, where they can neither see the newspapers nor communicate with their relatives—where they are, in fact, confined as in asylums without the security of the latter, and where they are subjected to systems of treatment which they have not the power to resist. Such isolated treatment is not necessarily wrong—it may be quite beneficial to a person to be kept in bed, stuffed with milk, and made to "gain weight" like a Strasburg goose—but it represents also a possible source of restraint to which people may be subjected, and there seems to be no law of registration or any guarantee that persons so detained can leave these places when they choose, or that they may not be placed in them by interested persons without any certificate or warrant. This system of to-day has arisen chiefly from the dislike of people to have it known that their relatives have ever been in an asylum, whereas if it were made clear that insanity in the parents does not of necessity connote insanity in the offspring, and that very often insanity on one side or the other is an accidental symptom of no meaning at all as regards hereditary transmission—if this true view were better known there would be less hesitation in responsible persons to allow the treatment of their friends or relatives in properly inspected institutions. Although there is no reason to think that patients are unduly detained in private asylums, it would be much more satisfactory to the public if the owners of these institutions, who are generally the people responsible for the medical treatment of their patients, were to annex to their staff some independent medical man. The medical owners of private asylums are invariably courteous and they give the most free access to the visits of any medical man deputed by the friends to visit an inmate, but the public should understand that there is no stigma in having their relatives in an asylum or hospital for the insane; and this better appreciation might be aided by the appointment of some general and well-established medical man in the neighbourhood who would form a link between the disease of the general hospital and that of the special one. It seems hopeless to expect that in the lower classes the stigma of having been treated in an asylum will ever be eradicated, because employers of labour are very suspicious of having in their midst anyone who is known to have been at any time placed in such conditions, and thus it comes about that the stigma of insanity means starvation; but the better classes are, or should be, too well informed to be ignorant of the fact that hereditary taint is very wrongly interpreted in the majority of cases, and that any attempt to elude the laws drawn up for the protection of persons in public or private retreats is sure to result in a form of seclusion which may be all the worse because it is secretly enforced.

NOTIFICATION OF PHTHISIS AND CHICKEN-POX.—The Cardiff Health Committee has decided to ask medical practitioners to notify cases of phthisis voluntarily at the same fee as for diseases notifiable under the Infectious Diseases Notification Act.—The Gloucester City Council on March 26th decided to include for one year chicken-pox in the list of diseases to be notified under the Act.

THE LABORATORY OF THE SCOTTISH ASYLUMS.—In his report on the work of this laboratory for the year 1901 Dr. W. Ford Robertson, the pathologist, states that investigations on the following subjects have been in progress during the period in question:—(1) On the Intercranial Lymphatic System, by Dr. A. C. Heath; (2) the Vascular System in Paralytic Dementia, by Dr. A. C. Ainslie and Dr. A. Aitken Ross; (3) Pathological Anatomy of Mongolian Idiocy, by Dr. David Waterston and Dr. Edwin Matthew; (4) Comparative Neuropathology (Tabes Dorsalis in Man and Nervous Disease in Horses), by Dr. D. Chalmers Watson, Dr. Isabella D. Cameron, and Dr. Isabel Watson; and (5) Pathogenesis of Paralytic Dementia, by Dr. Robertson and Dr. Lewis C. Bruce. Arrangements are being made by which bacteriological observations may be carried out upon cases of insanity by workers connected with the laboratory; Dr. Robertson considers that in this direction important results are to be hoped for. The laboratory, which is at 7, Hill-square, Edinburgh, is supported by the voluntary combination for that purpose of 18 of the Scottish asylums. The receipts for the year ended Dec. 31st, 1901, amounted to £726 and the expenditure to £721. Sir John Batty Tuke is chairman of the board of management and Dr. T. S. Clouston is the secretary and treasurer.

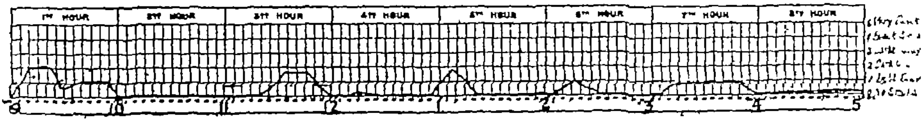
PLOTTED DIAGRAMS OR CHARTS OF DEGREES OF INTENSITY OF SMOKE ON A TIME BASIS. THE FIGURES BELOW SHOW THE TIME IN HOURS AND MINUTES ACCORDING TO THE SYSTEM OF THE LATE BRYAN DONKIN.

CHART 1.



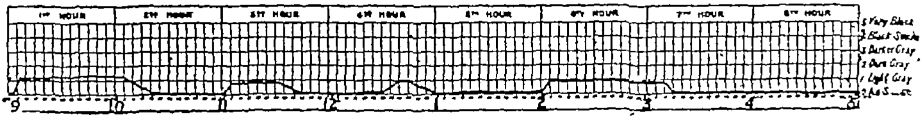
No. 1 Grate; ordinary dwelling house grate; June 28th 1901

CHART 2.



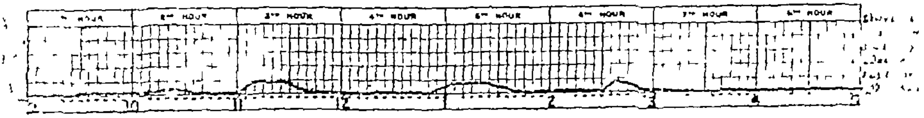
The Teale "Front Hob" Fireplace; July 11th, 1901.

CHART 3



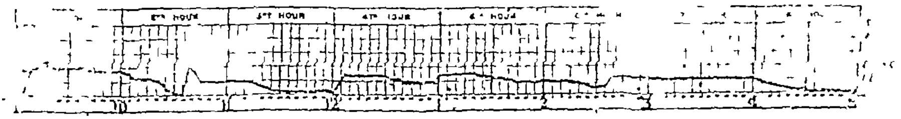
The Holyear "Tropic" Grate; ordinary dwelling-house grate; July 18th, 1901.

CHART 4.



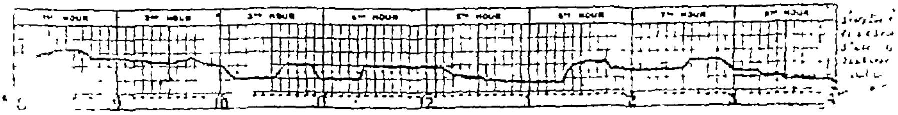
The Florence Grate; ordinary dwelling house grate; July 25th, 1901

CHART 5.



The Well Fire Grate; ordinary dwelling-house grate; August 1st 1901

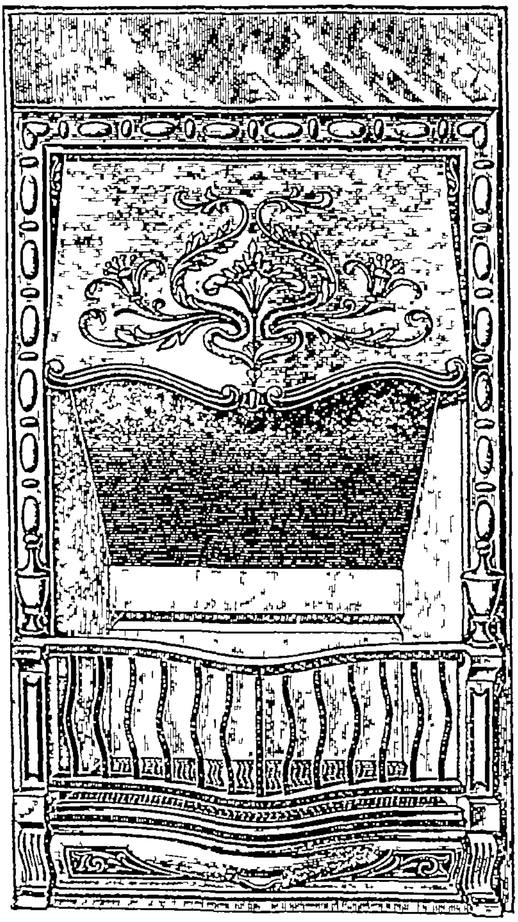
CHART 6.



The Smith and Wellstood [illegible] August [illegible] coke each day, and one pound of ashes on the first day and three-quarters of a pound on each of the next two days. It was, therefore, well constructed for the proper combustion of coal, but the amount of its radiant heat[2] was small—viz., 17·88°, 15·82°, and 16·71° F., one and a half hours being occupied each day to produce it. It only required stoking four times daily.

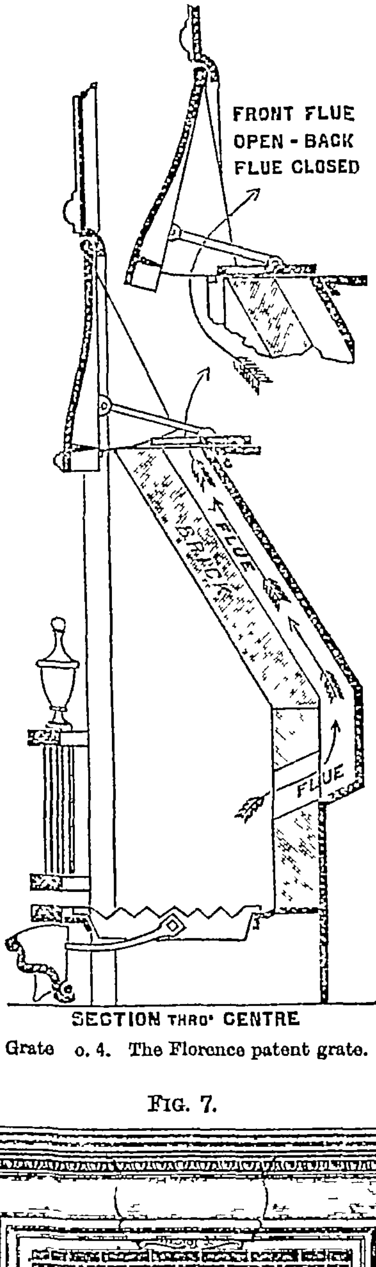
Grate No. 4.—The Florence Grate. (*Vide* Figs. 5 and 6 and Chart 4.) This grate is made by the London Warming and Ventilating Company, Limited, and is described as fitted with improved "Jackson" back, Florence's patent automatic shaking fire-bars, and combination canopy regulator. Its size is 21 by 28 inches. The back and sides are of fire-brick. It has a fire-chamber of 18 inches and a front of vertical iron bars. In each jamb at the hearth level there is a fresh-air inlet and there is a heated air outlet over the centre of the fireplace, six feet above the floor level. The "Jackson" back and combination canopy regulator consists of a sliding door capable of easy manipulation from the front which in its two positions allows of careful regulation or adjustment of the two slotted openings, the one at the back of the fire-grate and the other at the top (*vide* section showing side elevation, Fig. 6). The smoke is drawn through the fire to a point where the heat is practically incandescent and is consumed to a very appreciable extent. The automatic shaking bars consist of a number of separate bars, preferably serrated or vandyked on their sides and upper surfaces. These are mounted loosely on a square shaft, so that the bars can rock to a limited extent on the shaft or can be rocked by operating the shaft by a handle. The bars are made abnormally deep in the body to heat the ascending air-currents As the weight of the coal varies on the different bars the bars will rock and clear the fire of ashes and dust, so allowing a continuous current of air at a high temperature to pass through the fuel which causes it to burn brightly, even in small quantities. This grate consumed for the three days respectively 20, 19, and 18 pounds of coal and left one and a half, one and a quarter, and one and a quarter pounds of coke and only three-quarters of a pound of ashes each day. The tests on the first two days lasting only for

FIG. 5.



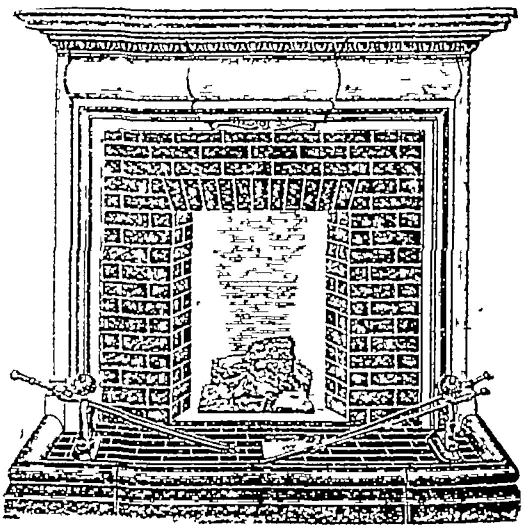
Grate No 4. The Florence patent grate.

FIG. 6.



Grate o. 4. The Florence patent grate.

FIG. 7.



Grate No. 5. The Well Fire. (Bowes' patent.)

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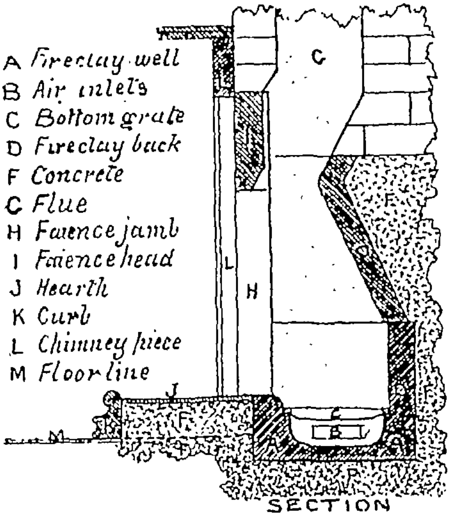
[2] The average radiant heat stated in the text is the daily average difference between the readings of the thermometer in the hall and those of the thermometer in front of the fire.

seven hours each, 2¼ pounds and 2¼ pounds respectively of coal must be added for those days, making the figures 22¼ pounds and 21¼ pounds. The average radiant heat was 24·80°, 25·27°, and 24·47° F. One and a half hours, one hour, and one and a half hours were required respectively to raise the temperature to this average and the grate needed stoking four times daily.

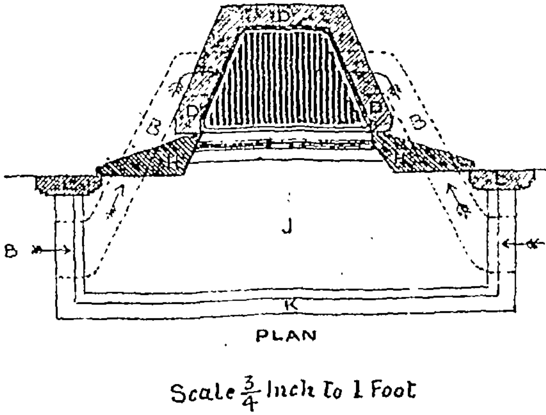
Grate No. 5.—The Well Fire (Bowes' patent) consists of a fire-basket which is composed of fireclay and a metal grating supporting the fire, under which is a fireclay well. (*Vide* Figs. 7, 8, 9, and Chart 5.) This fire burnt in the three days 28, 30, and 26 pounds of coal respectively and yielded two, two and a half, and one and a quarter pounds of coke and one and a half pounds of ashes on each of the first two days and one pound on the third day. Its average radiant heat produced each day in one hour was 20·24°, 20·65°, and 20·76° F. It was stoked five times a day.

FIG. 8.



Grate No. 5. The Well Fire. (Bowes' patent.)

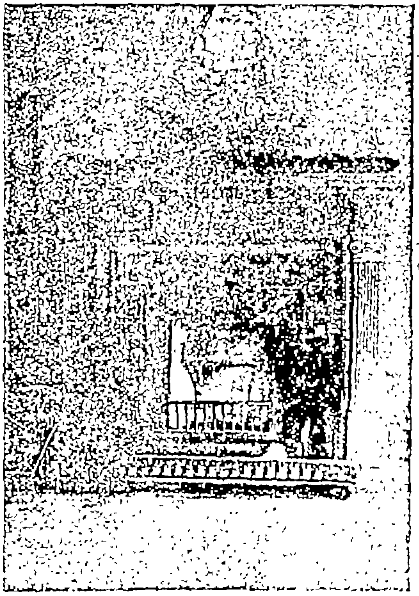
FIG. 9.



Grate No. 5. The Well Fire. (Bowes' patent.)

Grate No. 6.—This is Messrs. Smith and Wellstood's grate, of which the following is a description. The front was of cast iron and the back and sides were of firebrick. *There were ten vertical iron bars in front. The bottom of* the grate consisted of a solid iron plate portion at each end inclosing a rectangular grid of iron fire-bars with intervening air spaces. The bottom of the grate was four inches from the hearth level. The size was 38 inches by 38 inches. The fire-chamber was 18 inches in width. (*Vide* Fig. 10 and Chart 6.) This grate used in eight hours for each day respectively 27, 28, and 28 pounds of coal; it left one and a half pounds of partially consumed coal daily and one pound, one and a quarter pounds, and one and a quarter pounds of ashes, showing a good combustion. The average radiant heat was almost the same on each day, 20·37°, 20·94°, and 18·65° F. It took one and a half hours, one hour, and one hour to obtain this increase, and the grate was stoked between five and six times each day. It gave out a good heat but, as will be seen by the smoke chart, smoked badly.

FIG. 10.



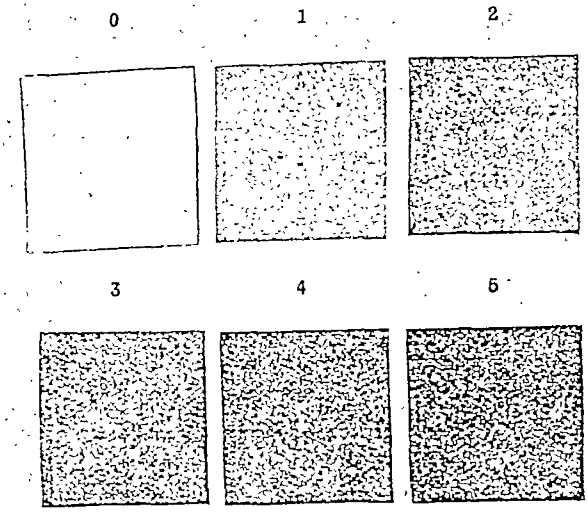
Grate No. 6 (Smith and Wellstood's).

Having now described in full the different grates and their consumption of coal and heat production a more detailed account must be given of their emission of smoke.

The following is the method adopted for calculating the comparative amount of smoke at the top of the chimney emitted by the different grates, all burning coal of the same quality and heating the same room.

If a Bryan Donkin smoke-chart be examined (*vide* Charts 1 to 6) it will be found to be divided by vertical lines into eight large sections, each of the latter being subdivided by more vertical lines into 12 smaller sections. Each of the eight sections is then divided by horizontal lines into five sections. The five sections represent the smoke-shade (*vide*

FIG. 11.



Diagrams of smoke-scale 0 to 5 (see also charts). 0, no smoke; 1, light gray; 2, darker gray; 3, very dark gray; 4, black; 5, very black.

Fig. 11), ranging from 0 (no smoke) to five (very black). The eight sections represent hours and each of the 12 subdivisions represents five minutes. From this scale or chart an average has been struck of the smoke-shade for the three days of the smoke evolved by each grate. The smoke figures thus obtained were as follows: for the ordinary grate (Grate No. 1), $\frac{8}{10}$; for the same with Lee's regulator (Grate No. 1*a*), $1\frac{1}{10}$; for the Teale (Grate No. 2), $\frac{4}{10}$; for the Tropic (Grate No. 3), $\frac{6}{10}$; for the Florence (Grate No. 4), $\frac{1}{4}$; for the Well Fire (Grate No. 5), $1\frac{1}{10}$; and for the Smith and Wellstood (Grate No. 6), $1\frac{6}{10}$.

It will thus be seen that the figures vary greatly and that whereas one grate emits an average of $1\frac{6}{10}$ for three days, out of a possible smoke shade of 5 for three days, there were degrees in gradation from this figure down to $\frac{1}{4}$ out of a possible 5, showing that, at any rate under some circumstances, the amount of smoke can be diminished largely by the use of various appliances.

Tables I., II., III., and IV. are a condensed record of the tests, tabulated so that one result can be compared with another.

The experimenters beg to express their acknowledgement of the great assistance received from Mr. R. Bailey, Controller of Stores at His Majesty's Office of Works and Public Buildings, without whose kind help the successful carrying out of these experiments would have been impossible.

The labours of the several societies and committees devoted

TABLE I.—SUMMARY OF TESTS ON SIX DOMESTIC OPEN FIRE GRATES, WITH THE QUANTITY OF COAL BURNT, THE TEMPERATURE OF THE ROOM, AND THE SMOKE OBSERVATIONS MADE, DURING THE SUMMER OF 1901, ALL USED (ONE AFTER THE OTHER) FOR HEATING THE SAME ROOM AND BURNING THE SAME SMOKY COAL. MEAN RESULTS OF THREE DAYS' TESTS ON EACH GRATE FOR EIGHT HOURS EACH DAY.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
				Mean temperatures of the air in degrees Fahrenheit.				
Name and number of grate.	Amount of dry coal burnt (plus half the weight of wood for lighting) in eight hours in pounds.	Amount of unburnt residue left in the grate at the end of the day in pounds.	Number of stokings per day of eight hours.	In the hall.	At the end of the room.	In front of the fire.	The mean of columns 6 and 7 less column 5; or rise of temperature.	Degree of smoke by smoke scale or average intensity by observation. Mean three days.
Florence—No. 4	19·00 Coal. + 0·75 Wood. 19·75 Total.	2·0 = 10·1 %	4·0	67·8	77·1 Mean 84·8	92·6	17·0	$\frac{1}{4}$
"Tropic" Helyear—No. 3	22·60 Coal. + 0·75 Wood. 23·35 Total.	1·7 = 7·2 %	4·0	74·8	78·4 Mean 85·0	91·6	10·2	$\frac{6}{10}$
Teale—No. 2	26·30 Coal. + 0·75 Wood. 27·05 Total.	4·0 = 14·8 %	5·7	72·2	76·2 Mean 84·1	92·0	11·9	$\frac{4}{10}$
No. 1, old; name unknown; no blower	30·10 Coal. + 0·75 Wood. 30·85 Total.	5·0 = 16·2 %	9·3	66·1	Not taken.		—	$\frac{8}{10}$
Well Fire—No. 5	28·0 Coal. + 1·0 Wood. 29·0 Total.	3·3 = 11·4 %	5·0	71·0	76·0 Mean 83·8	91·6	12·8	$1\frac{1}{10}$
No. 1A (old), with blower; same grate as No. 1	35·50 Coal. + 0·75 Wood. 36·25 Total.	4·0 = 11·0 %	10·6	70·8	75·6 Mean 85·1	94·7	14·3	$1\frac{1}{10}$
Smith and Wellstood—No. 6.	27·60 Coal. + 0·75 Wood. 28·35 Total.	2·7 = 9·5 %	5·6	72·3	76·9 Mean 84·6	92·3	12·3	$1\frac{6}{10}$

The temperatures of the room, &c., were taken every half hour. These tests are placed approximatively in order of merit. See also Plotted results. The experiments were carried out by Dr. H. A. Des Vœux and the late Mr. Bryan Donkin, M.I.C.E., M.I.M.E., &c., with two assistants (Messrs. R. Hawkins and J. W. Smith).

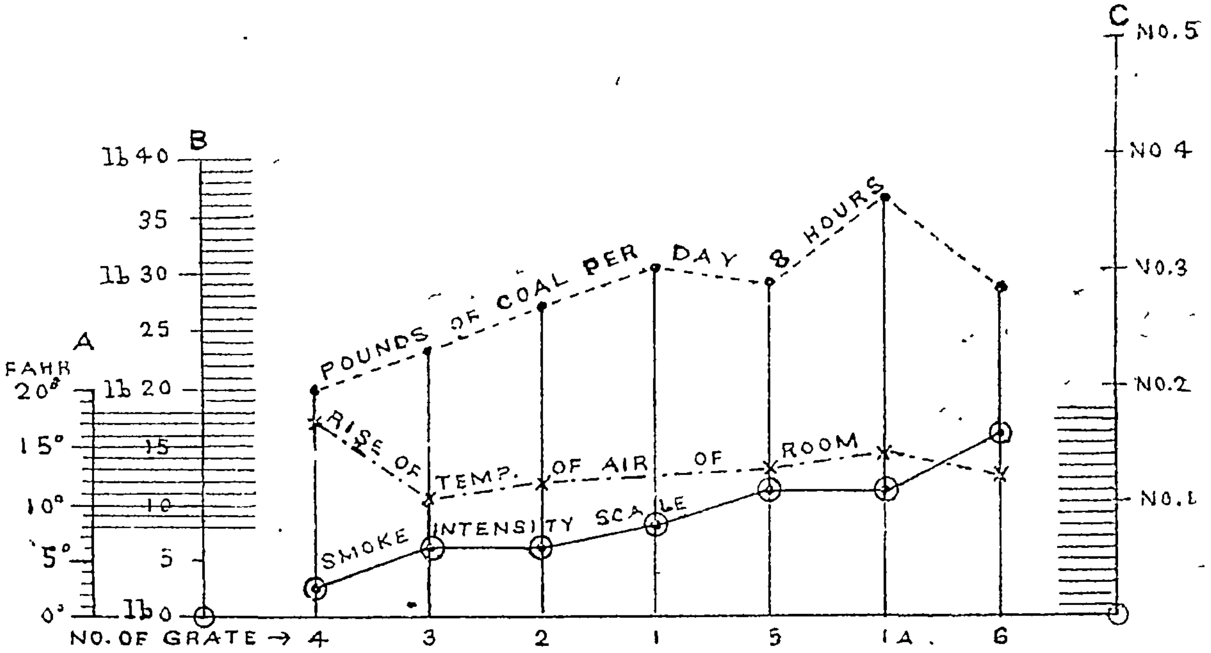
TABLE II.—TESTS ON SIX DOMESTIC OPEN GRATES IN LONDON. DETAILS OF SMOKE OBSERVATIONS. SEE SMOKE SCALES 0 TO 5. OBSERVATIONS EVERY FIVE MINUTES DURING EIGHT HOURS = 96 PER DAY. 23 DAYS' TESTS, SEVEN TO EIGHT HOURS, BURNING THE SAME COAL AND HEATING THE SAME ROOM. MAXIMUM SMOKE AT LIGHTING UP AND AFTER EACH STOKING. WARM SUMMER WEATHER, JUNE, JULY, AND AUGUST, 1901.

Number of grate.	*Name of maker, &c.*	Date of test and number of hours		Number of smoke chart.	Smoke results, Nos. 0 to 5 smoke scale.					
		Date.	Hours.		Mean for the whole day.	Lighting up only.	Maximum during the whole day.	Minimum during the day.	Other notes on smoke.	Mean for the three days of each grate (Column 6).
		1901.								
No 1 (without blower.)	Existing grate in room, name *unknown.*	June 27th.	7	1	1 (barely).	2 for 15 minutes.	2	¼ for 30 to 40 minutes.	Never 0.	$\frac{9}{10}$
	,,	,, 28th.	8	2	$\frac{9}{10}$	1½ for about half an hour.	2 for 2 minutes.	¼ for some hours.	,,	
	,,	July 1st.	8	3	$\frac{9}{10}$ (barely).	2 to 2½ for one hour.	2½ for a few minutes.	*0 to ¼.*	*Zero at end of the day only*	
No. 1A (with blower).	,,	,, 3rd.	8	4	1 (fully) (1·1).	1½ to 2½ for one hour.	2½ six times for a few minutes each.	¼ for one and a half hours.	Never zero.	$1\frac{1}{10}$
	,,	,, 4th	8	5	1¼	1½ to 3 for one hour.	2 and 3 seven times for a few *minutes each.*	¼ for one and a half hours.	,,	
	,,	,, 5th	8	6	1 *(fully)* (1·1).	2 to 3 *for half* an hour.	3; 1½ nine times for some minutes.	½ *(about) for* one hour.	,,	
No. 2	Teale "Front Hob."	,, 10th.	8	7	¾	1½ to 2½ for half an hour.	2½, two to four times for a few minutes.	0 to ½ for three hours (about).	Zero or no smoke for one hour.	$\frac{6}{10}$
	,,	,, 11th	8	8	½	1 to 2 for half an hour.	2, 1 to 1½ five times for one and a half hours	0 to ½ for four and a half hours (about).	Zero for two hours.	
	,,	,, 12th.	8	9	½ (fully)	2 to 2½ for three quarters of an hour.	2½	0 to ½ for five and a half hours.	Zero for three and a half hours.	
No. 3.	Halyear "Triple"	,, 17th.	8	10	$\frac{7}{10}$	1½ for three hours.	1	0 for one and a half hours.	Zero to ½ for four hours.	$\frac{6}{10}$ (barely).
	,,	,, 18th	8	11	½	1½ for one hour	1½	0 to ½ for four hours (about).	0 for two hours.	
	,,	,, 19th	8	12	½ (barely).	1½ for half an hour.	1½	0 to ½ for four hours.	0 for one hour	
No. 4.	Florence.	,, 23rd.	7	13	½ *(fully).*	*½ to ¾ for one* hour.	1	0 to ½ for three and a half hours	0 for two hours	½ (minimum of all grates).
	,,	,, 24th.	7	14	$\frac{4}{10}$ (barely).	,,	1½ for three minutes.	0 to ½ for five hours (about).	0 for three and a half hours	
	,,	,, 25th	8	15	½ (barely).	½ for one hour.	1 for 20 minutes	0	0 for five hours.	
No. 5.	Well Fire.	,, 31st.	8	17	1¼ (fully).	2 for half an hour.	2	½ for half an hour.	Never zero.	$1\frac{1}{10}$ (fully).
	,,	August 1st.	8	18	1 (barely).	2 and 2½ for half an hour.	2½	*Zero at end of the day for* half an hour.	*½ for one hour.*	
	,,	,, 2nd.	8	19	1 ,,	2½ for half an hour.	2½	*½ for one hour.*	0 for one hour.	
No. 6.	Smith and Wellstood.	,, 8th.	7½	21	1½ (barely).	2½ to 3 *for* three-quarters of an hour.	3; five times 2 to 3.	½ for three-*quarters of an* hour.	*Never quite zero.*	$1\frac{4}{10}$ fully (maximum of all grates).
	,,	,, 9th	8	22	$1\frac{4}{10}$	2½ to 3½ for one hour.	3½	1 for two hours.	,,	
	,,	,, 10th.	8	23	$1\frac{4}{10}$	2½ to 3½ for three-quarters of an hour.	3½	1 for one hour.	,,	

to this cause must not be overlooked or forgotten, among others those of the National Health Society and the Kyrle Society and other promoters of the various Smoke Abatement Exhibitions; also the work of authors and writers upon the subject.

Finally, an apology must be made to all those inventors whose grates have not been tested, but it is desired to inform them that later some more tests will be made when all who are interested in the subject and would like their grates tested will be asked to forward to the experimenters full particulars of such grates.

FIG. 12.



Plotted results of tests on six domestic open fire grates used successively to heat the same room.
A, temperature in degrees Fahrenheit; the middle line (Rise of Temperature, &c.) is plotted from this column. B, weight of coal consumed; the upper line (Pounds of Coal, &c.) is plotted from this column. C, smoke intensity scale; the lower line of the same name is plotted from this column. A, B, and C correspond respectively to columns 8, 2, and 9 of Table I.

TABLE III.—*Meteorological Readings (taken daily at 8.30 a.m. by Steward's Instruments).*

Date.		Barometer reduced to sea level and 32° F.	Direction of wind.	Rainfall.	Solar radia in vacuo.	Maximum temperature in the shade.	Minimum temperature.	Remarks at 8.30 A.M.
1901.								
June	27th.	30·29	E.	...	118	74	56	Fine.
,,	28th.	30·15	E.	...	120	75	55	Cloudy.
,,	29th.	30·11	E.N.E.	...	122	76	59	Fine.
July	1st.	29·70	S.W.	0·93	105	73	60	Overcast.
,,	3rd.	29·69	E.	0·15	125	75	58	Cloudy.
,,	4th.	30·02	E.	...	114	75	59	,,
,,	5th.	30 09	N.W.	...	125	87	62	Hazy.
,,	10th.	30 05	E.	...	122	85	58	,,
,,	11th.	30 09	E.N.E.	...	121	86	59	,,
,,	12th.	30·05	S.S.W.	...	113	85	60	Fine.
,,	17th.	30 26	S.	...	129	88	60	,,
,,	18th.	30·20	E.	...	124	86	68	Hazy.
,,	19th.	30 10	E.N.E.	...	122	90	63	,,
,,	23rd.	29 81	N.W.	...	89	67	58	Raining.
,,	24th.	29 56	S.	0 04	107	68	58	Overcast.
,,	25th.	29 52	S.E.	0·37	107	72	58	Cloudy.*
,,	26th.	29 60	N.	1·60	74	63	57	Overcast.
,,	31st.	30·22	N.	...	119	81	63	Hazy.
August	1st.	30 09	N.	...	116	73	61	Cloudy.
,,	2nd.	30·15	N.N.W.	...	121	78	62	,,
,,	3rd.	30·27	S.W.	...	116	75	59	,,
,,	8th.	30 02	W.	...	124	78	61	Bright.
,,	9th.	30·00	S.W.	...	122	86	61	,,
,,	10th.	29·60	S.E.	...	128	79	65	Cloudy.

* Thunderstorm in London lasted from noon until 4.30 P.M., during which period no less than 1·98 inches of rain were measured in the official gauge at Westminster.

TABLE IV.—*Showing Average Radiation and Rise of Temperature per Pound of Coal per Hour in Degrees Fahrenheit.*

No. of grate.	Average rise of temperature per pound of coal per hour in degrees Fahrenheit.	Average radiation per pound of coal per hour in degrees Fahrenheit.
1	—	5·82
1a	3·01	5·02
2	3·59	5·99
3	3 63	5·97
4	6·64	9·7
5	3·65	5 87
6	3 57	5 8

KING'S COLLEGE HOSPITAL FESTIVAL DINNER.—The annual festival dinner in aid of the funds of King's College Hospital was held at the Hôtel Métropole on April 28th, when Sir John A. Cockburn presided. In proposing the toast of the evening the Chairman said that the hospital ministered to the needs of a densely-populated area. Its income bore but a small proportion to the annual expenditure, being £2500 as against £20,000, so that £17,500 a year were needed to meet the deficiency. Additional space was necessary for several departments and for this purpose a sum of £75,000 was required. The amount of work done by the hospital was second to none of the most distinguished of the hospitals in the metropolis, and it should be remembered that it was from King's College Hospital that the results of Lord Lister's treatment which revolutionised surgery were given to the world. Subscriptions were announced during the course of the evening amounting to upwards of £1800.

THE METROPOLITAN WATER-SUPPLY.

VIII.[1]

THE KENT WATERWORKS COMPANY

AT the present time the Kent Waterworks Company supplies a larger area than any other of the metropolitan water companies. A Bill is now being promoted by the company "for the purpose of raising further monies to enable them to fulfil their statutory obligations relating to the supply of water to supply some places adjoining their district, to acquire additional lands, and for other purposes." This Bill, having been amended in some details, has passed the Parliamentary Committee and will be reported to the House of Commons for third reading[2] It is interesting to note that some of the local authorities opposed the Bill because they did not like the quality of the water The evidence on which this opinion was founded was not heard, which is, on the whole, a matter for regret In regard to the purity of the water and its freedom from organic contamination there can, as will be seen, be no doubt, and the objection taken to it was doubtless due to the fact that it is very hard—that it contains in solution a large quantity of lime salts. A conflict of expert evidence on this matter would at least have been interesting if not actually instructive Formerly part of the present statutory area of the Kent Company was actually supplied with water softened by Dr Clark's process, and there is on record some trustworthy evidence on this point which was investigated by chemists employed by the Government. To this matter reference will be made hereafter

In the year 1850 the Kent Water Company, as it was then called, obtained its supply from the river Ravensbourne at Deptford There were two reservoirs and two filter-beds at Deptford, whence the water was pumped to service reservoirs situated respectively in Greenwich Park, on Woolwich Common, and near the Marine barracks at Woolwich Between the years 1850 and 1855 one new filter-bed was made, some engine power was added, the length of the main was increased, and the supply given was either "constant" or "given daily," instead of being given only six days during each week. The same source of supply—the Ravensbourne—was at that time still used.

In the year 1852 a company was registered (Oct. 14th, under the Act 7 and 8 Vict., c. 110) to supply Plumstead and some adjoining places. The undertaking was called the Plumstead, Woolwich, and Charlton Consumers Pure Water Company The new works were "in competition with the Kent Water Company over a considerable portion of the district supplied."[3] The water supplied by the new company was obtained from a well and deep boring in the chalk which the report previously referred to states when first raised "has always an equal temperature of about 52° Fahrenheit, but the special advantage afforded to tenants of the company is that the water is softened by Dr Clark's process" When pumped the water had 21¼ degrees of hardness, 14¼ of which were derived from carbonate of lime held in solution by carbonic acid. The softening process precipitated 13 grains of carbonate of lime and left the water bright and clear and possessing only eight and a quarter degrees of hardness A description of Dr Clark's process need not here be quoted, but the advantages derived from the treatment may be briefly referred to. The Commissioners appointed to report on the matter remarked that the advantages obtained by the use of the process were three "health, comfort, and economy"

In regard to the question of health the Commissioners thought that there was no conclusive evidence as to the comparative wholesomeness of hard and soft water, and in speaking of the advantages of the softening process in regard to health they referred to the value which it was said to possess in removing in part the organic impurity which occurred in a state of solution in water To what extent this improvement occurred the Commissioners did not consider themselves able to express an opinion, but they were convinced that the process "effectually prevents the rapid vegetation which ensues on the escape of free carbonic acid from water derived from the chalk and allowed to rest." This point had, they said, been satisfactorily proved at the Woolwich works. In regard to the second point they reported that "the comfort of a soft water for personal ablution and bathing will be admitted by all as no mean consideration, in favour of the process." On the third point, that of economy, it was stated that this was effected chiefly in the saving of tea "and other articles of infusion," in soap and in soda, the saving of labour in washing and of the wear and tear of clothes, and finally in obviating the incrustation of engine boilers, kettles, and other vessels The Commissioners gave reasons for supposing that as to these points over estimates had been made, but that notwithstanding this "the great advantages of the softened water cannot be questioned and they are well worthy consideration in all places supplied with water in which the process is applicable." They further held that the softening process was advantageous chiefly to water derived from wells in the chalk and "to other waters in which the hardness is due to carbonate of lime but which have acquired no tinge of discolouring admixture."

The Plumstead Company did not prove a financial success and ultimately became bankrupt, when the plant and business were taken over by the Kent Company which then extended its area of supply to the eastward to the districts of Charlton, Woolwich, and Plumstead, in which places there was no more competition. From the middle of the last century onwards the area supplied by the company has been extending A list of the places included in the area of supply and the dates on which the extension of the business took place has already been given in THE LANCET and illustrated by a 'map showing the areas supplied by the Kent Company on different dates."

The articles on the Kent Waterworks Company[4] gave a full account of the situation of the wells, of the reservoirs, and of the means by which the water was distributed and the changes which have been made in the company's arrangements since have not been very great. There was, indeed, no necessity for great changes. The area of the Kent Company is richly supplied with water contained in the chalk. Unlike the dirty water of the Thames and of the Lea this water does not require to undergo the processes of sedimentation and of filtration All the Kent Company's water is derived from wells and all the company has done has been to sink the wells, to pump up the water, and to provide small reservoirs for its storage and pipes for its distribution. This work has been, on the whole, extremely well done Few suggestions for improvement in the works of the company could reasonably be made. The alterations which have recently been made have been designed simply to meet the requirements of a growing business. In these circumstances it is not necessary to print here a table similar to that given in the case of some of the other companies showing these recent changes. The tables previously published in this series of articles have been given to show certain flagrant delinquencies on the part of those directors of companies who have made insufficient provision for the purification of the water derived from impure sources which has been supplied to certain parts of London. In the case of the Kent Company it will be sufficient to give the general statistics published by the Water Examiner for the month of January, 1902. The amount of water pumped during the month gave a daily average of 17,284 093 gallons. No "details" are given as to how much was supplied from each of the wells belonging to the company This is a matter for regret. It is not strictly correct, moreover, for the Water Examiner to purport to give 'details of the metropolitan water-supply' and then to omit to give the amount supplied by each well in use during the month. The approximate percentage of water delivered for other than domestic purposes was 20. The number of supplies given to houses, &c., was 101,360, and of these 101 180 were given on the constant system. The estimated population supplied within the district of the company was 608,280. The total number of miles of water-pipes was 692⅜ of which 351¼ miles were within the metropolis. The number of miles of streets with water pipes constantly charged within the metropolis was

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[1] Articles I., II III, IV V, VI and VII. appeared in THE LANCET of March 1st (p. 614) 8th (p 692) 15th (p. 767) 22nd (p. 842) and 29th (p. 915), and April 5th (p 956) and 19th (p. 1133) 1902, respectively

[2] The Times March 26th 1902, p. 4

[3] General Board of Health Reports to the Right Hon. Sir William Cowper, M.P., London, 1856.

[4] THE LANCET Special Commission on the Metropolitan Water-supply, April 3rd (p 976) and 17th (p. 1103) 1897

434⅓. The company possesses 16 covered storage reservoirs and these have a total capacity of 13,623,000 gallons.

The accompanying table gives the results of the analyses made by Dr. T. E. Thorpe during the year 1901 and in the month of January of the year 1902, and the table has been compiled from the monthly reports issued by the Water Examiner. It will be noticed that the result of one analysis only is given for each month and only one complete analysis apparently was made by the chemist employed by the Local Government Board. The table gives the name of the place from which each specimen was taken, the temperature of the water, and the "total hardness" of the water expressed in parts per 100,000. In regard to the hardness of the water the table is to read thus: in the January sample 100,000 pounds of water contained 28·1 pounds of carbonate of lime, or an equivalent quantity of other hardening or soap-destroying ingredients. Formerly Dr. Clark's scale was adopted universally as the standard of the hardness of water, and it is to this scale that reference was made in the analyses of the Plumstead water quoted above. In order to express the results obtained by Dr. Thorpe on Dr. Clark's scale the figures given in the table should be multiplied by seven and the decimal point moved one place to the left; thus, according to Dr. Clark's scale the sample of water taken in January had $\frac{22·7 \times 7}{10}$ degrees of hardness.

TABLE SHOWING THE RESULTS OF ANALYSES MADE BY DR. T. E. THORPE ON WATER SUPPLIED BY THE KENT COMPANY DURING EACH MONTH OF THE YEAR 1901 AND DURING THE MONTH OF JANUARY, 1902. THE RESULTS ARE EXPRESSED IN PARTS PER 100,000.

Date of collection of specimen.	Place of collection.	Temperature in degrees Centigrade.	Total solid matter.	Organic carbon.	Organic nitrogen.	Ammonia.	Nitrates as nitrates and nitrites.	Total combined nitrogen.	Chlorine.	Total hardness.
1901.										
January 19th	Cab-rank, New Cross.	11·0	37·83	0·039	0·008	0	0·471	0·479	2·1	23·1
February 18th	Police-station, Blackheath-road.	10 5	40·38	0·044	0·010	0	0 516	0 526	2·1	28·1
March 18th	,,	10·5	41·24	0·043	0·010	0	0·509	0·519	2·3	29 0
April 16th	Cab rank, New Cross Station, opposite Jerningham-road.	10·5	38·36	0·043	0·008	0	0·493	0·501	2·2	29 6
May 14th	,,	12·4	38·78	0 042	0·006	0	0·457	0 463	2·3	27·3
June 6th	Cab-rank, Amersham-road, near New Cross Station.	12·5	40·36	0·036	0 007	0	0·498	0·505	2 2	28·7
July 15th	Cab-rank, Woolwich Arsenal Station.	15·4	51·80	0 058	0·012	0	0·611	0·623	4·7	32·5
August 19th	Police-station, Blackheath-road.	13·6	39·74	0 038	0·005	0	0·468	0·473	2·3	28·1
September 10th	Cab-rank, New Cross Station, opposite Jerningham-road.	12 8	39·58	0·037	0 009	0	0 453	0·462	2·2	28 1
October 7th	Cab-rank by Woolwich Arsenal Station.	12·0	49·00	0·058	0·007	0	0·605	0·612	2·8	31·0
November 11th	Cab-rank, Amersham-road.	11·0	41·32	0·055	0·009	0	0·439	0·448	2·2	28·1
December 9th	Cab-rank, New Cross Station.	11·8	38·88	0·048	0·006	0	0 442.	0·448	2·2	27·2
1902.										
January 20th	Cab-rank by Woolwich Arsenal Station.	—	49·88	0·059	0·006	0	0·664	0·670	3·8	31·3

It will be noticed that the relative degree of hardness which was found in the specimens examined varied from 27·2 to 32·5. The specimens which showed the greatest degree of hardness were those taken in July and October, 1901, and in January, 1902. All these specimens, it will be further noticed, were taken from the cab-rank by Woolwich Arsenal Station. In regard to the July sample Dr. Thorpe reported that "the Kent Company's deep-well water drawn from the standpipe near Woolwich Arsenal Station was clear and of good quality, but owing to the greater proportion of salts in solution, including those causing hardness, the supply at this place was somewhat inferior to that distributed by this company in other places." In regard to the October sample Dr. Thorpe made no remark on the hardness of the water. In regard to the January specimen Dr. Thorpe observed that "as usual with samples collected near Woolwich Arsenal Station it was found to have a greater degree of hardness than the water in other districts supplied by this company." It is hardly to be supposed that Dr. Thorpe wishes it to be supposed that the *contiguity of Woolwich Arsenal* Station has any causal relation to the excessive hardness of the water drawn from pipes situated in its neighbourhood. A casual reader might, however, be led to make that inference. With the exception of the hardness of the water the customers of the Kent Company cannot reasonably make any complaint in regard to its quality. The amount of organic carbon and organic nitrogen which it contains is very small and it is clear and clean.

Should the water pumped from the district of the Kent Company be kept for the use of the people of that district it might, perhaps, reasonably be hoped that the supply would prove as sufficient in quantity as it is excellent in quality. At the present time, however, only the officials of the Kent Company know how much water is obtained from each well, and they alone know the levels at which the water now stands in each well. There is a very general idea prevailing in the rural parts of Kent that the area of the Kent Company has been unduly depleted by the abstraction of the underground water by the pumping operations of the company. Should a Water Board be established as proposed by the Government the power of abstracting water from the wells now belonging to the Kent Company would ultimately vest in a body over which the people of Kent would have practically no control. In the report of THE LANCET Special Commission on the Metropolitan Water Supply which was published in July, 1900,[5] this question was fully dealt with. It is not necessary to summarise what was there stated; it need only be said that since the date at which that report was published evidence has accumulated which has tended to strengthen and to confirm the views there expressed.

THE FOURTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE Executive Committee of the Fourteenth International Congress of Medicine to be held at Madrid in April, 1903, has issued the following list of theses which are to be maintained at the next meeting.

Anatomy.—1. Which is the Best Method for the Didactic Exposition of the Nervous System? 2. What is the Actual Value of Anatomical Measures for the Ethnic Determination of Individuals? *3. The Structure of the Nerve-cell. 4. The Origin of Fibroblasts in New Formations of Connective Tissue, both Normal and Pathological.

Physiology.—*1. The Physiological Action of Saccharin: should it be prescribed with food and drink or should it only be employed as a drug? 2. The Effect of Glandular Toxins upon Muscular Contraction. 3. A Bio-chemical Study of Organo-Metallic and Metallic Combinations. 4. Experimental pancreatic glycosuria.

General Pathology, &c.—*1. Parasitism in New Growths. 2. The Origin of Sarcoma. 3. Blastomycetic Lesions. *4. Suggested Revision of the Classification *and Description of Recognised Bacteria.*

Therapeutics.—1. The Relationship of the Chemical Composition of Drugs to their Physiological Action. 2. The Dangers and Emergencies of the so-called Intensive or Exaggerated Medication in Chronic

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[5] THE LANCET, July 21st, 1900, p. 181.

Affections, especially in Tuberculosis. 3. The Utility and Dangers of Intra-vertebral Injections of Cocaine in Medicine and Surgery. 4. The *Method of the Physiological and the Remedial Action of Hypnotic and* Narcotic Drugs.

Medical Hydrology.—1. The Physico-chemical Study of the New Gaseous Elements Argon and Helium in Mineral Waters. 2. Syphilis and its Hydro-mineral Treatment. 3. Tuberculosis and its Hydro-mineral Treatment.

Pharmacy.—1. The Therapeutic Standardisation of Antitoxic Serum. 2. The Importance of the Colloidal State of the Substance in the *Preparation of Remedies and in their Pharmacological Action.* 3. Hypodermic Injections, their Pharmacological Significance and the Advantage of Issuing a Pharmacopœia which Consolidates the Methods of Preparing and Preserving these Preparations. 4. The Necessity and Utility for Remedies of a Definite Therapeutic Strength by Adopting in each case an Identical Method of Obtaining them, of Preparing them, and of Estimating their Value.

Internal Pathology.—1. The Cerebral, Cardiac, and Renal Importance of Infection. *2. The Etiology and Prophylaxis of Malaria. 3. The Pathogeny of Cardiac Arythmia. 4. The Application to Clinical Medicine of New Investigations upon the Physical and Chemical Properties of Blood-serum.

Neuropathy.—1. Toxic and Infective Manias. *2. The Etiology and Therapeutics of Psychical Conditions. 3. The Centre of Projection and Association in the Brain as Determined by Actual Pathological Anatomy. 4. The Clinical Study of Agnosia and Asymbolism. 5. The *Limitation of the Pathological Nature of Crime. 6. Of the Interven*tion of Psychiatry in the Reform of Criminals.

Pediatrics.—1. The Therapeutic Value of Serum-therapy in Diphtheria. 2. The Treatment of Clubfoot. 3. The Treatment of Tuberculous Disease of Joints. 4. The Feeding of Young Children.

Dermatology and Syphilography.—*1. Gonorrhœa from the Medico-social Point of View. 2. Parasyphilitic Affections and the Retrospective Diagnosis of Syphilis. 3. The Treatment of Pruritus. 4. The Various Forms of Purpura.

Surgery.—*1. Death after Operation. 2. The Indications for Surgical Interference in *Diseases of the Stomach.*

Urinary Diseases.—1. The Remote Effects of Surgical Interference in Cases of Malignant Tumours of the Kidney. 2. The Comparative Value of the Present Means of Learning the Functional Condition of the Kidneys.

Ophthalmology.—1. The Surgical Treatment of Affections of the *Lacrymal Tract.* 2. *The Necessity for Consolidating the Various* Optometric Scales. *3. Optic Neuritis in the Course of Acute Disease. 4. Investigations on the Action of Drugs upon the Pupil, upon Accommodation, and upon Intra-ocular Tension.

Otology.—1. The Causes of Deaf mutism. 2. The Anatomical and Clinical Study of Cholesteatomata. 3. The After-treatment of Operations on the Ear.

Rhino-laryngology.—1. Is it Advantageous from a Medical and Social Standpoint to Operate in Every Variety, in Every Phase, and at all Periods of Malignant Disease of the Larynx? 2. The Estimation of the Local Treatment of Tuberculous Disease of the Larynx. 3. Is Atrophic Rhinitis always Autochthonous? The Necessity of Establishing an Exact Diagnosis to Determine the Treatment in this Condition.

Odontology and Stomatology.—1. The Treatment and Stopping of Teeth with Diseased Pulps. 2. Dental Histology. 3. Bucco-facial and Skeletal Prothetic Appliances. 4. The Amount of Knowledge which should be Required to *Practise Dentistry* and the Methods of Teaching. 5. The Nature and Treatment of Pyorrhœa Alveolaris. 6. Local Anæsthesia in Dentistry.

Obstetrics and Gynæcology.—1. The Indications for Hysterectomy in Acute Puerperal Infection. 2. The Treatment of Placenta Prævia. 3. The Pathology and Treatment of Chronic Pelvic Cellulitis and Peritonitis. 4. The Indications and Results of Opotherapy in Gynæcology. 5. Conservative Surgery in Affections of the Uterine Annexa.

Military and Naval Medicine.—1. A Method of Solving the Problem of Tuberculosis in the Army. *2. The Advantages and Inconveniences of Compressed Drugs for Distribution to an Army in the Field. 3. The Influence of Military Life upon the Development of Affections of the Nervous System, especially on Neuroses. *4. The Hygiene of Troops at Sea and on Land on the West Coast of Africa. 5. The Prophylaxis of Syphilitic and Venereal Diseases in the Army. *6. The Cockpit in Modern Men-of-war.

Hygiene.—1. *The Necessity to Determine* the *Prophylactic Value of* Disinfection and a Criticism of the Proceedings usually Adopted. 2. The Practical Means, Individual and Collective, which are to be Adopted to Avoid the Dissemination of Dysentery. 3. The Advantage of Establishing Sanitary *Douanes* on the Land Frontiers of each Country. 4. The Advantage of Anti-tuberculous Dispensaries as a Means of Increasing the Vital Resistance of the Lower Classes. 5. Hygiene and Drains.

Forensic Medicine.—1. The Legal Significance of Wounds according to their Cause, Position, and Character. 2. The Medico-legal Idea of Deformity. 3. Discretion and Precocious Criminality. 4. The Capacity and Responsibility of Degenerates. 5. Upon the Localisation of Poisons.

Intending members of the Congress who are specially interested in the sections marked with an asterisk are requested to communicate with the Secretary-General of the Congress Dr. Fernández-Caro at Madrid.

Forms of applications for membership can be obtained from either *of the secretaries of the* National *Committee for Great* Britain and Ireland, Mr. D'Arcy Power, 10A, Chandos-street, Cavendish-square, London, W., or Dr. P. Horton-Smith, 15, Upper Brook-street, London, W. The subscription at *present* is £1.

HEALTH OF NEWQUAY.—Dr. A. Hardwick, the medical officer of health of Newquay (Cornwall), in his annual report for 1901 states that the population is estimated at 2914 and that the death-rate for the year was only 10·2 per 1000. The *report* adds that, excluding measles, which is *a notifiable disease, there were only five other cases of* infectious disease notified during the year.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE following is the report of Dr. Norman Moore, the representative of the Royal College of Physicians of London, in the General Medical Council *on the proceedings of the* Council at a special session held in February, 1902, when the differences between the Council and licensing bodies with regard to the preliminary education of the medical student were under *consideration. A full report of these proceedings* will be found in THE LANCET of March 1st, 1902, p. 626.

DR. NORMAN MOORE'S REPORT.

A special meeting of the General Council of Medical Education and Registration was held on Feb. 25th and 26th. The meeting was called to consider the report of the committee appointed on Dec. 4th, 1901, in accordance with the following resolution:—

> That a committee be appointed to prepare a report on the differences that exist between certain licensing bodies on the one hand, and the General Medical Council on the other, regarding the courses and conditions of study and the recognition of the institutions and schools in which the required courses may be taken, and that the report be considered by the Medical Council at a special meeting, when the Council will decide what action, *if any, shall be taken, and in particular* whether the circumstances are such as to require action to be taken under Section XX *of the Act of* 1858.

The report of the committee is printed at length in the minutes of the Council (vol. xxxix., p. 70). It showed that the regulations of the University of Oxford, of the University of London, and those of the Royal College of Physicians of London and the Royal College of Surgeons of England differ in several particulars from the recommendations (sometimes called by the Council "requirements") of the General Council of Medical Education and Registration. The four bodies named agree in not requiring registration in the General Council's Register of Medical Students. The University of Oxford and the University of London in their regulations perhaps differ on the greatest number of points from the Council. The Royal College of Physicians of London and the Royal College of Surgeons of England differ in fact at present: (1) in not requiring the registration of a student in the Register of the General Council, and (2) in relation to the places at which courses of study in chemistry, physics, and biology may be taken after passing a preliminary examination in arts.

The committee issued eight recommendations. The first five of these stated that in consequence of these differences of regulation or acceptance of students who have worked under varying regulations the qualifications of—

The Royal College of Physicians of London,
The Royal College of Surgeons of England,
The University of Oxford,
The University of London,
The Royal College of Physicians of Edinburgh,
The Royal *College of Surgeons of Edinburgh,*
The Faculty of Physicians and Surgeons of Glasgow,
The *Society of Apothecaries of London,*

do not secure that the persons holding them possess the requisite knowledge and skill for the efficient practice of their profession.

Clause VI. *recommended* that the Council should, after preliminary warning, represent this fact to the Privy Council in November, with a view to deprive the above bodies of their power of granting qualifications to practise unless they altered their regulations.

A minority consisting of the Representative of the Royal College of Surgeons and myself presented a minority report, as follows:—

> I. Having considered the numerous differences in detail as to the courses of professional study required by the several qualifying bodies, we are of opinion that, even if it were desirable, it is impossible to obtain absolute uniformity and recommend the Council to withdraw its late resolution requiring the approval by the General Medical Council of the scientific institutions recognised as places of study by the qualifying bodies.
> II. We are of opinion that the powers claimed by the Council in this particular do not exist.

The prefatory narrative of the report, with the appended observations and conclusions, were proposed for adoption and the proposal was carried.

The tone of the discussion was *adverse to the adoption* of the recommendations of the report, and Dr. McVail, chairman of the committee, asked leave of the Council to withdraw the recommendations, and the leave was granted without a division. On the motion of Dr. Macalister, seconded by Dr. McVail, the Council then resolved:—

I. That the Council, under the powers granted by Section XVIII. of the Medical Act, 1858, require the Examining Board in England to furnish the Council with the following information regarding the courses of study in chemistry, physics, and biology to be gone through by candidates for the qualifications L.R.C.P. London and M.R.C.S. England, namely—

In respect of each of the teaching institutions recognised by the Royal Colleges but not approved by the Council,

(*a*) What are the methods of instruction, theoretical and practical, adopted in the subjects of chemistry, physics, and biology?

(*b*) What time is devoted by students to the recognised courses of study in each of these subjects?

(*c*) What subjects, other than chemistry, physics, and biology, are students permitted to study simultaneously with these subjects?

(*d*) What were the ages at the commencement of the recognised courses in these subjects of the students on whose behalf certificates of study were accepted by the Examining Board in the year 1901?

(*e*) What are the names and qualifications of the teachers of chemistry, physics, and biology, who give the recognised courses in these subjects?

II. That it is desirable that, under the powers given by Section XVIII. of the Medical Act, 1858, the examinations in chemistry, physics, and biology held by the several licensing bodies should from time to time be visited and reported on.

III. That in the first instance the examinations in chemistry, physics, and biology held by the Examining Board of the Royal Colleges in England during the present year be visited by two persons appointed by the President on behalf of the Council and that they be instructed to report on the scope, standard, and sufficiency of these examinations.

As the Council has no power of visitation of institutions, and no power to compel this College to visit the institutions it recognises for any part of the course, and as some of this information could only have been obtained in the process of visitation, it seems doubtful whether the Council can properly require all this information under Section XVIII. of the Medical Act of 1858, and it might be wise to ascertain the precise duties of the College under the Act in this particular; but as the Council may justly wish to be informed on everything relating to medical education, I think it would be right to furnish this information, so far as our records enable the College to do so, on the present occasion, and I spoke to this effect in the Council.

The early examinations of the qualifying bodies have not hitherto been visited, and whether the Council has power to visit them under the Medical Acts may, perhaps, be uncertain. Even if the power be non-existent in the Council our College would probably raise no objection to the proposed visitation; but it is clear that the visitation of the corresponding examinations of all the qualifying bodies should take place before this part of medical education can be fully discussed by the Council.

Throughout the prolonged discussion at the Council on the regulations of our College as regards the first year of medical study, now I hope concluded, I have endeavoured to make clear to the Council that as the powers of the College as regards its own curriculum rest not only upon Acts of Parliament and charters, but also upon its obvious competence to deal with questions of medical education, it cannot permit any encroachment upon its sphere of responsibility, but that it will always in the future, as it has since the General Council came into existence, do all in its power to aid the Council in the duties which the Medical Acts have prescribed for it.

(Signed) NORMAN MOORE
(Representative of the College in the Medical Council).

April 23rd, 1902.

Looking Back.

FROM

THE LANCET, *SATURDAY, MAY* 8, 1824.

ST. BARTHOLOMEW'S HOSPITAL.

The accidents admitted here this week are a fractured patella, dislocation of the left os humeri; fracture of the tibia and fibula; case of cut throat, and a child with a severe burn.

Sir LUDFORD HARVEY has resigned his situation as surgeon to this institution; Mr. LAWRENCE will succeed him. There are three or four candidates for the assistant surgeonship, but we are unwilling to say any thing at present about the election, that may injure either party. But there is one circumstance to which we must allude, which is, that one of the candidates has not served an apprenticeship to the hospital, and if he be duly qualified for the post, (which we believe him to be) we should be heartily glad for him to obtain it. The present system of electing hospital apprentices to fill the office of surgeons in preference to all others, without any reference to the respective merits of the candidates will not, we feel convinced, last very long. The medical profession in this country has existed for centuries without being subjected to the controul of the press; but the times are changed, and we trust that the repeated exposure of existing abuses will at last produce their reformation.

WESTMINSTER HOSPITAL.

JOHN LONGHURST, who was admitted into this hospital under the care of Sir ANTHONY CARLISLE, a month ago, with a fractured patella, is recovering very rapidly; the bone is united closely, so much so, that instead of the depression felt usually in these cases on its surface, a small narrow edge[1] is plainly perceived, thus clearly proving that the two portions of bone are adhering to each other, by an osseous deposit having taken place, and that the mode of treating such cases, by bringing the fractured parts together, is superior to any in use at the present day.

NOTICE TO CORRESPONDENTS.

We will comply with Y.'s request, and give a case in Latin next week.

The Index to Vol. I. was published with the first number of Vol. II. It is again out of print, but will be reprinted in a few days.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8713 births and 4724 deaths were registered during the week ending May 3rd. The annual rate of mortality in these towns, which had been 18·3 and 17·0 per 1000 in the two preceding weeks, further declined to 16·6 last week. In London the death-rate was 15·7 per 1000, while it averaged 17·0 in the 75 other large towns. The lowest death-rates were 7·6 in Hornsey, 8·5 in Reading, 8·6 in King's Norton, 9·4 in Devonport, 10·3 in Walthamstow and in Derby, and 11·1 in Leyton and in Wallasey; the highest rates were 22·2 in Stockton-on-Tees, 22·5 in Hanley, 22·8 in Blackburn, 23 0 in Tynemouth, 23·7 in Wigan, 24·5 in Oldham, 24·8 in Rochdale, and 25·5 in St. Helen's. The 4724 deaths in these towns last week included 489 which were referred to the principal zymotic diseases, against 596, 550, and 534 in the three preceding weeks; of these 489 deaths 138 resulted from whooping-cough, 98 from measles, 64 from small-pox, 63 from diphtheria, 48 from scarlet fever, 39 from diarrhœa, and 39 from "fever" (principally enteric). In Hornsey, Norwich, Plymouth, Coventry, Swansea, and seven other smaller towns, no death from any of the principal zymotic diseases was registered; while the highest zymotic death-rates were recorded in West Ham, Grimsby, Bolton, Burnley, Barrow, South Shields, and Rhondda. The greatest mortality from measles occurred in Northampton, Burton-on-Trent, Barrow-in-Furness, Rhondda, and Merthyr Tydfil; from scarlet fever in Wigan and in Bolton; from whooping-cough in West Bromwich, Aston Manor, Grimsby, Bolton, South Shields, Gateshead, and Newcastle-on-Tyne; and from "fever" in Aston Manor. The mortality from diphtheria showed no marked excess in any of the large towns. Of the 64 fatal cases of small-pox belonging to these towns registered last week 43 belonged to London, 13 to West Ham, two to Tottenham, two to South Shields, one to Willesden, one to East Ham, one to Oldham, and one to Rhondda. The number of small-pox patients in the Metropolitan Asylums hospitals at the end of last week was 1442, against 1431 and 1515 at the end of the two preceding weeks; 250 new cases were admitted during the week, against 274, 328, and 367 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2146, 2155, and 2188 on the three preceding Saturdays, had further risen to 2222 on Saturday last; 258 new cases were admitted during the week, against 264, 269, and 283 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 299, 316, and 315 in the three preceding weeks, further

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[1] Corrected to "ridge" in THE LANCET of May 15th, 1824.

THE LANCET.

LONDON: SATURDAY, APRIL 5, 1902.

The New Royal Warrant for the Army Medical Service.

IN calling the attention of our readers to the Royal Warrant for the Army Medical Service, the text of which appeared in THE LANCET of March 29th, p. 912, we deemed it necessary to point out that it should not be regarded as embodying in full the intentions of the Government in respect of army medical reform and reorganisation. Although the new Warrant is a lengthy and somewhat complicated document which requires to be carefully read and to be considered in detail there are several important points which, being foreign to a Royal Warrant, do not find any place in it and concerning these and others which suggest themselves we have still to await further information. For instance, we have yet to learn a good deal about such matters as the following: the number and nature of the new examinations; the functions of the Advisory Board and the limits circumscribing its sphere of action; the provisions to be made for study-leave for medical officers and for the establishment of the proposed army hospital and medical school in London; the organisation of an army sanitary department during times of peace and of war; and the attachment of medical officers to regiments and the way in which this is proposed to be carried out. These are all matters of public and not merely of departmental interest, because they have a direct bearing on the future efficiency of the Army Medical Service. There is, moreover, the question of the pay and position of medical officers in India and it is imperative that this should receive a satisfactory answer.

With respect to the examinations we are assured that the competitive examination on entrance will be made as practical and clinical in character as possible and that the others will be of such a nature as is really needed for the protection of the service and in the interests of the medical officers themselves. We do not profess to attach the value to examinations as a test of what is wanted in a medical officer that many do. The medical candidate for the army has, as a rule, only just been emancipated from a series of examinations in order to obtain his professional qualifications and there is consequently the less need to subject him afresh to such tests at an early stage of his career.

The present position and pay of officers of the Royal Army Medical Corps, whilst serving in India, is a matter of such importance that we cannot believe that the War Office authorities will be content to leave things as they are and thereby imperil the success of their scheme—as they assuredly will if nothing be done. As we understand the position, the War Office of this country regards any independent authoritative action on its part in this respect as *ultra vires;* and that the consent of the Indian Government to any scheme affecting medical officers in the pay of, or serving under, that Government should first be obtained, is, officially speaking, obviously reasonable and right. But Mr. BRODRICK, when introducing the army estimates for the coming year and putting forward his much larger scheme of army reform, had to encounter and to overcome not only the opposition of the Chancellor of the Exchequer in this country but also that of the Secretary of State for India on the ground of the great additional expenditure involved by it. So must it be in the present case. It is, moreover, pertinent to remark that there is every reason why the Indian Government should deal justly and even generously with the medical officers serving with British troops in India, seeing that when the station-hospital system was introduced many years ago into that country it gave rise to a very large saving to the Indian Government, not one penny of which was appropriated to the benefit of the medical officers; indeed, the introduction of that system, while adding greatly to their responsibilities and labours, actually deprived them of some pecuniary advantages.

We may say, in conclusion, that we see no reason for altering our first impressions of the new Warrant—namely, that it contains many new and excellent points and that taken as a whole it is a good Warrant; and having no sort of doubt that Mr. BRODRICK was, and is, sincerely desirous of making it satisfactory to the country and to the profession, we confidently look to him to see that it is interpreted and carried out in a wise, just, and liberal spirit.

The Housing of the Poor.

WE recently published[1] an appeal for funds on behalf of the Mansion House Council on the Dwellings of the Poor addressed to us by Sir JOSEPH DIMSDALE who has been its honorary treasurer for several years and who during the present year is also its chairman by virtue of his office of Lord Mayor of London. The Mansion House Council is an admirable association carrying on an excellent work effectively but quietly, so that many who might be willing to support it are possibly quite unaware of its existence and its aims. Founded in 1883 it has for its object the improvement of the homes of the poor in the metropolitan district and it seeks to effect that object by enforcing the Sanitary Acts and by spreading, as far as it is able, the knowledge of sanitation among the people. In cases where the enforcement of the Sanitary Acts is clearly the duty of a local authority, but where that authority is uninformed or is wilfully neglecting its duty, the Mansion House Council presses the matter upon the attention of the lagging public body, so that the necessary stimulus is imparted and the steps prescribed by law are taken.

The Mansion House Council employs but three paid inspectors, who make about 8000 inspections in the course of a year, and the bulk of its operations all over the metropolis is carried on by local committees and voluntary helpers. A society, however, that organises and directs, even though it may employ voluntary assistants, cannot live without funds declined last week to 240 and were 54 below the average. The causes of 68, or 1·5 per cent., of the deaths in the 76 large towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Nottingham, Newcastle, and in 47 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Aston Manor, Leicester, Liverpool, Middlesbrough, and Stockton-on-Tees.

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[1] THE LANCET, March 15th, 1902, p. 772.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 24·6 and 21·1 per 1000 in the two preceding weeks, further declined last week to 18·9 per 1000, but was 2·3 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·8 in Edinburgh and in Aberdeen to 21·1 in Paisley and 23·4 in Greenock. The 612 deaths in these towns included 28 which were referred to whooping-cough, 23 to diarrhœa, 15 to measles, five to "fever," four to diphtheria, two to scarlet fever, and one to small-pox. In all 78 deaths resulted from these principal zymotic diseases last week, against 63 and 70 in the two preceding weeks. These 78 deaths were equal to an annual rate of 2·4 per 1000, which was 0·7 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 21 and 29 in the two preceding weeks, fell last week to 28, of which 16 occurred in Glasgow and six in Aberdeen. The deaths from diarrhœa, which had been 10 and 17 in the two preceding weeks, further rose last week to 23, and included 14 in Glasgow and three in Dundee. The fatal cases of measles, which had been 10, 18, and 13 in the three preceding weeks, rose again last week to 15, of which five occurred in Edinburgh, five in Dundee, and four in Glasgow. The deaths from scarlet fever, which had been eight, two, and five in the three preceding weeks, declined again last week to two, one of which occurred in Edinburgh and one in Greenock. The fatal cases of diphtheria, which had been seven and four in the two preceding weeks, was again four last week, of which two occurred in Glasgow. The deaths from fever, which had been five, four, and one in the three preceding weeks, rose last week to five, of which three occurred in Glasgow and two in Greenock. The fatal case of small-pox was registered in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 188, 199, and 161 in the three preceding weeks, further fell last week to 138 and were slightly above the average in the corresponding period of last year. The causes of 25, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·0 and 26·8 per 1000 in the two preceding weeks, declined again last week to 24·9 per 1000 during the week ending May 3rd. During the past four weeks the death-rate has averaged 25·4 per 1000, the rates during the same period being 17·1 in London and 19·3 in Edinburgh. The 181 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 14 from the number in the preceding week, and included nine which were referred to the principal zymotic diseases, against 10 in each of the two preceding weeks; of these, three resulted from measles, three from "fever," one from diphtheria, one from whooping-cough, and one from diarrhœa. These nine deaths were equal to an annual rate of 1·2 per 1000, the zymotic death-rate during the same period being 2·0 in London and 0·3 in Edinburgh. The fatal cases of measles, which had been two in each of the two preceding weeks, increased last week to three, while the three deaths from "fever" showed a slight decline from the number in the preceding week. The 181 deaths in Dublin last week included 21 of children under one year of age and 52 of persons aged upwards of 60 years; the deaths of infants being considerably below, and those of elderly persons rather above, the numbers in recent weeks. Seven inquest cases and three deaths from violence were registered; and 70, or more than a third, of the deaths occurred in public institutions. The causes of eight, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

Royal Navy Medical Service.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon I. H. Anderson has been placed on the retired list at his own request, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets. Dated April 30th, 1902.

Staff Surgeon W. J. Maillard, V.C., has been placed on the retired list of his rank. Dated April 7th, 1902.

The following appointments are notified:—Staff Surgeon G. T. Collingwood to the *Sutlej*. Surgeons: E. T. P. Eames to the *Jupiter* and M. J. O'Regan to the *Sans Pareil*.

Army Medical Service.

Surgeon-General O. MacDonagh Cuffe, C.B., is placed on retired pay.

Major T. C. McCulloch, R.A.M.C., to be a Deputy Assistant Director-General, vice Major W. G. Macpherson, R.A.M.C., whose period of service in that appointment has expired. Dated May 1st, 1902.

Royal Army Medical Corps.

Lieutenant-Colonel Richard Henry Quill to be Colonel, vice R. C. Eaton, deceased. Dated March 16th, 1902.

Lieutenant-Colonel R. Drury retires on retired pay on account of ill-health.

Captain Frederick Smith, D.S.O., to be Major. Dated March 30th, 1902.

Lieutenant-Colonel W. B. Slaughter is ordered to Salisbury Plain for duty at the temporary General Hospital, Bulford Camp. Lieutenant T. Finucane has been transferred to the Punjab Command from Bombay.

Imperial Yeomanry.

Suffolk (The Duke of York's Own Loyal Suffolk Hussars): Surgeon-Lieutenant Sir F. Treves, K.C.V.O., C.B., resigns his commission.

Volunteer Corps.

Royal Garrison Artillery (Volunteers).—1st Argyll and Bute: Surgeon-Lieutenant T. H. Thomson to be Surgeon-Captain. 2nd Devonshire: The resignation of Surgeon-Lieutenant H. W. Webber, which was announced in the *London Gazette* of April 22nd, 1902, is cancelled.

Rifle: 5th (Glasgow Highland) Volunteer Battalion, the Highland Light Infantry: William Ritchie to be Surgeon-Lieutenant.

South African War Notes.

Lieutenant Beatty, R.A.M.C., reported dangerously ill showed a slight improvement on May 5th.

Major J. P. S. Hayes, R.A.M.C., Lieutenant P. H. Falkner, R.A.M.C., and Civil Surgeon McCrea are returning from South Africa to England.

Memorial to Members of the St. John Ambulance Brigade.

On June 11th, at 12.30 P.M., the Prince of Wales, Grand Prior of the Order of the Hospital of St. John of Jerusalem in England, will unveil the memorial to the members of the St. John Ambulance Brigade who have died while on active service in South Africa. This memorial has been erected by the King and the Chapter-General of the Order in St. John's Church, Clerkenwell.

Colonial Troops' Entertainment Committee.

Earl Roberts and the Earl of Jersey have joined the Colonial Troops' Entertainment Committee. The colonel and officers of the 20th Middlesex (Artists) Corps have forwarded to the committee an invitation to a regimental smoking concert for the officers and non-commissioned officers of the various contingents who are coming to England for the Coronation.

VACCINATION EXPENDITURE.—At the meeting of the St. Columb Board of Guardians held on April 18th it was reported that the vaccination fees for the past quarter amounted to £53, being double the amount for the corresponding quarter of 1901. It was stated that one public vaccinator vaccinated his own child and charged 8*s.* for the operation and another vaccinated himself and his wife and charged 2*s.* 6*d.* in each case. In reply to a question the clerk remarked that the Local Government Board stated that persons who were vaccinated by the public vaccinator were not to be considered as paupers, but the chairman said that he was of a contrary opinion.

Correspondence.

"Audi alteram partem."

PAYING WARDS AND PAYING HOSPITALS.

To the Editors of The Lancet.

Sirs,—I am rather sorry to see that no notice has been taken of Sir Henry Burdett's letter, as the subject is one of great importance to the medical profession and its bearings deserve careful consideration. In America there is a good deal of complaint on the part of the profession of paying hospitals with salaried staffs which have been started as commercial undertakings and pay a dividend to their shareholders. A medical paper, writing of one of these institutions, tells us that it offers physicians, nursing, board, washing, and everything necessary for 12 dollars a week during sickness and an annual subscription of 12 dollars a year. That is to say, for an annual subscription of £2 8*s.* any person can insure all needful hospital accommodation with medical or surgical assistance in case of illness at the very moderate cost of £2 8*s.* a week. It is complained of these institutions that they cater for classes which are financially well off and that they are enabled to make a profit at the expense of the medical profession

Everyone recognises the advantages of hospital organisation and hospital methods in the treatment of disease and sympathises with the desire to bring these advantages within the reach of the class that lies between the rich, for whom there are nursing homes, and the poor, who have the charitable hospitals. There is probably no special difficulty in organising such institutions and they could be more economically administered if connected with charitable hospitals, as Sir Henry Burdett recommends, as they would thus escape many heavy establishment charges. It might be possible to provide bed, food, washing, nursing, and medicines for 25*s.* or 30*s.* a week, and if the case needed only the attendance of a general practitioner the expenses of the illness would probably be less than at home. But surely the success of hospital treatment is not solely dependent upon good sanitary surroundings and disciplined nursing. The special skill of the visiting staff counts for something, and I should like to know how their services are to be obtained for persons paying £1 10*s.* or £2 a week? I do not go so far as to say that we should always charge full fees or nothing, but it must be admitted that there is a difficulty about reducing fees unless the considerations for which the reduction is made can be quite well defined. Speaking for myself, I should have no objection to seeing cases in such a paying hospital at half my usual fees if there were some means of ascertaining that the patient was unable to pay more; but how is this to be done without an inquiry such as is generally resented? If paying wards are to form a dependence of a charitable hospital it should be understood (1) that the members of the visiting staff of the hospital are not obliged to undertake the charge of patients in the paying wards as part of their duty to the hospital; and (2) that for their attendance upon patients in the paying wards they should be paid by fees fixed according to a reduced scale to be hereafter agreed upon.

The fixing of this schedule of reduced fees would have to be done by a conference between the administration and the medical staff. Supposing this difficulty got over the staff would naturally desire to prevent well-to-do persons taking advantage of these reduced prices. I can only see two ways in which this can be done, either by confining admission to people with incomes below a certain limit or by leaving the work to be done by the junior members of the staff. I do not think the second plan would be altogether satisfactory and there are obvious but not insuperable objections to the first. In considering all these questions we must bear in mind that we have to satisfy the just claims of the medical profession on the one hand and the requirements of the public on the other. It seems extremely probable that such hospitals will be established and it will be better for the medical profession to consider the conditions under which such institutions can be made, if not free from all objection, as free from objection as possible.

I am, Sirs, yours faithfully,

Birmingham, May 6th, 1902. Robert Saundby, M.D. Edin.

THE BATTLE OF THE CLUBS.

To the Editors of The Lancet.

Sirs,—In view of the correspondence which you have recently published on the question of club practice and contract work I think it may not be inopportune to narrate as shortly as possible what has been achieved by the medical practitioners of Stockport during the past seven years and to draw certain deductions from their many experiences. In 1895 there were some 40 clubs in the town, under the care of various medical men; the rate of pay was 2*s.* 6*d.* per head per annum. These clubs were approached with a view to raising the rate to 4*s.* 4*d.* per annum, together with various other conditions, including an examination fee on entrance and a wage limit. *Two* clubs *only* accepted the proposed scheme and with these matters have run smoothly ever since. The reception vouchsafed to the proposed reforms by the 38 remaining clubs was varied; the contumely and contempt expressed towards the "medical profession" were unanimous. Failing reform, in 1896 the "profession" resigned in an equally unanimous manner, as *two* medical men only declined to join their brethren. Since that time the clubs here have been without doctors, with the above-mentioned exceptions, and in those cases the payment has been raised to 4*s.* 4*d.* The experience of years has proved to the clubs that they can do very well without medical men, and the latter have come to the conclusion that the former are a good riddance. And thus peace is reigning. A so-called provident dispensary has existed in the town for some 10 years. The local medical society, seeing and seizing an opportunity, took over the medical management of this institution last August, the object being "to end it or mend it." I inclose a report, drawn up and presented to the managing committee, which will explain the working of the concern and the conclusions arrived at by the medical men after a four months' experience of the work. The Stockport Provident Dispensary was disbanded by resolution of the committee and members at the end of 1901.

Now I have taken a great interest and an active part in this matter from the beginning, and with the knowledge and experience gained in the past seven years I hope I am now able to make some useful deductions for the benefit, firstly, of the profession to which I belong, and secondly, for the friendly societies and all who desire to encourage thrift and providence, but not at the expense of any one section of the community. The whole matter is one of business pure and simple and philanthropy and charity do not enter into the question at all. The friendly societies have declared openly that they ask no concessions and disclaim any suspicion of charity in their dealings with medical men. From what I know of these societies I thoroughly believe their sincerity; their business instincts are good, their financial position is secure, and they are subject to adequate supervision and control. The medical profession has hitherto failed to meet them in a businesslike manner. Medical men are lamentably lacking in business methods. How many know what they can legally deduct as "practice expenses" in making an income-tax return? How many have the very faintest idea what it costs to see a patient? Can one in a hundred state the *average* cost of an eight-ounce bottle of medicine? I cannot understand how any solution of the present difficulty with respect to club and contract work can ever be found unless some data can be established on which to base charges for visits and consultations. I have done my little towards elucidating the matter and made calculations some years back which may be of value. I have not kept the exact figures but the result was so uniform over a period of four years that the details are immaterial. From 1893 to the end of 1896 my practice was a general working-class. I kept a horse and trap and a dispenser. The radius of my work rarely extended more than one and a half miles from my house. The district was thickly populated and found employment for about one medical practitioner to every 1600 inhabitants. I had between 500 and 600 club patients, all at 2*s.* 6*d.* per head per annum. An analysis of two years' work for them, 1893 and 1894, showed that I *received* 5¼*d.* for each consultation at my surgery, or each visit at their homes, medicine included. A calculation made on the *whole work* of the practice showed that the actual *cost* to me of each consultation or visit, including medicines, averaged for the four years 1*s.* 2*d.* each. It is thus evident that the club portion of the work acted as a serious discount on the remainder. Since giving up club practice the expense per visit has fallen somewhat and now probably averages 1*s*. I do not consider 1*s* or 1*s* 6*d* an "exorbitant" charge, in addition to out-of-pocket expenses, for my time, skill, and trouble in the case of each patient seen. It may be of interest to note that my drug and bottle bill amounted to about one-sixth of the total practice expenses. I have entered thus minutely into details in the hope of eliciting similar expression of experiences from my professional brethren. I do not see how we can come *to any agreement with the friendly societies without some* such basis as a standpoint for our demand for a higher rate of remuneration. If we can fairly prove that the actual cost of seeing a patient is 1*s* and that we expect a minimum of 1*s* as a fee for our skill and time, the societies can have very little further argument to bring, as they say here, "they may take it or leave it." To obtain this rate of remuneration the annual club contribution would have to be raised to quite 10*s* per head on my experiences. But, after all, what necessity is there for "contract work" at all? It is debasing sort of work, hardly better than gambling; the patient wants *his money's worth and will see that he gets it*, *the medical* man is harassed and worried at all times with trivialities and is generally regarded with suspicion, and has for ever lost that possession "independence" so dear to the "working-man," though perhaps equally dear and less often acquired by the harder "working doctor." Now my solution of the question is simple enough; it can be attained in a little time with a little trouble. It cannot be settled either by the General Medical Council or by conciliation boards, nor can the assembled friendly societies "bring the doctors to their knees." It is a matter *for local arrangement and district medical societies in* collaboration with the friendly societies have the solution in their own hands. The means are as follows in any given district.

1. As many medical men as possible must undertake to ascertain by a uniform system of account and bookkeeping the actual average cost of seeing patients for one year. This amount plus 1*s* to form the *minimum* charge for a surgery consultation or a day visit within a given distance. The accuracy of this estimate may be checked by continuing the investigation for three years and then correcting the *result on the longer experience*.

2. The medical men draw up a "tariff" based as above, with extra charges for night visits, or visits outside a certain radius; also a charge for "repeat medicines" where no visit is made or consultation given. This should be as small as possible in order to discourage the detestable tendency to making the charges depend on the quantity of physic that can be got down people's throats. Other services, operations, &c., can be readily priced in such a tariff.

3. The clubs are provided with the names of medical men willing to attend members on tariff charges. The clubs will be responsible for the payment of accounts up to the amount as specified in the tariff. The members select their medical attendant from the list, and in their relationship with him they are exactly as any ordinary private patient; they are mutually dependent and independent, and changes can be made in accordance with the wishes and proper custom of either party. This arrangement quite overcomes the "wage limit" difficulty. Any medical man can decline any patient he thinks fit on any ground or can accept him on the condition that the charges will be in excess of the tariff, the patient being responsible for the excess. If any medical man accept a well-to-do patient on tariff charges it is his own look-out.

4. The tariff charges will be slightly lower than the usual charges for persons in similar position on account of the security for payment afforded by the society.

5. Women and children can be admitted at similar rates to adult males and under similar circumstances. The sole objection I can see to my suggestion is that it will entail the friendly societies paying 10*s* per head per annum unless I have very much over-estimated the cost of working-class practice. I do not think I have been lavish in my treatment, but I know I never heard of any complaint from my club patients, so I trust my estimate is as it should be. If my estimate is more than can be raised as a levy the societies must pay what they can in the form of a dividend towards their members' doctor's bills, leaving the balance to the individual liability. After all said and done there is no inherent antagonism between the medical profession and the friendly societies. It is a matter for "collective bargaining" on businesslike lines, but unfortunately the collectivism has hitherto been all on the side of the societies and the ununited medical profession has been individually a sufferer in consequence.

I am, Sirs, yours faithfully,
BASIL W. HOUSMAN, F.R.C.S. Eng.

Stockport, April 28th, 1902.

THE NEW SYDENHAM SOCIETY'S CLINICAL ATLAS OF MEDICINE AND SURGERY.

To the Editors of THE LANCET.

SIRS,—Arrangements are being made to publish as early as practicable a fasciculus illustrating the effects of arsenic in producing affections of the skin, &c. The subject is one of great interest at present and likely to become of yet more.

Will you permit me through your pages to ask those of your readers who may chance to possess original drawings illustrating these conditions to do our council the favour of allowing us to inspect them? They may be sent either to the Museum at the Polyclinic, 22, Chenies-street, or to myself, and will be taken good care of.

I am, Sirs, yours faithfully,
JONATHAN HUTCHINSON,
Honorary Secretary of the New Sydenham Society.

15, Cavendish-square, W., May 7th, 1902.

CARDIAC INADEQUACY.

To the Editors of THE LANCET.

SIRS,—It certainly seems paradoxical to suggest that a man may die from cardiac failure without cardiac dilatation—with contracted hypertrophy and not dilated hypertrophy, but the facts of the case in the first of the two instances which I adduced do not seem to bear any other interpretation. The patient had, at least after death, a small heart with hypertrophied walls and relatively small cavities. His liver was enlarged and *without* interstitial cirrhotic change. His kidneys were large and certainly had, according to the pathologist's report, adherent capsules but were not examined microscopically and during life the patient's urine was of high specific gravity and showed no albumin. Sphygmograms taken periodically and carefully by a most efficient resident physician—Dr. A. Whitmore—showed a progressive fall in the force of ventricular systole after a temporary rally when the patient was first admitted to hospital and relieved of the burden of ascites. To the second case which I recorded, as Dr. H. Campbell perceives, I do not attach the same value, although I consider that the small heart even here added to the general embarrassment of the patient. It is the paradoxical element in the situation which adds to its interest. If Dr. Campbell can suggest any more satisfactory solution to the conditions involved and convict me of error I shall be the first to acknowledge myself in fault, but I confess I cannot see my way to doing so at present.

I am, Sirs, yours faithfully,
ALEXANDER MORISON.

May 4th, 1902.

LARGE DOSES OF STRYCHNINE IN SURGICAL SHOCK.

To the Editors of THE LANCET.

SIRS,—Dr. Gordon Sharp has failed, in his letter in THE LANCET of April 26th, p. 1210, to distinguish between the effects of 50 minims of liquor strychninæ introduced in one dose into the circulation of a non-collapsed patient and the effects of the same amount divided into smaller doses and administered at intervals of 15 minutes to a patient in a state of collapse. In practice this difference is very marked. In the case referred to by Dr. Sharp the total amount administered was 50 minims of the liquor given in the space of one and a half hours, not 70 minims in three hours.

Dr. Sharp asks: "Do the surgeons never find disagreeable tonic and clonic spasms of the muscles of the extremities remaining after the effect of the anæsthetic has passed off?" These inconveniences have, in my experience, been conspicuous by their absence, but in the event of their appearing they would be very preferable to death of the patient from heart failure. The theory of the terrific spasms which ought to occur is perfect but it would have more weight if backed by details of a few cases in which these fearful after results have actually appeared. Doubtless Dr. Sharp can supply such. Symptoms of poisoning following a single large dose of strychnine in a healthy patient are well known but have no bearing on the point at issue. The following case which has occurred since my last letter is a further instance of the value of strychnine in large doses in threatened death from heart failure.

A man, aged 49 years, with obstruction of five days' standing and stercoraceous vomiting, had cœliotomy performed. For the first half hour local anæsthesia by eucaine was employed, but a more extensive operation becoming necessary I administered ether and oxygen from a Rumbold-Burch inhaler during the last hour only in sufficient quantities to keep the patient partially anæsthetised. During the first half hour the pulse was small; the rate was 110. Coincidently with the administration of the general anæsthetic the pulse became very small and rapid; the rate was about 160 during the last hour. I injected into the pectoral muscles at intervals of about 10 minutes the following doses of liquor strychninæ (made up to 1 in 100), two doses of 10 minims and three doses of 15 minims, the patient getting 65 minims of liquor strychninæ (1 in 100) in the course of one hour. This, with intravenous injection of two and a half pints of saline solution in which was half an ounce of brandy, produced a pulse of good volume, with a rate of 100, *at the end of the operation. No twitching or* spasms occurred either during or after the operation. The patient lived for nine days.

I am, Sirs, yours faithfully,

Plymouth, April 27th, 1902. C. HAMILTON WHITEFORD.

To the Editors of THE LANCET.

SIRS,—The use of large doses of strychnine in the treatment of surgical shock was first advocated by me upwards of three years ago in a paper read before the Leeds Medico-Chirurgical Society and illustrated by a series of cases. A brief record of the paper may be found in THE LANCET of Dec. 17th, 1898, p. 1636. The paper was subsequently published *in extenso* in the *British Medical Journal* of Nov. 25th, 1899. Since that publication appeared I have used strychnine freely whenever death from shock has been threatening and more especially during operations for what may be conveniently termed "peritoneal catastrophes." I am in the habit of injecting 10 or 15 minims as a first dose, continuing to give 10 minims hypodermically whenever the pulse shows signs of failing. I have given 40 minims during an operation in this manner in a case of extreme collapse.

After four years' experience both in private and hospital surgical practice I can say that I have never once been able to detect the slightest sign of poisoning, either immediate or remote, in any case in which I have used strychnine. I can therefore only reassert my original statement that in conditions of extreme shock patients will tolerate very large doses of strychnine and that when given boldly under such circumstances it is a valuable remedy.

As I almost invariably use ether as an anæsthetic the antagonistic action of chloroform can scarcely be a factor in this toleration of the drug. Moreover, I have given large doses of strychnine in cases in which practically no general anæsthesia was used. The toleration of strychnine in the collapse following snake-bite was pointed out more than 10 years ago by Mueller, who advocated the use of the drug as an antidote, and cases in which very large doses have been given have been recorded from time to time. It was chiefly due to a knowledge of some of these cases that led me to apply the treatment in surgical practice. I am no advocate for giving dangerous doses of strychnine prior to operation where shock is not already present, although a reasonable dose by acting as a general respiratory and circulatory stimulant is an obviously rational preparation for a severe operation.

Until we have some explanation of this peculiar tolerance in shock it behoves us all always to realise fully the grave responsibility which we incur in pushing the drug to dangerous limits, even in desperate cases. At the same time the experience not only of myself but also of other surgeons has undoubtedly established the fact that these large doses can be used with good effect in cases of extreme shock and without producing symptoms of poisoning.

I am, Sirs, yours faithfully,

Bradford, April 26th, 1902. J. BASIL HALL.

To the Editors of THE LANCET.

SIRS,—That the large doses of strychnine advocated by Mr. Mayo Robson and Mr. C. Hamilton Whiteford are not entirely without danger I can testify from an experience I had when house surgeon in a provincial hospital. A boy, aged six years, was admitted at 6 P.M. with the history of having swallowed and then vomited the tin socket of a small Chinese lantern. On admission the boy seemed well and had no pain, but at 2 A.M. the following morning he became suddenly collapsed, with all the symptoms of perforation of the stomach. At 4 A.M. he was given five minims of liquor strychninæ hypodermically, was anæsthetised with chloroform and the abdomen opened; a small perforation was discovered on the anterior surface of the pylorus (this had evidently occurred some hours previously and had been temporarily closed by lymph) and closed with sutures. During the operation the patient's condition became extremely critical from heart failure, but five minims of liquor strychninæ were injected, the operation was rapidly completed, four pints of saline solution were transfused into the median basilic vein, and the patient left the operating table with a good pulse. At 8.30 the boy was seized with convulsions and rapidly passed into a condition of opisthotonos and died before chloroform could be administered.

I am, Sirs, yours faithfully,

Lincoln, May 5th, 1902. A. STANLEY GREEN.

INFANTILE SCURVY AND RICKETS.

To the Editors of THE LANCET.

SIRS,—In the letter which I wrote to you on "Unboiled *versus* Boiled Milk" and which you published in THE LANCET of June 29th, 1901, p. 1859, I pointed out that there was some alteration effected by the boiling which was deleterious to the nutrition, growth, and health of some of, and probably to some extent of all, the unfortunate infants who are "brought up" on this artificially prepared milk, as against milk in its natural state. I also pointed out that the same facts applied to that series of artificial foods prepared with sterilised or boiled milk, which are so excellent as temporary substitutes for "fresh" milk for a few weeks where, as on board ship, or in hot weather, or from illness, fresh milk is difficult to obtain or deteriorates before it can be consumed, and so disagrees. The same milk-defects also arise when the mother's milk has deteriorated from prolonged or over-lactation. The storm which my letter created made me raise the question in my own mind whether it was not expedient for me to consult an alienist.

The excellent paper which has appeared in THE LANCET of May 3rd, 1902, p. 1246, by Dr. George Carpenter has, however, set my mind at rest on that score, for he says, and I agree with him: "That a diet of sterilised milk, simple boiled milk, pasteurised milk, pasteurised percentage milk mixtures, peptonised milk, condensed milks, malted milks, desiccated milks, the numerous proprietary foods, and cereal gruels combined with the above milk preparations, each in turn or in combination, has produced scurvy in those prone to that disorder, though harmless in that respect to others." I only wish that he had completed the sentence which I have quoted by adding that where "fresh" milk is given to infants and young children infantile scurvy never arises and rickets rarely where the hygienic conditions of the child are as they should be.—I am, Sirs, yours faithfully,

CLEMENT DUKES, M.D., F.R.C.P. Lond.

Rugby, May 6th, 1902.

CHYLOUS HYDROCELE.

To the Editors of THE LANCET.

SIRS,—The following may be of interest owing to its rarity of occurrence. A Hindoo came into hospital with a large hydrocele which was not very translucent. On tapping the fluid was found to be milky in colour, suggesting at first that there might be some fistula of the testicle communicating with the sac and that the fluid was mixed with seminal fluid. On microscopical examination the field was full of fat droplets coated with an albuminous film in a clear liquid. There were one or two cholesterine crystals; no spermatozoa were present. I have searched a large number of recent large systems on surgery but I find no mention of this condition except in that of Holmes and Hulke (vol. iii., p. 480), who quote one or two cases from M. Vidal and from the Transactions of the Pathological Society of London, vol. xvi., p. 184. The fluid was unfortunately thrown away contrary to my orders, so that the specific gravity was not recorded.

I am, Sirs, yours faithfully,

J. RUTTER WILLIAMSON, M.B., Ch.B. Edin.

Mission Hospital, Miraj, Western India, March 20th, 1902.

THE APPROACHING ELECTIONS AT EPSOM COLLEGE.

To the Editors of The Lancet.

Sirs,—May I express the hope that those who have not already pledged themselves in favour of one or other of the candidates will carefully read the lists just issued and vote *only* for those whose husbands or fathers have themselves subscribed? Year *after year an urgent appeal is made to the* profession for greater pecuniary support and yet it frequently happens that the claims of some of those who have responded to these appeals in the past are ignored in the list of candidates recommended by the Council. It should, I think, be made quite clear in every possible way and upon all occasions *that subscribers to the College* have a *primary claim upon its* benefits should necessity arise and only when the dependents of past subscribers have been provided for will the claims of others be considered; I do not otherwise see upon what practical grounds the appeal can be made. This, I think, must be the view of many of my professional brethren. I do not know how otherwise to explain the very striking anomaly presented by this year's list, for of 55 candidates apparently only five were former subscribers!

I am, Sirs, yours faithfully,

London, May 5th, 1902. Life Governor.

THE GERMAN SURGICAL CONGRESS.

(From our Berlin Correspondent.)

(*Concluded from page 1283*)

Histogenesis of Cancer

Professor Gussenbauer (Vienna) said that his clinical experience had persuaded him of the parasitic nature of the cancer virus. He had endeavoured to study its action by taking a large number of microscopical sections from the tissues lying outside the borders of the growths where the virus was likely to have acted without producing manifest symptoms and he had discovered that a general proliferation of cells was present there.

Professor Kahlden (Freiburg) discussed the etiology of relapses in cancer. They, he said, might originate from parasites of the growth which had not been removed at the operation. They might also be caused by thrombosis of the lymphatic vessels or by direct infection. Inoculation of the healthy tissue by the instruments used during operation was also possible. The growth might also from the beginning develop at different places and at different times.

Dr. Petersen drew attention to the fact that the micro-organisms detected in cancer were always in symbiosis with the cells. Relapsing growths always arose from the epithelium of the organ first attacked, either as real relapses unconnected with the first growth, in some degree like a newly-formed tumour, or indirectly as a continuation of the original growth. A parasitic etiology was not yet established.

Dr Nöske (Leipsic) said that none of the parasites hitherto detected in cancer had been proved to have a causative relation to the disease. He had found Mr. H. G. Plimmer's corpuscles in non malignant growths.

Dr. Doyen (Paris) showed specimens of a "micrococcus neoformans" which was present in cancer, the number of the micrococci corresponding with the malignancy of the growth.

Cancer of Various Organs.

Professor Mikulicz (Breslau) said that apart from cancer of the rectum he had seen 106 cases of malignant growth of the intestines, of which 100 were cancer, five were sarcoma, and one was endothelioma. More than 80 per cent. occurred in men, the sites of predilection being the sigmoid flexure and the cæcum. They might be latent for a rather long time. When stenosis happened the prognosis varied according to the acuteness of the symptoms; in acute cases colostomy was the only available operation. Resection of the intestines was performed in 37 cases. In 21 cases the operation was completed at one sitting and among these patients there were nine deaths; in 16 cases he operated in two successive stages with only two deaths.

Dr. von Hochenegg (Vienna) reported that of 174 cases of cancer of the rectum operated on by him 30 remained free from relapse three years after the operation. He used the sacral method exclusively and operated in two stages, first performing a colostomy and eight days later the resection.

Professor Krönlein (Zürich) gave an account of 264 cases of cancer of the stomach of which 197 were operated on. In 251 instances he succeeded in obtaining a detailed history of the case from beginning to end. On an average the disease proved fatal after a duration of one year. Life was prolonged by gastro-enterostomy for about three months and by gastrectomy for about 14 months Of the latter cases 13 might probably be regarded as definitely cured, one patient surviving for eight years, one for four years, and the remainder for periods varying from three years to one year after the operation. Professor Krönlein, however, remarked that relapses after a comparatively long time were not rare, so that a definite cure must not be announced too soon. The results would be still better when operation for cancer of the stomach became more popular with the medical profession as well as with the general public. At present patients were sent to the surgeon as a rule in far too advanced a stage.

Abdominal Surgery.

Professor Körte (Berlin) gave details of 60 subphrenic abscesses originating from appendicitis, gastric and duodenal ulcers, gall-stones, &c In 41 cases a transpleural operation was performed, in 16 instances he made an incision through the ribs and in four cases a median incision. 66 per cent. of the patients recovered.

Professor Sprengel *(Brunswick) said that he had made a* collective investigation of 516 operations for appendicitis, of which 284 were performed during an attack, the result being 20 deaths. Of 232 patients operated on during an interval only two died. He strongly recommended operating early and very soon after the first attacks, before the peritoneum was likely to have become seriously affected.

Professor Roux *(Lausanne) warned his hearers against* operating during an attack of appendicitis; in most cases no harm was done by waiting for five or six weeks. When an operation during an attack could not be postponed owing to the state of the patient then a mere incision into the abscess was sufficient.

Dr. Doyen said that in general peritonitis he recommended early incisions and a "toilette" of the abdominal cavity without washing the peritoneum. Where paralysis of the intestines had developed a temporary colotomy was advisable.

Professor Friedrich (Leipsic) explained that in general peritonitis anaerobic bacteria were present and that the admission of air into the peritoneal cavity when incisions were made might destroy these bacteria.

Professor Kocher read a paper on Peptic Ulcers subsequent to Gastro-jejunostomy They were not always of traumatic origin but might occur after several months or even years owing to the action of the gastric juice on the jejunum. It was not yet ascertained whether this complication was more frequent after anterior or posterior gastro-enterostomy. Professor Kocher had once excised the ulcer, the intestine being adherent to the abdominal wall.

Professor Hahn said that if the frequency of this complication was the same after both anterior and posterior gastro-enterostomy the anterior operation should be performed to the exclusion of the other, because it allowed an eventual excision of the ulcer

Dr. Kausch said that if this complication were more frequent gastro-enterostomy would have to be abandoned for pyloroplasty.

Cryoscopy of the Urine.

Dr. Kümmell (Hamburg) drew attention to the value of cryoscopy of the urine as a trustworthy means of ascertaining the relative efficiency of the kidneys. Cryoscopy meant the determination of the freezing-point of a liquid. The freezing-point of normal urine was about – 0·56° C; if it rose slightly the function of the kidney was likely to be abnormal. The important conclusions submitted to the Congress last year by Dr. W. Kümmell and by Dr. Casper of Berlin had now been confirmed by the result of several operations.

Among the other papers read before the Congress mention may be made of those dealing with operations on the brain by Professor Rehn (Frankfurt), Dr. Thiem (Cottbus), and Dr. Saenger (Hamburg).—Papers were also read by Dr. de Quervain (Chaux-de-Fonds) on Acute Thyroiditis, by Professor Kuster on Œsophagotomy, by Dr. Tavel on Anti-streptococcic Serum, by Dr. Bunge on Talma's Operation, by Dr. Reerink on Plastic Operations on the Stomach.—On the evening of the first day of the Congress demonstrations with the diascope and the kinematograph were given —Dr. JOACHIMSTHAL showed photographs of the structure of the patella and Dr. PERTHES showed photographs of the feet of Chinese women.—The representation of Dr. DOYEN'S operations by means of the kinematograph was a remarkable spectacle. He showed the operation of trephining, a resection of the knee-joint, an ovariotomy, and finally his famous operation for the separation of the xiphopagous Hindoo girls. The different stages of the operation were quite visible though the small size of the photographic pictures made it impossible to discern the anatomical details.

Professor KÜSTER (Marburg) was elected President of next year's Congress.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Pasteur Institute at Kasauli.—Slight Decline in Plague Mortality.—Improvements in Madras.—Dengue Fever in Rangoon.—Model Dwellings in Calcutta.

THE work done at the Kasauli Institute has been satisfactory and successful beyond expectation. During the past eight months 352 persons have been treated for bites of rabid animals Of this number 126 were Europeans and 226 were natives. There were eight British officers and 48 British soldiers, besides 28 men of the native army and there were 61 European civilians and 198 native civilians. Since the institution was opened in August, 1900, practically every European who has been bitten by a mad animal has attended for treatment so that no increase of patients from the European population of India is expected, but the institution is rapidly gaining in popularity amongst the natives. It is very satisfactory to find that every European patient has been successfully treated. Natives as a rule are severely bitten and often by mad jackals and they delay in their attendance for treatment. Notwithstanding this the failures among natives amount to only 0 8 per cent These results will be considered eminently satisfactory and it is expected that this year's results will surpass those of the Paris Institute. As the Government necessarily saves the cost of sending British soldiers to Paris it is anticipated that a larger vote of money will be now granted.

The plague figures for the week have been delayed but local returns show a general decline. Karachi is still severely oppressed but there are signs of diminution both in Bombay and in Calcutta. In neither city has the outbreak been so severe this season and in Bengal it has been quite abortive in character. In the circumstances it is impossible to draw any conclusions as to the success of sanitary measures. Bombay must have been pretty well soaked with disinfectants and Calcutta has absorbed tons of perchloride of mercury. The difference between the two cities appears to be that in Calcutta except for the plague the population seems to be fairly healthy, whereas in Bombay over and above the plague there is a very high mortality.

Those who know Madras will be glad to hear of the improvements which are to be made in Black Town. The old general market is to disappear and it will be converted into a recreation ground and garden.

Dengue fever is still raging in Rangoon and one fatal case has occurred.

The opening of a block of model dwellings for the poor in Calcutta is an experiment of great value. The present poorer dwellings are mostly single-storeyed and cover a large area. In this way they differ very greatly from the *chauls* of Bombay. The block in question contains about 67 rooms, each 12 feet square; it is well ventilated, well paved, and provided with satisfactory sanitary appliances. The difficulty seems to be that masonry dwellings cannot be constructed to provide for the requirements of sanitation as well as to furnish an adequate interest on the money invested, and the rents, therefore, may prove prohibitive to the very classes for which these dwellings were intended. Moreover, even if occupied there is the danger that the crowding may become as excessive as it is in Bombay where between four and five people on the average occupy single-room tenements At present even in the wattle-and-daub mud huts, which admit considerable ventilation, the crowding at night-time, especially in the cooler seasons, is excessive and the air is very offensive. The present venture is a private one on the part of some wealthy natives. As habitations these model dwellings are excellent and if they should not prove financially successful I still think that the corporation ought to provide further blocks in the public interest. In the *bustis* of Calcutta the surroundings of the huts are so filthy that overcrowding greatly intensifies the insanitary conditions.

Calcutta, April 17th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Sanitary Congress in Manchester.

THE jubilee of the Manchester and Salford Sanitary Association was celebrated very successfully on April 24th and 25th. At the opening meeting the Lord Mayor of Manchester (Mr. Alderman Hoy) cordially welcomed the members and, what is important and encouraging for the future, bestowed on the association the municipal blessing. The Bishop of Manchester, as President, delivered an inaugural address marked by the sound robust sense characteristic of his utterances. Dr. Ransome gave an interesting historical sketch of the origin and work of the association, while Sir James Crichton Browne held the audience wrapt in the closest attention during his most eloquent and picturesque address on light and sanitation. In the afternoon Mrs. H. J. Tennant, late chief woman inspector of factories, read the opening paper in the afternoon on Women's Work in Sanitary Reform, and said that in the prevention of infant mortality due to ignorance or neglect on the part of parents there were "splendid possibilities for women workers." In the discussion which followed Mr. D. B. Hewitt, chairman of the Public Health Committee of the Cheshire County Council gave a lamentable account of the mortality among infants, 200 to 300 per 1000, in some of the smaller towns of Cheshire. Dr. H. Simpson emphasised the importance of practical educational work in sanitary reform and Sir J. Crichton Browne spoke of the importance of women's work in bringing home to the people the need of obedience to the laws of health. Dr. A. Newsholme next read a paper on Vital Statistics and their Relation to Sanitary Reform. This was followed by one from Mr. Horsfall on the Housing Question in which he gave interesting details of the arrangements in German towns. The ideal city would, no doubt, be a less unlovely and a healthier one than any we now have, but the cost would place it at present beyond the limits of the practical. The interest in the meetings was well maintained and a good and attentive audience met on the 25th to hear Sir William Broadbent's clear and philosophical address on the Prevention of Tuberculosis. He was followed by Professor A. Bostock Hill who read a valuable and suggestive paper on the Relationship of Voluntary Effort to Constituted Authority in Promoting Sanitary Reform. After luncheon a paper was read for the Earl of Meath, who was unavoidably absent, on Physical Training, the necessity of which is evident to those who see the rapid deterioration of race going on in our large towns. A paper was also read for Mr. Ralph Neville, K.C., on Garden Cities, and the literary part of the conference was closed by Dr. J. Niven, medical officer of health of Manchester, who contributed a paper on the Economics of Health. The conference excited a good deal of interest and it is to be hoped that it will lead to an increase of membership and thus yield increased power for good. On the Thursday evening the Lord Mayor and the Lady Mayoress held a reception at the town hall and on the Friday evening a banquet took place at the Queen's Hotel which was presided over by Professor J. Dixon Mann, the chairman of the committee of the association.

Care of Defective Children.

The first special school for weak-minded children in Manchester was opened about a month since in Hulme. An inspection of 39,600 board school children made three years ago showed that 525 seemed more or less unable to compete with other children in the ordinary classes. Of the 525, 214 were "dull and backward," 276 were "mentally feeble," four were "deaf-mutes," while six were not so backward as to need special attention. At first the school board started special classes. Now there is a special school in Hulme, there will soon be a second school in North Manchester, and a third school will be required shortly. School training is only part of the work, and after school days care is needed. Helplessness falls an easy prey and the story of weakness may be carried into another generation. This points to the remedy being permanent, such as retention in special homes where they may live securely and do more or less useful work. The Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded has made a beginning of this work. A boarding school for 15 boys and one for 15 girls have been built at Sandlebridge near Alderley, and this will after a time be completed by the addition of two more schools—for adults and for infants. Salford, however, can claim priority over Manchester in making provision for "deficient children," having had a school for them which began its work more than two years ago. The building is inconvenient and a graveyard serves as a playground, but the teaching is efficient and in June the children are sent to Mellor in Derbyshire for bracing country air for a week. The teaching in the Manchester school is individualised as much as possible. The brain work comes in the morning while the children are freshest. There are Scripture reading and some simple normal lesson. A good deal is done in the way of "nature teaching"—e.g., in one class a visitor found the children eagerly examining a bottle of tadpoles and making remarks thereupon. They are talked to on matters of general interest. Few of them can speak well and daily lessons in articulation are given. In the afternoon the training is on kindergarten lines for they require training of their senses and of their muscles much more than do ordinary school-children. There is a good deal of play and pleasant drilling. In this way something is done to improve the lot of these unfortunate ones.

Recruiting in Manchester

If anything were needed to show the serious deterioration going on as to the physique of our town population the recruiting returns for Manchester would probably serve. Some three years ago it was stated that of 11,000 men examined—in round numbers—only about 3000 were fit for the service. In 1900 the number of applicants examined was 12,235 and of these 4030 were fit to serve. Within the last 12 months 11,896 men were examined and of these only 3076 were accepted for service. Those rejected were for the most part so ill developed and poor in physique that it was impossible to take them though the authorities were anxious to accept as many as possible. The standard is now lower than it has ever been. A minimum chest measurement at full expansion of 33¼ inches and a minimum height of five feet three inches are sufficient. The Manchester applicants for enlistment are many of them youths of 18 or 19 years of age and are average specimens of those living in the poorer quarters of the city. It is said that instead of 33¼ inches the chest measurement of many young fellows of the age of 18 years is only 28 or 29 inches and they are undersized in proportion. The recruiting officers believe that one principal cause for this miserable want of physique is the habit of cigarette-smoking by youths. "They come to us with their fingers stained with cigarettes and nearly all of them are suffering more or less from palpitation of the heart," and the looked-for remedy is considered to be compulsory physical training in all elementary schools. Cigarette-smoking, no doubt, is an important factor, but not the only one, while its influence is undoubtedly much exaggerated. Born and brought up in the vitiated atmosphere of a town slum, in a crowded and generally miserable and uncleanly tenement, with all inlets for the outer air carefully closed at nights, unsuitably fed as an infant, and insufficiently and often unwholesomely fed when he ought to have been a growing youth, the stunted, ill-developed figure and the feeble muscles of this product of one of the phases of our civilisation cannot cause surprise. Nor can a high morale be reasonably anticipated. There is a great deal said on the need for technical education, but an even greater need for the nation is that our boys and girls shall grow up with sound bodies, when there will be good chance of their having sound minds.

May 6th.

WALES AND WESTERN COUNTIES NOTES

(From our own Correspondents.)

The Prevention of Spitting

It already has been stated in The Lancet[1] that a by-law prohibiting spitting can be made by a county council in fulfilment of the powers given by the Local Government Act, 1888, to make by-laws for "the good rule and government of their county." The County Council of Radnorshire has now adopted a by-law identical with that which is in force in Glamorganshire and which entails a penalty of £5 upon any person who spits upon the floor of a public carriage, church, school, public hall, &c. There was practically no opposition to the adoption of this by-law by the county council and one speaker urged as a reason in favour of the proposal that many consumptives came to the Welsh Wells and that if people were not suffering from consumption spitting was a dirty habit and a small fine would do them good.

Foreign Lunatics at Seaports

The Asylums Committee of the Cardiff Corporation is concerned at the increasing cost to the corporation of maintaining foreign lunatics. The average annual cost during the past five years has been £317, but it has increased from £109 in 1898 to £636 in the present year. There does not appear to be any connexion between this increase and the number of foreign vessels putting in to the port, for in 1897 the number of such vessels calling at Cardiff was 3174, while in 1901 only 2829 put in. The Asylums Committee has decided to bring the matter before the authorities of other seaport towns with a view to securing joint action in a representation to the Lunacy Commissioners in order, if possible, to secure an alteration in the present law.

Madame Patti at Brecon

A concert in aid of the funds of the Brecon County and Borough Infirmary is to be given in September next by the Baroness Cederstrom (Madame Patti). The infirmary was founded in the year 1833 and contains 16 beds. Madame Patti has once before, in 1885, given a concert in support of the infirmary.

The Prevention of Tuberculosis

When the South Wales and Monmouthshire Branch of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis was inaugurated in Cardiff last year one of the avowed objects of the branch was the establishment of a sanatorium and at a meeting held on May 3rd it was decided to take immediate steps to promote the erection of such an institution to serve the needs of Glamorganshire and Monmouthshire. These two counties have populations of 880,000 and 300,000 respectively. In the former county, where 7 per cent. of all the deaths registered are due to consumption, the phthisis rate is 1·2 per 1000 and there are about 1000 deaths annually from the disease. In Monmouthshire the phthisis death-rate of 1 per 1000 is among the lowest in the kingdom, and there are about 300 deaths from phthisis annually, or a number equal to 6 per cent. of the deaths from all causes. At the meeting referred to Dr. W. Mitchell Stevens pointed out that the lot of the poor consumptive was a most unenviable one, for since consumption had been recognised so strongly as being an infectious disease the general hospital was closed against him. Dr. Stevens urged that not only the early, but the more advanced, cases should be looked after as it was from these that the danger of the spread of infection specially arose.

Sanitary Condition of Merthyr Tydvil

Until less than 30 years ago Merthyr Tydvil was by far the most considerable town within the principality of Wales and it is only during the past quarter of a century that it has been outstripped by Cardiff, where in 1851 the population was only 18,000 while in Merthyr it was nearly 47,000. At the last census the population of Cardiff was 164,000 and that of Merthyr was 69,000. The insanitary condition of Merthyr, with its resultant high death-rate, has been the subject of many inquiries by inspectors of the Privy Council and of the Local Government Board and as a result of their reports and recommendations the sanitary authority has of late years bestirred itself to improve the condition of the town and has thus endeavoured to lower the rate of mortality. Dr. William Williams (the medical officer of health for the county of Glamorgan), in his sanitary survey of the county, states that as long ago as 1854 Dr. William Kay, who was temporarily appointed health officer in 1852, concluded a report thus: "The unhealthiness of Merthyr Tydvil is attributable to local and self-created conditions, the vicious construction of houses, the inadequate water-supply, the absence of drainage, and the necessary consequence—accumulations of filth, atmospheric impurity and excessive and fatal prevalence of disease." As an index to the activity displayed by the urban district council and its predecessor the local board of health it is of interest to quote from the recently issued report to the district council of the present medical officer of health, Mr. D. J. Thomas, in which he says: "You have one of the best water-supplies in the kingdom. Not only is the supply good in quality but there is a sufficiency of it. You have spent vast sums of money to obtain a system of sewage disposal which is at once clean and efficient." The death-rate, however, is still high. In 1901 it was 25·9 per 1000, and in one district of the town—Dowlais—the death-rate was over 33 per 1000, although it is situated at an elevation in some parts of 1760 feet, while nowhere is it less than 800 feet above sea-level. During the past 10 years the death-rate of Merthyr has never been below 20 per 1000 and in one year it was over 30 per 1000. The infantile mortality rate in 1901 was equal to 261 per 1000 births. In Mr. Thomas's opinion there are two causes operating towards the high death-rate which overshadow all others—the conditions under which the poorer people are housed and the ignorance displayed by mothers in the rearing of infants.

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[1] The Lancet, March 22nd, 1902, p. 851.

Verdict of Manslaughter for Improper Feeding of a Child.

At an inquest held on May 1st at Bristol a coroner's jury returned a verdict of "Manslaughter" against a woman whose child had died from convulsions and bronchitis accelerated by improper feeding. It was stated in the course of the inquiry that the child had been fed upon condensed skim milk, which cost 2½*d.* per tin, and upon boiled bread.

Small-pox.

There are now two cases of small-pox at Aberdare. There are no fresh cases in the Rhondda Valley; the man who was infected from Aberdare died on May 1st. There is a case of the disease in the Newport Hospital, the patient being the engineer of a steam yacht from which a case had been removed at Gibraltar.

Vaccination at Helston.

At the meeting of the Helston (Cornwall) Board of Guardians held on April 12th it was decided to open stations for the purposes of revaccination. It was reported that the cost of revaccination and the primary vaccination of adults for the past three months amounted to £129. A communication was read from the Local Government Board in answer to a letter from the guardians drawing attention to some vaccination posters issued by the Helston Borough Council as the local sanitary authority, and to which the guardians objected as they considered that the posters had been signed by the public vaccinator. The Local Government Board, however, stated that the notices could not be regarded as signed by the public vaccinator, and that it did not feel called upon to make any observations upon the matter.

May 5th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Aberdeen University.

THE session commenced on April 29th. The Senatus met in Marischal College on April 30th, Professor Stephenson presiding in the absence of Principal Lang. The business was of a routine nature. The Court agreed to change the date of meeting from Saturday to another day of the week as an experiment. An address in German was received from Professor Virchow of Berlin in acknowledgment of the congratulations which the University had presented to him on the occasion of his eightieth birthday. It will be remembered that in addition to its congratulations the Senatus conferred on Professor Virchow the honorary degree of LL.D.

The Admission of Medical Students to Aberdeen University.

A new by-law regulating the admission of medical students to Aberdeen University has come into force whereby no student under 16 years of age is admitted. A certificate of birth has to be produced by applicants for registration.

Obituary.

Jeannie Charlotte MacLeod, M.B., Ch.B., LL.A., resident physician and surgeon at the Royal Hospital for Sick Children, Aberdeen, died there suddenly on May 2nd. She graduated only last month at Aberdeen University and entered on the above appointment one week before her death.

May 6th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Convocation of the Royal University of Ireland.

ON May 9th the contest will take place for six representatives of Convocation on the Senate of the Royal University of Ireland. There are nine candidates in the field, and considerable interest is being taken in the fight which is being waged with great vigour. At a meeting of the Roman Catholic members of Convocation residing in Dublin on April 27th in the Catholic University it was unanimously decided to recommend the Roman Catholic members of Convocation to vote for two candidates—Mr. M. Drummond, M.A., K.C., of Dublin, and Dr. J. Cotter of Cork—both of whom are Roman Catholics. The Royal University Graduates Association, whose headquarters are in Belfast, has issued a circular in support of Mr. A. Anderson, M.A., President of Queen's College, Galway, Dr. Walton Brown (Belfast), Mr. E. Cuming, M.A. (Dublin), Rev. Professor Leitch, D.Lit. (Belfast), His Honour Judge Shaw, LL.D. (Dublin), and Professor Sinclair, M.D., of Belfast. This association in its circular urges that the question of extern examiners is the burning one in the present contest, their appointment being of cardinal importance in all the faculties but of vital importance in the medical faculty. It is opposing Sir W. Thomson, M.A., M.D. R.U.I., another candidate living in Dublin whom it regards as not sound on this question.

Royal Commission on University Education in Ireland.

The next meeting of this Commission is to begin in London on May 20th and it is believed that the following among others will be examined: Dr. Anthony Traill, Fellow of Trinity College, Dublin; the Right Hon. Lord Justice Fitzgibbon; Rev. Professor Todd Martin, D.Lit.; Archbishop Walsh; and Mr. F. H. O'Connell, M.A. After a few days' sittings the Commission will sit again in Dublin in June when the final report will be drawn up.

Royal Victoria Eye and Ear Hospital, Dublin.

Referring to some statements which have appeared in letters to public journals suggesting that extravagance is not infrequent in the management of hospitals and that the subscribers have a right to know precisely what is done with their money, the council of the Royal Victoria Eye and Ear Hospital, Dublin, at its last meeting requested the honorary president and honorary treasurer to court the fullest investigation from the public as far as its institution was concerned. A very interesting letter appeared accordingly in the *Irish Times* of April 26th, signed by Lord Monk and Mr. Mark Perrin, giving some details as regards the expenses of management, diet, &c., of the hospital. Among other statements the letter contains the following: "Our patients get food of the best quality, well cooked, and as much of it as they can eat; your correspondent and others will be surprised to learn that the cost of this ample, good, and comfortable dieting is very slightly over 6½*d.* per head per day, the entire cost of maintaining a bed for one year being £40 1*s.* 6*d.*, which includes drugs, foods, proportional cost of nurses' and servants' wages, fire and light, rent and taxes, laundry, and salaries." It occurs to me that if every hospital in Dublin supported by charity would furnish such a satisfactory record as the above there would be no further suggestion of extravagance or mismanagement in the public press. Since the above was written the admirable and business-like statement of Lord Monk has borne fruit. On May 1st it was announced in all the public journals that an anonymous donor had offered through his Grace the Most Rev. Dr. Peacocke, Archbishop of Dublin, the generous contribution of £1000 towards the building fund of this hospital on the condition that £4000 more be subscribed to the fund by Nov. 1st next. The council of the hospital has gratefully accepted this kind offer.

The late James Irvine, L.R.C.P. Edin., L.F.P.S. Glasg.

I regret to announce the death of Mr. James Irvine, which occurred at his residence, Lonsdale, Belmont, Belfast, on April 29th. His death was not unexpected as he had for some time been in ailing health and was unfit for work. As a student Mr. Irvine attended Queen's College, Belfast, and in 1867 he obtained the L.R.C.P. of Edinburgh and the L.F.P.S. of Glasgow. Mr. Irvine was dispensary medical officer of Castlereagh, No. 3 district, for 30 years and during his long career enjoyed the confidence and gained the esteem of a large *clientèle* A great favourite, his kindness, geniality, and sympathy gained him a large circle of personal friends Mr Irvine was buried on May 1st. He leaves a widow, four daughters, and two sons, one of whom, Mr Hugh R. Irvine, succeeded his father a few years ago when through failing health he was obliged to resign his dispensary

Small pox in Belfast

On April 30th a woman who had come from Liverpool on April 17th was admitted into the Union Hospital and on the following day symptoms of small pox appeared The case is a severe one The patient from Glasgow, who developed the disease on coming to Belfast, has recovered.

The Belfast Hospital for Sick Children.

A collection, organised by the Belfast United Trades and Labour Council, was made on May 3rd on behalf of the Belfast Hospital for Sick Children when a large sum of money was the result

Health of Belfast

The annual death rate between March 16th and April 19th was 22·7 per 1000, while in the corresponding part of last year it was 27·4 The death rate is lower than in the report for the previous month and is specially low in the case of zymotic disease

Benn Ulster Eye, Ear, and Throat Hospital

At the annual meeting of the friends of this hospital, held on April 24th, it was reported that during the past year the number of patients under treatment in the hospital (of whom 463 continued in attendance from the previous year) was 1992, while 212 were received as intern patients The board of management had decided to increase the charge of intern patients from 10*s* to 15*s* per week, with the result that the debt of the institution, which was £567 15*s* 8*d* at the beginning of the year, was reduced to £412 16*s* 8*d* at its close The total income for the year was £670 8*s* 1*d*, and the expenditure was £715 9*s* 1*d* Dr W A. McKeown, surgeon to the hospital, said that his experience in Belfast and in Ulster in the last 20 years enabled him to say in relation to the work done by that and other hospitals, that the majority of the cases of diseases in young persons originated through defective hygienic conditions He referred to the great help given to him in the work of the hospital by his experienced assistant, Dr W M Killen.

Londonderry Eye, Ear, and Throat Hospital

At the annual meeting of the friends and supporters of this hospital, held on April 24th, it was reported that there had been 1368 extern and 94 intern patients during the year ended March 31st, 1902. There had also been 1037 dental cases under the charge of Mr E. Donaldson and Dr W B Hunter This hospital is doing excellent work for patients in Derry and the North west of Ireland It was decided to provide an apparatus for administering anæsthetics to the dental patients.

Down District Lunatic Asylum

At a meeting of the committee of management of the Down District Lunatic Asylum held on April 19th, it was announced by the resident medical superintendent that the contractors had commenced the work of the erection of the iron isolation hospital which will be a very necessary and most useful adjunct to the asylum.

North of Ireland Branch of the British Medical Association.

The spring meeting was held in the Belfast Museum on April 24th, the President, Dr J S Darling (Lurgan) being in the chair The president read notes of a case of Pernicious Anæmia developing in six weeks. Dr J St. Clair Boyd and Dr J Tennant read notes of cases of Extra uterine Fœtation. Professor T Sinclair reported upon a case of Simultaneous Appendicectomy and Transverse Colectomy ending in recovery Dr A. Dempsey showed specimens removed from two cases of Extra uterine Fœtation successfully operated upon. Mr Robert Campbell read notes of a case of Acute Intestinal Obstruction by a Band in an elderly woman and showed a specimen of a Peculiar Body in the Vermiform Appendix. Dr W Calwell read notes of (1) a case of Tetany in Dilatation of the Stomach, (2) a rare form of Relapse in Typhoid Fever and of a second attack after a few months interval; and (3) on the Nitro-propiol Test for Sugar in Urine based on 100 Examinations.

May 6th.

PARIS.

(FROM OUR OWN CORRESPONDENT)

Rats and Plague

M GAMALEIA of Odessa forwarded an interesting note to the Academy of Medicine which was communicated to that body by M. Proust. M. Gamaleia has found that important differences exist between the rats found in sewers and those found in houses Sewer rats are very refractory to plague, or, at least, if they do contract it from eating carrion, they do not infect other rats House rats, on the contrary, are those which are found also on board ship They contract plague very easily and infect their fellows through the intermediary of fleas M Proust considers that the fact that the continent of Europe possesses more sewer rats than house rats is the reason why plague, starting from a port, spreads only slowly through the country, whereas it will spread from one ship to another very rapidly

The Benefits of Tobacco

Heretofore scarcely anything but the dangers of the use of tobacco have been insisted upon. But now a physician, Dr Dumon, in a thesis for the degree of Doctor of Pharmacy, points out that tobacco is of great use to medical men and others who come into contact with those suffering from influenza, diphtheria, and tuberculosis Dr Dumon has studied the action of tobacco smoke upon the various organisms found in the cavity of the mouth and has come to the following conclusions Tobacco has no effect upon the development of the germs of typhoid fever or tetanus, but it greatly retards the growth of the bacilli of influenza, of diphtheria, and of tuberculosis. These experiments were made with definite cultures and Dr Dumon is able to assert that the vapours of nicotine and pyridine which are produced by the burning of tobacco do render the buccal cavity more or less aseptic The same fact has been noticed by dentists Possibly, however, this advantage is somewhat counterbalanced by the chronic intoxication of the nervous system which is produced by smoking and by the irritation of the naso pharynx which it sets up.

The Reorganisation of the Paris Hospitals

The question of the reorganisation of the Paris hospitals has been under consideration for some three years Many of the hospitals are by no means in accordance with modern requirements and should be pulled down But, naturally enough, the enormous expense which such destruction and construction would involve stands in the way The plan first proposed by the Prefect of the Seine in 1895 involved an expenditure of from 57,000,000 to 75,000,000 francs, according as to whether brick or stone were employed. The Municipal Council considers that to finish the three children's hospitals now building, to erect nine other new hospitals, and to pull down the old ones would require an expenditure of 105 000,000 francs This figure, however, is too high M Lefevre, who has drawn up a report on the matter, proposes to rebuild on the sites which they now occupy the following hospitals. the Pitié, the Cochin the Ricord, the Broca, and the Broussais, as well as to pull down the annexe of the Hotel Dieu He further proposes to rebuild one of the contagious hospitals and three general hospitals, to build a large central wash house and laundry, to enlarge the Brevannes and the Rochefoucauld establishments, and to put the remaining hospitals in thorough repair These works would require an expenditure of 75 000 000 francs The Municipal Council recoiled from this enormous sum and the plan was rejected M. Mourier on the part of the Assistance Publique, then brought forward anew the proposal of M Lefevre, with some modifications as follows (1) to rebuild on their present sites the following hospitals—the Cochin the Ricord, the Broca, and the Broussais, and to increase the total number of beds to 451, (2) to rebuild on different sites the following hospitals the Pitié, the Laennec, the Charité the Beaujon, and the Aubervilliers, with 557 additional beds, (3) to enlarge the annexe of the Hôtel Dieu and not to pull it down; (4) to build a new hospital for children suffering from tuberculous disease of the bones, (5) to enlarge the Hérold Hospital and that for Sick Children, (6) to enlarge the Brevannes and Rochefoucauld establishments so as to make 900 new beds, (7) to improve the wash houses and laundries, (8) to do away with the present central dispensary and to rebuild it at Ivry, and (9) to put the remaining hospitals into thorough repair By this scheme nearly 2000 new beds would be established, of which number 1208 would be purely hospital beds. The total cost would be 83,000,000 francs, of which sum 29,000,000 francs would be provided by the sale of sites set free by the demolition of existing buildings.

May 6th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Cholera in the Hedjaz.

IT is extremely probable that all the different epidemics of cholera which have reached Egypt since the first visitation in 1831 have invariably been transmitted to this country from Arabia, the conveying hosts on most, if not all, occasions having been pilgrims returning from the holy places. Egypt is therefore always much interested in the progress of the disease in Mecca and Jeddah. It appears that the first cases occurred in Mecca about Feb. 20th of this year, but it was not until March 5th that the disease was officially declared to be cholera. Unfortunately for those who have to control the hordes of the returning faithful the pilgrimage to Mecca this year has been an extra large one, and it is calculated that about 40,000 of the pilgrims have come from northern countries. The present effort of the Egyptian quarantine authorities is to prevent all pilgrims from entering Egypt by any other way than that of El Tor, and also to take care that while at El Tor every pilgrim is thoroughly examined and is prevented from pursuing his journey towards Europe or into Egypt until he is considered to be incapable of carrying cholera with him. To prevent clandestine landing on the Red Sea coast from native boats Government steamers and land patrols are always watching, while the Suez Canal is being guarded by its own agents and by coastguard police.

The Camp at El Tor.

Boats from Suez take about 12 hours to reach El Tor, which is situated 120 miles to the south of Suez on the eastern coast of the Arabian Gulf. When the steamers conveying pilgrims reach El Tor the passengers disembark into large boats which are towed to three disinfecting stations. Each of these stations is divided into two parts, for men and for women The clothes and luggage of each pilgrim are then put into sacks which are placed in the disinfectors, where they are subjected to a heat of 120° F. for 20 minutes. Any articles which would be spoilt by this heat are dipped into a sublimate solution. The steamer itself is thoroughly disinfected and the pilgrims themselves are conducted to a dressing-room connected with a bath-room where they have the choice of a cold or hot douche or a cold or hot sea-water bath. They are then moved on to another room where they join their clothes which have in the meantime been disinfected and where they are visited by the quarantine medical officer and a passport clerk. As everything is now done methodically about 100 pilgrims pass through each station every hour and in times of pressure the electric light allows the work to be continued by night. The pilgrim and his luggage are then conveyed by a local railway to the section of the camp destined for their accommodation. Each of these sections is a fenced-in enclosure 200 yards long and 50 yards wide on which there are standing 100 tents, each capable of sheltering six pilgrims, besides the tents of the medical officer and the sanitary police, the store, the restaurant, and the latrines. The medical officer visits each pilgrim twice a day and despatches any pilgrims who are sick to hospital at once. Cholera quarantine lasts for 15 days, but if a case occurs during the quarantine the pilgrims of that section are kept until 15 days have elapsed since the last case of cholera in their section. Egyptian pilgrims who have no long sea voyage to undertake after their emancipation are kept for 18 instead of 15 days. The camp contains 40 sections of which only the 20 intermediate ones are occupied, thus providing accommodation for 12,000 pilgrims at a time. Each section is complete in itself, is strictly isolated from the rest of the camp and is surrounded by a cordon of soldiers, and the camp is furnished with electric light and telephones. The stores are sold at a fixed tariff and the Government provides destitute pilgrims of all nationalities with two meals a day. This description refers to healthy pilgrims, but the moment one is discovered to be diseased he is removed to a hospital according to the nature of his complaint. One hospital is for surgical cases entirely, another for suspicious cases under observation, another for contagious disease, and yet another for cases of ordinary disease. The arrangements this year are certainly better than they have been on former occasions and it is to be hoped that the quarantine authorities will succeed in arresting all cases of cholera at El Tor, thus preventing the disease from being transmitted into Europe or into Egypt. In spite of all that has been written about it in former years the steamers conveying pilgrims are still fearfully overcrowded; one at the beginning of this month conveyed 1514 Russian pilgrims from Jeddah to El Tor and another steamer carried 1560 to the same port. Each of these arrived at El Tor with cholera on board.

The Pilgrimage of 1901.

To go back to last year for a moment it is satisfactory to point out that whereas the general mortality in the camp at El Tor was 0·64 in the case of non-Egyptians it was only 0·06, or 10 times less, in the case of Egyptian pilgrims. Moreover, the number of pauper pilgrims from Egypt was only 61, or less than 1 per cent., of the total number of paupers during the year. On the other hand, out of a total of 18,900 foreign pilgrims no less than 6000, or 31 per cent., had to be fed at the expense of the Egyptian Government. The new rules for controlling the Egyptian pilgrims have been on trial now for three years and have answered so well without any friction that it is a profound pity that Turkey, Russia, and other countries do not adopt similar means to prevent paupers from attending the pilgrimage. The most important of the Egyptian rules are: (1) that no pilgrim is allowed to leave Egypt unless he is provided with a passport, and he cannot obtain this passport until he has deposited 32*s*. to pay for his disembarkation at Suez and his quarantine expenses; (2) that each pilgrim must have a return ticket the steamer, and that the steamer company must satisfy Egyptian Government that they can guarantee the re journey of all their passengers; and (3) that all pilgr landed at Suez must give their addresses to the local sani authorities who are thus able to trace them to their hor Many stringent regulations have been enforced about steamers carrying Egyptian pilgrims. Besides sani regulations the number of pilgrims which each vesse authorised to carry is painted in large letters on the sh side; each vessel is inspected by Government officials, £2000 caution money is deposited by every compan which authority to carry Egyptian pilgrims is given.

Cairo, April 28th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Municipal Control of Therapeutic Serums.

DURING the past year there have been—notably at Louis—some lamentable accidents from the use of diphth antitoxin manufactured by city boards of health which excited a certain amount of distrust as to the meth employed by such bodies. A movement in favour Government control has accordingly been initiated. while no objection has been brought against the adop of this plan a decidedly adverse sentiment has manifested against the system in force at the New City Board of Health. This board for some consider time has been accustomed to sell its therapeutic ser thus competing with private manufacturers The B of Health of New York City has gained a deserv high reputation for the good work which it has acc plished and it has been felt and expressed by physicians that by selling any of its products it not becomes tainted with commercialism but goes outsid own province and restricts its power of acting in the interests of the health of the community at large. On 17th a deputation of pharmacists, physicians, and ot opposed to the sale by the New York Board of Healt antitoxin and vaccine virus had an interview with the m (Mr. Low) for the purpose of protesting against this co and of endeavouring to prevail upon him to put a stop to custom. The petitioners were represented by counsel who presented a memorial signed by more than 1000 persons and who stated the condition of affairs to the mayor. The New York City Board of Health contends that only the surplus stock of virus is sold but when a profit of $20,000 (£4000) is made in one year, as in 1901, it would seem that the commercial side of the question is at least one of the objects in view. The and a glance at the balance-sheet included in the council's report for 1899 and 1900 will show that its resources are small and are administered economically, while it must be plain to all that an increased income means the possibility of an enlarged sphere of activity. Turning to the body of the report referred to for information we find an exhaustive record of work done by the council and of matters affecting the subject in which it interests itself. As an example of its operations we may call attention to a table in which 4927 cases are described as "central office cases"—that is to say, cases in which the inspectors of the council examined premises with regard to which complaints had been made to it. These cases were examined in one year, 1899, and 1607 of them were during the course of the year "dismissed as remedied," while 2250 were "dismissed as trivial or no defects," from which it will be evident that the council on the one hand is able to insist effectively where remedy is needed and that on the other hand it proceeds in a reasonable spirit and does not condemn where it finds no substantial fault. The balance of the cases in the list we quote from were carried over to the following year, and, indeed, the work of curing the evil arising out of the congested state of London is not a task that can be rapidly completed either as a whole or in individual instances. It may take many months, even years, to rouse a public authority to a sense of its duties to discover who is the proper person to be made liable for the defective drainage of a slum dwelling. And when he is found more time is required to bring home his liability to him before a magistrate, while he has then to commence the necessary work of sanitation.

One of the important legal points to which the Mansion House Council calls attention is the question of the landlord's liability to compensate a tenant under Section 75 of the Housing of the Working Classes Act, 1890, where he has ostensibly contracted himself out of his liability. The section in question decrees that "in any contract for letting for habitation by persons of the working-classes a house or part of a house, there shall be implied a condition that the house is at the commencement of the holding in all respects reasonably fit for human habitation." This in effect puts the letting of an unfurnished house or rooms to a working man on the same legal basis as the letting of furnished premises. It is an important section for working men to be aware of and for those interested in the public health to enforce. In one case recorded in the Mansion House Council's report a landlord was sued under this section for injuries received by the plaintiff owing to the dilapidated condition of a flight of steps and in this instance the landlord had judgment given against him. In another similar case, however, which the council considered, it was met by the fact that the complaining tenant had apparently acquiesced in a condition inserted in his rent-book, by which the landlord was freed from all liability imposed on him by the section in question. It will be observed that the section only speaks of an implied condition, and, as a rule, no doubt, an express condition overrides an implied one, so that we are not surprised to find that the opinion of counsel taken by the Mansion House Council was, on the whole, against the possibility of rendering a landlord liable in such a case. In this view the Mansion House Council, the Local Government Board, and the London County Council appear to agree, with the result that although the last-named body deems that legislation is desirable to prevent the landlord from "contracting out" the landlord who is astute enough to do so will probably for the present continue to protect himself, and as his tenants will be persons anxious to find house-room, and ignorant for the most part of their rights, he will probably succeed in doing so. In calling attention to defects such as this in the laws affecting sanitation, and in helping to enforce these laws wherever it can, the Mansion House Council is doing good work and we are in full sympathy with its request for funds. The law, while far from perfect, is still capable of effecting much if vigorously and consistently carried out. Its inefficiency usually arises from one of two causes, the inactivity or the ignorance of those governed by it, and this inactivity or ignorance the Mansion House Council claims to stimulate or to instruct.

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The Anti-Vivisection Question.

THE columns of the *Times* for the past three weeks have contained letters dealing with the alleged abuse by physiologists of the position conferred upon them by the laws of their country in the matter of experiment upon the lower animals. Letters have also been published in reply to these, alleging, and in certain details proving, that the secretaries of the anti-vivisection societies have disseminated misleading literature to the public and have generally not conducted their opposition to the work of practical physiology in a candid manner. The correspondence in the *Times* has not yet come to an end and in our opinion our contemporary is doing thoroughly good service to the public by allowing the whole question of anti-vivisection to be thoroughly threshed out. It was probably with deliberate intention to clear the air by provoking a storm that some of the more contentious effusions have been published. In themselves several of them are ridiculous, but as contributions to a controversy they play their part, showing the mental attitude of the writers and giving the public a chance of gauging the general wisdom of their party. Nothing but good to the cause of humanity, as well as to the cause of science, should come from the publication of these letters; for the public, if it has read them and is reading them carefully, cannot fail to see on which side right lies, and cannot fail to detect which is the genuinely charitable man, which is the self-important propagandist, and which is the blubbering sentimentalist.

We are asked now and again by our readers what course they should pursue when an emissary of one of the anti-vivisection societies proposes to take the floor at the local town hall and to show up the loathsome cruelty of the medical profession. Our usual reply is to counsel inaction. Our motive in so doing has not been simply barbarous, although we are aware that to disregard the "arguments" of the platform anti-vivisectionist is to hurt him in his tenderest spot. Our motive has been rather to spare members of our profession needless trouble. Physiology is not a subject that can be made intelligible to the public at any time, while the cause of truth can never be served by arguing about the due relation of physiology to therapeutics with a man who has received no scientific or medical training. And on point of the objectors to these methods is that the profit is not derived from the sale of a natural surplus but is calculated upon for the raising of funds for the conduct of the department. Many prominent medical men are of the opinion that while it is not only proper but imperative that there should be a rigid inspection of all therapeutic serums made by private manufacturers or by boards of health it is unjust and contrary to the principles of political science that boards of health should be allowed to trade in such products. The mayor said that after May 1st he would have an inquiry instituted into the whole subject.

Public Baths for New York.

The United States are far behind European countries as regards public-bathing arrangements in the cities. New York itself—although some progress has been made in providing its poorer districts with bathing facilities—is still lamentably deficient in this respect It is said that Liverpool, with a population of 668,000 persons, has spent on public baths more than all American cities combined, while Glasgow almost equals Liverpool in the number of its public baths. Germany in particular and the continent in general are little behind England and Tokio, in Japan, with a population of slightly over 1,000,000, has 800 public baths. There is probably no civilised city in the world with a greater need of a bountiful water-supply for washing and bathing purposes than New York The supply of water to the private houses is amply sufficient but in the tenement district the dwellings are so overcrowded that bathing and all ablutionary observances must be conducted on the most primitive and restricted scale conceivable and in many cases it is a matter of impossibility for the entire family to get a thoroughly good wash. Dr. Simon Baruch has long identified himself with the movement for a public bath system for New York commensurate with its size and wealth—indeed, he may be called the pioneer of the public bath crusade. Dr. Baruch is an ardent advocate of shower-baths, holding that in every respect they are superior to tub-baths. Viewed from every standpoint public baths may be said to be an advantage, almost a necessity, to a large city. The municipality of New York has recently appropriated $300,000 (£60,000) for the further extension of the bath system, but, as a matter of fact, this sum will be but a drop in the ocean—$3,000,000 (£600,000) would not have been an excessive amount. Nevertheless, this grant may be regarded as an earnest of a more generous one in the future and in this light it should be thankfully received.

Paying Patients in New York City Consumption Hospital.

On Feb. 1st a building on Blackwell's Island in New York Harbour was handed over by the municipal authorities of the city for the treatment of poor persons suffering from pulmonary tuberculosis. Recently the New York Commissioner of Charities published a statement of the results attained so far at the institution. Since Feb 1st, 273 patients have been admitted affected with phthisis in a more or less advanced stage. Rather more than 50 per cent. of this number were in a very bad condition, many of them being beyond hope of recovery. The remaining 50 per cent. were of two classes—those who presented all the typical symptoms of the disease but were able to live in the ordinary way and those who, while afflicted with phthisis in a bad form, yet retained sufficient vitality to be up for the greater part of the day. Of the 273 patients admitted 55 have been discharged—50 as improved and five as showing no signs of improvement, 28 cases have been transferred elsewhere for operations or as exhibiting no symptoms of tuberculosis, 76 patients who were admitted in an advanced stage have died, and 114 remain in the hospital. Of those remaining 20 are new cases not yet classified, 40 are unable to leave their beds, and 54 are in the early stage. Of these latter 25 have shown marked improvement and have gained in weight an average of 6·75 pounds, 13 have improved more slowly but show an average increase in weight of 1·9 pounds, and 16 have not improved but show an average loss in weight of 1·31 pounds. On the whole the experiment has been a success and it will lead to a further extension of the system of thus treating needy consumptives.

April 25th

ALLEGED CRUELTY TO FROGS.—At Clerkenwell Police-court on May 3rd an officer of the Royal Society for the Prevention of Cruelty to Animals was granted a summons for alleged cruelty to frogs. The ground of complaint was that more than 100 frogs were kept in a glass fishbowl in a window of a shop where reptiles were sold and that some of them were dead and others were in a dying condition. They were intended to be used for feeding snakes.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the first examination of the Board at the April quarterly meeting of the examiners in the subjects indicated:—

Chemistry.—Charles James Aveling, University College Hospital; Bernard Richardson Billings, London Hospital; John Errol Moritz Boyd, St. Mary's Hospital; Lawrence Drew Ching, St. Bartholomew's Hospital; John Clarke, Firth College, Sheffield; Bevil Molesworth Collard, London Hospital; David Ernest Stephen Davies, St. Bartholomew's and King's College Hospitals; Francis Carminow Doble, King's College Hospital, John McDougall Eckstein, St Bartholomew's Hospital; Howard Robinson Elliott, Firth College, Sheffield; Sydney Frank Henderson Everill, Mason College, Birmingham; John Rowland Foster, University College Hospital; Joseph Tylor Fox, City of London School; Edward Armitage Gough, Yorkshire College, Leeds; William Robert Greening, Guy's Hospital; Walter Bristow Griffin and Rupert Lawrence Haines, St. Bartholomew's Hospital, Henry Edwards Griffiths, University College, Cardiff, Herbert John Hills, Guy's Hospital; Hugh George Hobson, Middlesex Hospital; Thomas Huddleston, Mason College, Birmingham, and Birkbeck Institute; Arthur Rocyn Jones, University College, Cardiff; John Iles Francis Knight and Harold William Latham, London Hospital; Frederick Evelyn Woolner Meadows and Gordon Nevil Montgomery, Middlesex Hospital, Gerald Hamilton Morris, Guy's Hospital; Frederick William Murray, University College, Liverpool; George Kelsey Breward Neal, Charing Cross Hospital; Malcolmson Knox Nelson, Queen's College, Belfast; Ernest Nuttall, Owens College, Manchester; George Singleton Parkinson, University College, Bristol; Percy Giles Vivian Pedrick, Guy's Hospital, Leonard Russell, King's College Hospital; Gerald Noel Lloyd Sebastian, St. George's Hospital; William Preston Skinner, Firth College, Sheffield; Sidney Slade, Middlesex Hospital; Thomas Lionel Smith, Yorkshire College, Leeds; Herbert McLean Staley, Owens College, Manchester, and Manchester Technical School; George Stone, London Hospital, Arthur Westray Swinburne, Yorkshire College, Leeds; Tom Timothy, University College, Cardiff; Sydney Vosper, St. Bartholomew's Hospital; Harry Wales, Yorkshire College, Leeds, Frederic Winn Walker, Owens College, Manchester; Charles Weller, Birkbeck Institute, and John Dill Williams, Queen's College, Belfast

Practical Pharmacy.—Arthur Joseph Ambrose, Westminster Hospital; Sydney Charles Gordon Amoore, Charing Cross Hospital, Urban Morris Asphen, Cambridge University and King's College Hospital; Kenelm Digby Bell, St. Bartholomew's Hospital; James Landells Blackie, Otago University and Middlesex Hospital; Gerald Arthur Bradshaw, St. Mary's Hospital John Butterworth, Owens College, Manchester; Percy Claude Vincent Bent, Sidney Clement Bowle, William Henry Bush, and John Brightman Copland, Guy's Hospital; Mortimer John Cromie, Westminster Hospital; Edgar Severn Ellis, St. Bartholomew's Hospital; Harry Loft Evans, St. Thomas's Hospital, Walter Taylor Finlayson, St. Mary's Hospital Hugh Bernard German and George Francis Hardy, Guy's Hospital; John Winn Ford Gillies, St Thomas's Hospital; Frederic Rosenberg Harris, St Mary's Hospital; Willoughby Henwood Harvey, St. Bartholomew's Hospital; Daniel Morgan Humby, Middlesex Hospital; Frederick Douglas Selmes Jackson and Frederick Charles Rienzi Mallins Knight, Guy's Hospital, William Wilfrid King and Robert Lecky, University College, Bristol, William Lovell and William Thomas McCowen, St. Mary's Hospital; Horace Palmer Margetts, St Bartholomew's Hospital; Anthony Mavrogordato, Oxford University and St. Thomas's Hospital; Herbert Edward Morris, Guy's Hospital, Jonas Morris, St Bartholomew's Hospital; Reginald Moyle, Durham University and Guy's Hospital; John Patten Nuttall, London Hospital; Felix Rawsthorne, Owens College, Manchester; Harold Round, Mason College, Birmingham; John Douglas Staley, Owens College, Manchester; Alfred Cuthbert Story, University College, Cardiff, and St. Mary's Hospital; Martin Bramley Taylor Guy's Hospital, James Tuttle, London; and Richard Hugh Williams, University College, Liverpool, and Owens College, Manchester

Elementary Biology.—Charles Edgar Harvey Adam, St. Bartholomew's Hospital, Charles James Aveling and Richard Barragry. University College Hospital; Winfred Kelsey Braman, Charing Cross Hospital; William Harvey Bennett, Owens College. Manchester; Bernard Richardson Billings, London Hospital, William Augustine Joseph Mingaye Briggs, St Thomas's Hospital; Charles Henry Renwick Bryan, Guy's Hospital; Martin Binns Studer Button, London Hospital; Charles Cecil St. Mary's Hospital; William Winsland Douglas Chilcot, Charing Cross Hospital, John Clarke, Firth College, Sheffield; Horace Godden Cole, St. Thomas's Hospital; Edmund Victor Connellan and Percival Sandy Connellan University College, Bristol, Cecil Frederick Curtis, Owens College, Manchester; Gustavus William Musgrave Custance, St. Thomas's Hospital; Archibald Davidson, Guy's Hospital; Richard Molesworth Denys and John McDougall Eckstein, St. Bartholomew's Hospital, Howard Robinson Elliott, Firth College, Sheffield, John Jackson Whatley Evans, Westminster Hospital; Leonard Edwards, London Hospital; John Herbert Fitzgerald, Charing Cross Hospital, Alexander Fleming, St. Mary's Hospital, Joseph Tylor Fox, City of London College, Frederick Holcombe Fuller, Municipal School of Science and Technology, Brighton; Eric Worsley Gandy, Cambridge University and Westminster Hospital; Edward Slade Goss, University College, Bristol Edward Armitage Gough Yorkshire College, Leeds, Cyril Douglas Graham, London Hospital; Henry Granger, St. Thomas's Hospital; Vivian Bartley Green-Armytage, University College, Bristol; Maurice Green, University College, Liverpool; Harry Martin Grey, Walter Bristow Griffin, John Herbert Gurley, and Rupert Lawrence Haines, St. Bartholomew's Hospital; Thomas

Huddleston, Mason College, Birmingham; Godfrey Martin Huggins, St. Thomas's Hospital; John Gladstone Ivers, Owens College, Manchester; Theodore Arthur Izard, St. Bartholomew's Hospital; Courtnay Cooper Keates, St. Mary's Hospital; William Robert Kilgour, St. Bartholomew's Hospital; William Herbert King, University College Hospital; James Johnson Louwrens, St. Mary's Hospital; Harold William Latham and Owen Reginald McEwen, London Hospital; Richard Hugh McGillicuddy, University College Hospital; Frederick Evelyn Woolner Meadows and Gordon Nevill Montgomery, Middlesex Hospital; Joseph Leopold Meynell, London Hospital; Richard Ash Moxon, St. Mary's Hospital; Frederick William Murray, University College, Liverpool; Henry Williams Nicholls, Middlesex Hospital; Roger Brighouse Nicholson, Owens College, Manchester; Philip Spencer O'Bryen-Taylor, St. Mary's Hospital; Charles Melton Ockwell, Guy's Hospital; Francis Budge O'Dowd, Mason College, Birmingham, Francis William O'Connor, Richard Dominic O'Connor, Max Onslow-Ford, and Frank George Page, St. Bartholomew's Hospital; Hubert Arnold Pallant, Guy's Hospital; George Singleton Parkinson, University College, Bristol; Frederic Eustace Leigh Phillips, London Hospital; Lionel Lewis Phillips, St. Bartholomew's Hospital; Cuthbert Grant Plumley, University College and Merchant Venturers' College, Bristol; Edward Campbell Pope, St. Mary's Hospital; George Andrew Russell, Mason College, Birmingham; Edgar Arthur Shirvell, London Hospital; Leslie Ernest Maule Smith, Charing Cross Hospital; Walter Heaton Smith, Owens College, Manchester; Francis Edgar Sprawson, Birkbeck Institution; George Stone, London Hospital; Arthur Arbuthnot Straton, St. Mary's Hospital; William Francis Sutcliffe, St. Thomas's Hospital; Edmund James Fairfield Thomas, University College, Bristol; St. John Alexander Molesworth Tolhurst, Guy's Hospital· Herbert Edmund Blaker Turner, Guy's Hospital; Walter George Howard Masterman Verdon, University College, Cambridge; Harold FitzVellacott and Louis Michael Waldron, London Hospital; Harry Wales, Yorkshire College, Leeds; and Harrie Bruce Wickham, University College, Liverpool.

UNIVERSITY OF CAMBRIDGE. — At the third examination for medical and surgical degrees, Easter term, the following candidates were successful:—

Part I. Surgery and Midwifery.—H. W. Atkinson, M.A., Caius; E. A. A. Beck, M.A., Clare; W. V. Braddon, B.A., Trinity Hall; W. H. Brailey, B.A., Queen's; W. F. Buckle, B.A., Caius; H. N. Burroughs, B.A., Trinity; R. Butterworth, B.A., Christ's; J. G. Cooper, Trinity; H. A. Cutler, B.A., Clare; H. H. Dale, B.A., Trinity; J. F. H. Dally, B.A., St. John's; R. S. Drew, B.A., Pembroke, G. G. Ellett, B.A., Catherine; D. A. Ellis, B.A., Downing; W. H. Fisher, B.A., Emmanuel; J. E. Frere, B.A., Pembroke; J. D. H. Freshwater, M.A., and H. U. Gould, B.A., Trinity; C. H. Gregory, B.A., Emmanuel; T. Guthrie, B.A., King's; C. F. Hardie, B.A., Queen's; W. L. Harnett, B.A., St. John's; E. T. Harris, B.A., Christ's; D. Holroyde, B.A., Trinity; W. W. Holtzmann, B.A., Christ's; C. R. Howard, B.A., Pembroke; B. Hudson, B.A., Clare; K. H. A. Kellie, B.A., Caius; F. S. Kidd, B.A., Trinity; P. W. Leathart, B.A., Clare; H. D. Ledward, B.A., Trinity, T. W. Mercer, B.A., Clare; G. R. Rickett, B.A., King's, T. St. Clair Smith, B.A., Trinity Hall; J. E. Spicer, B.A., Trinity; H. Statham, B.A., Christ's; J. M. Stenhouse, B.A., Sidney Sussex, W. M. Strong, M.A., Trinity; W. B. Swete-Evans, B.A., Clare; H. T. Thompson, B.A., and J. M. Twentyman, B.A., Christ's, H. Wales, B.A., Sidney Sussex; F. Whitaker, B.A., Trinity; J. H. F. Wilgress, B.A., H. Selwyn; C. R. Worthington, B.A., Caius; and G. A. Wright, B.A., Christ's.

Part II. Medicine.—J. F. Alexander, B.A., Trinity; J. A. Andrews, B.A., St. John's; G. F. Barham, B.A., Caius; B. L. T. Barnett, M.A., St. John's, J. Barnicot, B.A., Pembroke; J. M. Bennion, B.A., St. John's; L. Bousfield, B.A., Pembroke; A. S. Bradley, B.A., Caius; H. C. Brown, B.A., Emmanuel; H. S. D. Browne, B.A., and C. V. Bulstrode, B.A., Trinity; H. O. Butler, B.A., Emmanuel; F. R. Carroll, B.A., and H. H. Clarke, B.A., Trinity; G. L. Crimp, B.A., Caius; A. F. Elliott, B.A., Emmanuel; R. L. V. Foster, M.A., and G. D. Franklin, B.A., King's; E. H. Harrisson, B.A., Clare; G. P. D. Hawker, B.A., Caius; J. P. Hedley, B.A., and H. T. Hodgkin, B.A., King's; W. W. Jeudwine, B.A., H. Selwyn; E. H. Kitchin, B.A., Downing; A. P. Laycock, B.A., St. John's; G. E. Loveday, B.A., Caius; J. McBryde, B.A., King's; J. C. Matthews, B.A., Downing, F. D. Nicholson, B.A., King's; C. de C. Pellier, M.A., Clare, B. B. Sapwell, B.A., Corpus Christi; C. H. Sedgwick, B.A., Sidney Sussex, F. E. Shipway, M.A., Christ's; H. J. Shone, B.A., Emmanuel; J. E. B. Snell, B.A., B. Spearman, B.A., R. Spearman, B.A., and H. H. Stiff, B.A., Caius; G. E. St. C. Stockwell, B.A., King's, B. L. Thurlow, B.A., Caius; G. H. L. Whale, B.A., Jesus, and G. R. Wilson, B.A., and W. W. Wingate Saul, M.A., Trinity.

Pharmacology and General Pathology only.—C. Akerman, B.A., Caius; W. Hastings, B.A., Christ's; G. G. Hirst, B.A., Caius; C. W. P. Moffatt, B.A., Clare; R. N. Poignand, B.A., Caius; R. E. Whiting, B.A., King's; and R. G. Wills, B.A., St. John's.

The following candidates have satisfied the examiners in both parts of the examination in Sanitary Science and are entitled to the Diploma in Public Health:—

George Hugh Spencer Blackburne, John Augustus Herman Brincker, M.B., B.C. (St. John's), Isaac Alexander Davidson, Mohomed Abdul Ghany, Henry Albert John Gidney, Robert Walker Gray, George Haddow, John Russell Higson, Joseph Hunter, Alice Neville Vowe, Percy Wheeler Kent, Stanley Thorpe Lewis, M.B., B.C. (St. John's), William Joseph Lindsay, M.B., B.C. (Sidney Sussex), John MacDonald McCarthy, M.B., B.C. (Non-Collegiate), Thomas Joseph McDonogh, Arthur William James MacFadden, Richard Galway Murray, Burton Alexander Nicol, Eugene John O'Meara, Devi Datt Pandya, Richard Frank Rand, James Hood Rankin, Frederick Sanger (St. John's), Witney Charles Palmer Smith (Downing), George Sowden, James Russell Watson, and Willoughby Mason Willoughby, M.B., B.C. (Gonville and Caius).

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the President, Vice-President, and Council, held on May 6th, the following examiners were elected:—In anatomy: Ambrose Birmingham and Alexander Fraser. In physiology and histology: E. L'E. Ledwich and C. Coppinger. In ophthalmology: Arthur H. Benson and P. W. Maxwell. In pathology and bacteriology: Arthur Hamilton White. In pathology: Robert Allen. In midwifery and gynæcology; Frederick W. Kidd. In biology: John J. Burgess. In sanitary law and vital statistics: H. Benson Goulding. In engineering and architecture: J. Charles Wilmot. In dental surgery and pathology: Daniel Corbett, jun., and W. G. Story. In mechanical dentistry: George M. P. Murray and William Booth Pearsall. In chemistry and physics: Edward Lapper and R. J. Montgomery. In languages: L. J. Woodroffe. In mathematics, physics, dictation, and English essay: J. W. Tristram.

ROYAL INSTITUTION.—The annual meeting of the members of the Royal Institution was held on May 1st, Sir James Crichton-Browne being in the chair. The annual report of the Committee of Visitors for the year 1901, testifying to the continued prosperity and efficient management of the institution, was read and adopted, and the report of the Davy-Faraday Research Laboratory of the Royal Institution which accompanied it was also read. 44 new members were elected in 1901. 63 lectures and 17 evening discourses were delivered in 1901. The books and pamphlets presented in 1901 amounted to about 253 volumes, making, with 722 volumes (including periodicals bound) purchased by the managers, a total of 975 volumes added to the library in the year. Thanks were voted to the President, the treasurer, and the honorary secretary, to the committees of managers and visitors, and to the professors for their valuable services to the institution during the past year. The following gentlemen were unanimously elected as officers for the ensuing year:—President, the Duke of Northumberland; treasurer, Sir James Crichton-Browne; secretary, Sir William Crookes; managers—the Right Hon. Lord Alverstone, Sir James Blyth, Bart., Sir Frederick Bramwell, Bart., Dr. Thomas Buzzard, Dr. Donald Hood, Sir Francis Laking, Mr. George Matthey, Dr. Ludwig Mond, Dr. Hugo Muller, Mr. Edward Pollock, Sir Owen Roberts, Sir Felix Semon, the Right Hon. Sir James Stirling, Mr. John I. Thornycroft, and Mr. James Wimshurst; visitors—Dr. Henry E. Armstrong, Dr. Charles Edward Beevor, Mr. John B. Broun-Morison, Mr. Francis Elgar, Mr. Francis Gaskell, Dr. J. Dundas Grant, Lord Greenock, Mr. Maures Horner, Sir Henry Irving, Mr. Wilson Noble, Mr. W. R. Pidgeon, Mr. Arthur Rigg, Mr. W. S. Squire, Mr. Harrold Swithinbank, and Mr. Charles Wightman.—The Constitution of Crystals was the subject of the Friday evening discourse delivered at the Royal Institution on May 2nd by Mr. A. E. Tutton, who has been making researches which lead to the result that in any series of crystalline salts the properties of the crystals are functions of the atomic weights of the metals composing them. Models of the crystals of the sulphates of potassium, rubidium, and cæsium were shown, and it was pointed out that the mutual inclinations of the faces of the three salts changed progressively, following the numerical order of the atomic weights. It was also shown that in the changing values of the angles at which their optic axes were inclined crystals followed the order of the atomic weights of their metals. Numerous polarisation experiments were performed in illustration of the subject.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, MAY 1ST.

West African Medical Staff.

MR. CAINE asked the Secretary of State for the Colonies if Indian medical men bearing British degrees in medicine were eligible for appointments on the West African medical staff.—MR. CHAMBERLAIN replied: Indian medical men are not eligible for employment on the West African medical staff.—MR. CAINE: Why exclude them?—MR. CHAMBERLAIN: That is a matter for argument. There are circumstances which render the employment of medical men of Indian birth in West Africa undesirable.—MR. CAINE: I will raise the question on the vote for the salary of the Secretary of State.—MR. CHAMBERLAIN: By all means.

London Water Charges.

Mr. Kimber asked the President of the Local Government Board whether he would propose the insertion in the Water Bill of clauses to readjust the existing water-rates and to charge them on uniform principles through London, and so that the charge for water should be such as to prevent any deficiency in the water fund which might be a burden upon the rates; also provisions for securing uniformity of valuation for assessment, similar to those contained in the Valuation Metropolis Act, 1869, applicable to the district outside the county of London affected by the Bill; and whether he would propose provisions for the supply of water by meter compulsorily if required by consumers.—Mr. Grant Lawson, replying for Mr. Long, said: Such matters as the readjustment of water-rates or the supply by meter must, I think, be left to the consideration of the Water Board. A proposal will, however, be made before the joint committee to insert a provision in the Bill to the effect that the Water Board shall not, until otherwise authorised by Parliament, reduce the rates charged for the supply of water below those in force during the present quarter. An amendment of the law so as to secure uniformity of valuation for assessment will be one of the main objects of the proposed Government Valuation Bill. It would be outside the scope of the Water Bill.

MONDAY, MAY 5TH.

Water in Butter.

Sir Edward Strachey asked the President of the Board of Agriculture whether he was aware that by a recent decision of the High Court butter might be sold to the public which had been adulterated with a large percentage of moisture without infringement of the Margarine Act; and whether he would introduce a Bill to put a stop to the sale of an article which was prejudicial in the interests of the dairy industry of Great Britain and of the retailers and consumers throughout the country.—Mr. Hanbury replied: I am aware of the prejudice done to the makers of genuine butter both in this country and the colonies by the sale as milk blended butter of an article artificially loaded with 25 per cent. of water. The recent introduction of an authorised standard of butter will, it is to be hoped, if standards in such cases are to be of any real value, have the effect of preventing such an article being so sold, but should that not prove to be the case, further steps ought, I think, to be taken without delay to remedy the injustice done to both British and colonial farmers.

The Army Medical Service.

Captain Norton asked the Secretary of State for War if he would consider the advisability of granting to officers who had retired from the Army Medical Department and other branches of the service and were not liable to recall, but accepted service in the late national emergency, similar conditions with reference to pension and rank as were granted to reserve officers who had been re-employed.—Lord Stanley, for Mr. Brodrick, replied: Medical officers not liable to recall who volunteered to take the places normally occupied by medical officers of the regular army obtain similar conditions to reserve officers.

Physical Training for School Children.

Mr. Priestley asked the First Lord of the Treasury if His Majesty's Government would consider the appointment of a Royal Commission for England and Wales, similar to the one recently appointed for Scotland, to inquire into the question of the physical training of children in all public elementary schools.—Mr. Balfour replied: I have not yet had any opportunity of consulting the authorities of the Education Department, but as at present advised it seems to me as if it would be wise in the first place to await the results of the commission now inquiring into this very question in Scotland—an inquiry which, if not absolutely conclusive as regards England, must certainly throw an amount of light on the English question; and in the second place, to await the result of the discussion on the Education Bill now before the House.

TUESDAY, MAY 6TH.

Enteric Fever among the Troops in South Africa.

Sir Walter Foster asked the Secretary of State for War whether he could state the number of cases of enteric fever and the number of deaths from that disease which had occurred among the troops in South Africa in December, 1901, and in January and February, 1902; whether he was able to give any particulars as to the incidence of the disease upon camps and moving columns respectively; and whether any special precautions were being taken to prevent the occurrence of the disease in the columns and in the camps.—Mr. Brodrick replied: The figures for the three months are: December admissions 1507, deaths 224; January admissions 2760, deaths 396; and February admissions 2122, deaths 333. The principal medical officer reports that the enteric cases mostly come from the columns but it is not possible to obtain figures from the statistics to show this clearly. In the camps and stationary garrisons steps have been taken to have the water boiled and special officers selected to deal with the sanitary work of districts and the outbreak of disease. For mobile columns a scheme of providing safe water to fill the soldiers' water-bottles at all times has been prepared, involving an increase in the water-carts, and measures are being taken to carry this out. Officers have been specially instructed as regards the necessity of preventing the men from drinking water from unsafe sources but it is not too much to say that no instructions will prevent thirsty men committing such indiscretion and many soldiers when in hospital have admitted that they preferred the risk to the otherwise unavoidable delay.

Accidents with Petroleum Lamps.

Sir Mancherjee Bhownaggree asked the Home Secretary if he had seen the report of the coroner's inquest held on the bodies of seven young persons and children who perished in the fire at Hackney-road on April 19th last; if he had noticed the evidence given at the inquest by the inspector appointed under the Petroleum Act that the catastrophe, which was caused by the tilting of a lamp, occurred owing to the flash-point of the oil which escaped being as low as 88 degrees; if his attention had been drawn to the inspector's statement that such oil was largely sold in the East End, and that it was the cause of 26 fatal accidents last year; and whether he contemplated taking any steps to prevent the sale of petroleum the flash point of which was dangerously low.—Mr. Ritchie replied: Yes, sir, and I have caused the report of the case to be very carefully considered. From the evidence it would appear that the accident was caused by the fall of a lamp and the escape of the oil, both the lamp and oil being in a highly-heated condition. I am advised that in these circumstances a conflagration is likely to occur with any form of petroleum and in ordinary lamps. I do not find that the inspector stated that the oil used in this instance was the cause of the 26 fatal accidents last year. As a matter of fact in 12 of those cases the flash point of the oil was not known and in two cases it was over 100 degrees Fahrenheit. As regards the present case it is impossible to ascertain the exact cause of the heating of the lamp, but if this was in any way due to the oil it can only have been on account of its sluggish or slow-burning nature, and these qualities, I am advised, go rather with a high-flash than with a low-flash oil.

WEDNESDAY, MAY 7TH.

Accidents with Petroleum Lamps.

Mr. Leamy asked the Home Secretary whether, in view of the increasing number of fatal accidents arising from the use for domestic purposes of low flash oil, the Government intended to bring in a Bill to prohibit or regulate its sale, and if, until there was legislation on the subject, the Home Department would take steps to warn dealers in oil and the public generally of the danger in the use of low-flash oil.—Mr. Ritchie replied: I would refer the hon. Member to the answer which I gave yesterday to a somewhat similar question. The considerations set out in that answer, as well as the statistics generally, throw doubt in my opinion on the suggestion in the question that there is an "increasing number of fatal accidents arising from the use of low-flash oil." I would merely add that a paper containing a series of suggestions for the care and use of petroleum lamps, a most important element in this matter, was prepared and issued in large numbers by the Home Office a few months ago.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

Ball, C. R. H., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Physician to the Metropolitan Hospital.

Berkeley, Comyns, M.B., B.C. Cantab., M.R.C.P. Lond., has been appointed Lecturer on Practical Midwifery at the Middlesex Hospital.

Boyd, F. T., M.D. Lond., has been re-appointed Medical Officer of Health to the Chipping Sodbury Rural District Council.

Borthwick, Thomas, M.D. Edin., has been appointed Honorary Bacteriologist to the Adelaide Hospital, South Australia.

Brown, H. Harold, M.D. Brux., Major I.M.S., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Burton, H., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health for Marple Urban District Council.

Butler-Hogan, J. F., B.A. R.U.I., M.D. Brux., D.P.H. Camb., &c., has been appointed Medical Officer of Health to the Tottenham Urban District Council.

Cook, Percival Robert, M.B. Univ. N.Z., has been appointed Public Vaccinator for the District of Waipara, New Zealand.

Cray, William James, M.B. Univ. N.Z., has been appointed Public Vaccinator for the District of Brunner, New Zealand.

Danks, W. S., M.B. Lond., has been appointed Civil Medical Officer to the South African Field Force.

Denning, C. E., L.R.C.S., L.K.Q.C.P. Irel., has been appointed Certifying Surgeon under the Factory Act for the Epping District of Essex.

Elliot, J. P., L.R.C.P. & S. Edin., has been re-appointed Medical Officer of Health for Bellingham Rural District Council.

Frost, Constance Helen, M.B. N.Z., has been appointed Assistant Bacteriologist to the Adelaide Hospital, South Australia.

Gough, William, M.B., B.S., B.Sc., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Hospital for Children and Women, Leeds.

Griffin, Lewis, M.R.C.S., has been re-appointed Medical Officer of Health of the Borough of Banbury.

Hicks, Charles, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Horsmonden District of Kent.

Ivens, Frances, M.B. Lond., late Clinical and Assistant Pathologist, has been appointed House Surgeon to the Royal Free Hospital, Gray's-inn-road.

Jonas, Herbert Charlton, M.B., B.S. Lond., M.R.C.S., L.R.C.P., has been appointed an Honorary Medical Officer to the Barnstaple and North Devon Infirmary.

Liney, Lydia Ann, M.D. Brux., has been appointed Oculist in the Medical Department of the School Board for London.

Little, Andrew, M.B., M.S. Aberd., has been appointed Honorary Surgeon to the Eye and Ear Hospital, Bradford.

Lloyd, W. F., M.B., B.C. Cantab., has been appointed Assistant Surgeon to the Windsor Royal Infirmary.

Low, C. W., M.B. Durh., D.P.H., has been re-appointed Medical Officer of Health for Stowmarket Urban District Council.

Lynch, Arthur Francis, M.B., B.S. Adel., has been appointed Honorary Pathologist to the Adelaide Hospital, South Australia.

Mackenzie, Murdoch, F.R.C.S. Edin., has been appointed Port Health Officer for the Port of Westport, New Zealand.

McDougall, Olive, M.B. Lond., has been appointed House Physician to the Royal Free Hospital, Gray's-inn road.

Mossop, A. G., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health to the Port Sanitary Authority of Newhaven.

Nixon, J. A., M.B., B.C. Cantab., has been appointed Surgeon to the s.s. *Johannesburg*.

Noke, F. H., M.B. Lond., has been appointed Assistant House Surgeon to the Metropolitan Hospital.

Ormerod, A. L., M.D. Oxon., D.P.H., has been appointed Medical Officer of Health of the City of Oxford.

Purnell, Richard, M.D. St. And., has been appointed Medical Officer of Health of the Borough of Wells.

Reynolds, Francis Mortimer, M.B., C.M. Edin., has been re-appointed Medical Officer of Health for the Ottery St. Mary (Devon) Urban District Council for three years.

Ritchie, Alexander B., M B., M S. Edin., has been appointed Medical Officer to the Manchester School Board.

Roberts, E. J., M.B. Univ. N.Z., has been appointed Port Health Officer for the Port of Nelson, New Zealand.

Sangster, John Irin, M.R C.S., has been appointed a Member of the Board of Advice for the School District of the Burra, South Australia.

Sodhi, Bābā M. Singh, M.B., Ch.B. Edin., has been appointed Senior Assistant Medical Officer to the Portsmouth Asylum, vice Mr. John J. Glasgow.

Stephens, Stanley, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Newton Abbot (Devon) Workhouse, vice James Culross, resigned.

Scott, W. H., L.R C P. & S. Edin., L F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Caton District of Lancashire.

Whitaker, E. T., M.B., B.Sc. Edin., has been re-appointed Medical Officer of Health for Wem Urban District Council.

Williams, E. C., M R.C.S., L R.C.P. Lond., has been appointed Surgeon to the P. and O. s s. *Peninsular*.

Wood, M. D, M.D. Durh., has been appointed Second Assistant Medical Officer to the Hayward's Heath Asylum.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Birmingham and Midland Eye Hospital.—Resident Surgical Officer. Salary £100 per annum, with apartments, board, and attendance

Birmingham General Dispensary.—Resident Locums. Terms 4 guineas per week, with apartments.

Birmingham General Hospital.—Aural Surgeon and Laryngologist.

Bristol City Lunatic Asylum.—Medical Assistant, unmarried. Salary £140 per annum, increasing to £160, with apartments, board, and washing.

Cancer Hospital, Fulham-road, S.W.—Junior House Surgeon. Salary at rate of £70 per annum, with board and residence.

Central London Sick Asylums at Cleveland-street or Hendon.—Assistant Medical Officer. Salary £120 per annum, with board and residence at Hendon Asylum.

Chelsea Hospital for Women, Fulham road, S.W.—Registrar. Honorarium of 20 guineas per annum.

City Asylum, Birmingham.—Resident Clinical Assistant, with board, residence, and washing. Honorarium at rate of £50 a year.

City of London Hospital for Diseases of the Chest, Victoria-park, E.—Two House Physicians for six months, with board, washing, and residence provided, and salary at rate of £30 per annum.

Colombo, Ceylon, Municipality of.—Medical Officer of Health. Salary equivalent to £400, rising to £500, and conveyance allowance

Cornwall Royal Infirmary.—House Surgeon (unmarried). Salary £100, increasing, with board and apartments.

Durham County Asylum.—Junior Assistant Medical Officer. Salary £150, rising to £180 a year, with apartments, board, laundry, and attendance.

Eccles and Patricroft Hospital, Lancashire.—House Surgeon. Salary £70, with board, residence, and washing.

Glamorgan County Asylum, Bridgend.—Locum Tenens. Board and 4 guineas a week.

Gravesend Hospital.—House Surgeon. Salary £90 per annum, with board and residence.

Horton Infirmary, Banbury.—House Surgeon and Dispenser. Salary £80 per annum, with board and lodging.

Jerusalem British Ophthalmic Hospital.—Clinical Assistant. Salary £100 and allowances.

Kent and Canterbury Hospital.—Assistant House Surgeon, unmarried Salary £60 a year, with board and lodging

Kent County Asylum, Barming Heath, Maidstone.—Fourth Assistant Medical Officer and Pathologist, unmarried. Salary £175 per annum, rising to £200, with quarters, attendance, &c.

Kincardine, Ross-shire, Parish Council.—Resident Medical Officer. Salary £72 10*s.* as Medical Officer and £5 per annum as Vaccinator, with lunacy fees in addition.

Kings Norton and Northfield Urban District Council and Infectious Diseases Hospital.—Medical Officer of Health and Medical Superintendent. Combined salary £500 per annum.

Lancashire County Asylum, Whittingham.—Junior Assistant Medical Officer, unmarried. Initial salary £150, with apartments, board, washing, and attendance.

Liverpool Stanley Hospital.—Senior House Surgeon Salary £100 per annum, with board, residence and washing, also Third House Surgeon. Salary £70 per annum, with board, residence, and washing.

Metropolitan Asylums Board Asylum, Caterham, Surrey. Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £170, with rations, lodging, attendance, and washing.

Metropolitan Asylums Board Fever and Small-Pox Hospitals.—Assistant Medical Officers, unmarried. Salary £180 per annum, rising to £240, with board, lodging, attendance and washing.

Miller Hospital and Royal Kent Dispensary, Greenwich road.—Dentist.

Monkwearmouth and Southwick Hospital, Sunderland.—House Surgeon. Salary £50 per annum, with board, lodging, and washing.

New Hospital for Women, 144, Euston-road, N.W.—Medical Woman to take charge of the Roentgen Ray Department. Also House Physician, House Surgeon, and Clinical Assistant (all female).

Northampton St. Andrew's Hospital for Mental Diseases.—Assistant Medical Officer for six or seven months. Salary four guineas a week, with board, lodging, and washing.

North-West London Hospital, Kentish Town-road.—Second Honorary Anæsthetist. Also Resident Medical Officer. Also Assistant Resident Medical Officer, both for six months. Salary at rate of £50 per annum each, with board, residence, and washing.

Nottingham General Dispensary.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance, light, and fuel.

Oxford Radcliffe Infirmary.—House Surgeon, also Junior House Surgeon, both for six months. Salaries £40 and £30 respectively, with board and lodging.

Poplar and Stepney Sick Asylum District, Bromley, E.—Second Assistant Medical Officer. Salary £100 with rations, apartments, and washing.

Royal Albert Hospital, Devonport.—Resident Medical Officer. Salary £110 per annum, with board and lodgings.

Royal South Hants and Southampton Hospital, Southampton.—Senior and also Junior House Surgeon. Salaries £120 and £60 per annum respectively, with rooms, board, and washing. Also Dentist.

Royal Westminster Ophthalmic Hospital, King William-street, West Strand, W.C.—Clinical Assistants for six months.

Tottenham Hospital.—House Surgeon. Salary £50 per annum, with board, residence, and laundry.

Wallasey Dispensary and Victoria Central Hospital, Liscard.—House Surgeon, unmarried. Salary £100, with board, apartments, and service.

West Riding Asylum, Wakefield.—Pathologist and Assistant Medical Officer. Salary £140, rising to £160, with apartments, board, washing, and attendance.

Western General Dispensary, Marylebone-road, N.W.—Second House Surgeon, unmarried. Salary £80 a year, with board, residence, and laundry.

Wilts County Asylum, Devizes.—Assistant Medical Officer, unmarried. Salary £150 a year, rising to £180, with board, residence, attendance, and washing.

Wolverhampton and Staffordshire General Hospital.—House Physician, also House Surgeon. Salary (in each case) £100 per annum, with board, lodging, and washing.

The Secretary of State for the Home Department, Whitehall, S.W., gives notice that there is a vacancy for a Medical Referee under the Workmen's Compensation Act, 1897, for the Whitchurch, Crewe, and Nantwich County Courts in Circuit No. 9.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeon, under the Factory Acts, at Cruden in the county of Aberdeen, at Haltwhistle in the county of Northumberland, at Youlgreave in the county of Derby, and at Esher in the county of Surrey.

Births, Marriages, and Deaths.

BIRTHS.

Goddard.—On May 4th, at Norfolk-crescent, Hyde-park, W., the wife of W. H. Goddard, M D. Cantab., of a daughter.

Harvey.—On April 27th, at Hartfield-road, Wimbledon, the wife of Joseph Harvey, M.B. Univ. Irel., of a daughter.

Pearson.—On April 29th, at Alva street, Edinburgh, the wife of C. Mowbray Pearson, M.B., Ch B. Edin., of a daughter.

Turner.—On May 2nd, at Westbury, Purley, Surrey, the wife of S. Duke Turner, M.B, B S. Durh., of a daughter.

MARRIAGES.

Playfair—Winton.—On Wednesday, April 30th, at the parish church, Speldhurst, Kent, by the Rev. Charles Stuart Macdonald Playfair, M.A., parish church, Folkestone, cousin of the bridegroom, assisted by the Rev. D. D. Mackinnon, M.A., rector of Speldhurst, David Thompson Playfair, M D., Bromley, Kent, eldest son of the late Rev. David Playfair, B.A., Abercorn, N.B., to Annie Seaton (Birdie), only daughter of Edwin William Winton, Etherton-hill, Speldhurst, Kent.

Wagstaff—Beasley.—On April 29th, at St. Mary's Church, Dallington, Northampton, Frank Alexander Wagstaff, M.R.C S., L.R.C.P. Lond., to Margaret Elizabeth, youngest daughter of the Rev. T. C. Beasley, vicar of Dallington.

DEATHS.

Berry.—On May 2nd, at Pembridge-villas, W., Henry Thomas Berry, M R.C.S., in his 83rd year.

Bolton.—On April 23th, in South Africa, John Usherwood Bolton, M.R C.S., L R.C.P. Edin.

Stephens.—On April 30th, at Lynton, N. Devon, Daniel Robert Porritt Stephens, M.B. Camb., F.R.C.S. Eng

Turner.—On the 6th inst., at Hove, Theophilus Bryett Turner, M R.C S., second son of the late Rev. Thomas Turner, rector of Port Royal, Jamaica Aged 56 years.

Venn.—On May 6th, 1902, at 13, Vicarage Gate, Kensington, W., Emma, the beloved wife of Albert J. Venn, M.D., of 63, Grosvenor-street, Grosvenor-square, W., and late of Kemnal Wood, Chislehurst. Funeral service at St. Mary Abbots, Kensington, at 2 o'clock on Saturday, May 10th. Interment at Kensal Green Cemetery at 3 30. Friends will please accept this, the only, intimation.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE OBLIGATION (?) OF A MEDICAL MAN TO ATTEND.

ONCE again has the question whether a medical man is bound to attend a summons to a patient been brought up in a coroner's court. The case in question came before the coroner for the city of Canterbury at an inquest held on April 25th. The inquest was to inquire into the death of a woman named Twyman who had died in the union infirmary. From evidence given by the husband at the inquest it appeared that the woman was taken ill on a Sunday with a fit. Witness's sister-in-law went for a medical man who was unable to come. On the Monday Mr. Brian Rigden arrived and recommended that the patient should be removed to the infirmary. This was done. Mr Frank Wacher, the medical officer of the infirmary, deposed to seeing the patient twice on the night of her admission and upon several occasions next day. On Tuesday morning a child was born, but the woman died at 4 30 A.M. on the Wednesday. Death was due to puerperal convulsions. Mrs. Vaughan, who is Mrs. Twyman's sister, deposed to being sent by Mr. Twyman for a medical man. The first to whom she applied was Mr. Z. Prentice who recommended her to get Mr. Rigden. Mr. Prentice stated in court that he refused to go because he knew that he might be kept a long time and he was bound to appear early on the following morning in the Court of King's Bench. He recommended Mrs. Vaughan to get someone else but not particularly Mr. Rigden. Mrs. Vaughan, in the remainder of her evidence, stated that she had applied to Mr. Rigden who replied that he had company and could not come. He also advised her to go for someone else, but she replied that she should not. Mr. Rigden in his evidence described Mrs. Vaughan's visit. According to him she said that Mrs. Twyman had been ill for some time and was expecting to be confined in about a fortnight He recommended her to get someone else because he had a visitor who had just arrived from abroad. Next morning Mr Twyman arrived and asked him to attend. He went in the afternoon and arranged for the woman to be removed to the infirmary, as he found Mrs. Twyman suffering from the effects of a fit. Mr. Twyman had not been for anyone else in the night and he thanked Mr. Rigden for getting his wife into the infirmary. At this point a juryman named Belsey said to witness: "Had it been a person in good circumstances you would have gone It is a question of pounds, shillings, and pence." Mr. Belsey, in answer to the coroner, said that the public paid for doctors He considered that Mr. Rigden's evidence was not satisfactory. The coroner pointed out that no medical man was bound to go to a case unless he had been previously engaged to do so. Medical men were not public property. The jury returned a verdict in accordance with the medical evidence. We hope that the coroner's remarks will go home, but there is a class of persons the members of which often figure on juries who are firmly convinced that medical men are bound to attend any and every summons. For the information of Mr Belsey and those like him we say that no medical man is bound to go to any case, unless, as the coroner pointed out, he has previously engaged himself to do so. Mr. Belsey's energies are wasted at Canterbury; he should go to Clyne in Sutherlandshire, where they look upon a medical man as a sort of parish servant.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—I have a slight case of melancholia in a middle-aged married woman. On awaking in the morning she shouts continuously and digs her nails into and pinches her husband. She says that she cannot work, but about midday when the work is done she is able to eat her dinner and perhaps go out for a walk or play cards with her husband. He cannot put up with her any longer and would be willing to pay from 10*s.* to 15*s* a week to get her away for a bit in the hope that a change and discipline would do her good. I should be obliged if someone could assist me in this matter —I am, Sirs, yours faithfully,

FRED. W. BARTON, M R.C.S. Eng , L.R.C.P. Lond.

54, Stockwell Green, S.W.

FALSE COLOURS.

WE have received a copy of the *Malthusian* for May. On p. 40 appears a list of members of the Medical Branch of the Malthusian League and among those members we find the following entry:—"Dr. H. S. Schultess Young, M A M D , 16, Queen Anne's-gardens, Bedford Park, London, W." In February, 1897, our attention was drawn to a leaflet and a press ticket concerning a meeting organised by the National Anti-vaccination League. On both the leaflet and the ticket appeared the name of H. S Schultess Young, Esq., M A., M.D. In our issue of Feb 27th, 1897, p 641, we stated that the name of Mr. Schultess Young did not appear on the current Medical Register. Mr. Schultess Young thereupon wrote to us saying that our remark was perfectly unexceptionable He added: "But inasmuch as it might be hastily inferred that I have ever represented myself as an M.D. *tout court*, or by any inference upon the Medical Register, allow me to contradict that supposition with great emphasis. Nor do I know of any person who has even by inference so described me." Mr. Schultess Young informed us that he did not attend the meeting because he was in bed with an injured leg so that he had not appeared on a platform where he had been "billed" as M.D. Perhaps he will now take steps, if he is not M.D , to have himself correctly described in the *Malthusian*. We imagine he receives the paper monthly and that he must be aware that he is described as M.D. He has been connected with "Malthusianism" at least since 1891.

THE GRADUAL DEVELOPMENT OF FAHRENHEIT'S THERMOMETRIC SCALE.

IN THE LANCET of Feb. 22nd, p. 565, we quoted some passages from an article on Fahrenheit's thermometer which Sir Samuel Wilks had published in *Knowledge*, and in the May number of that journal there is a further contribution on the same subject by Professor Cleveland Abbe, of the United States Department of Agriculture, Washington, D.C. Professor Abbe doubts if Fahrenheit obtained any of his ideas from Sir Isaac Newton and he refers those desiring more information either to the first chapter of his own (Abbe's) Treatise on Meteorological Apparatus and Methods, Washington, 1887, or to an elaborate article by Renou in the *Annuaire* of the Meteorological Society of France. Professor Abbe says:—

> "There is every evidence that the Fahrenheit scale began with his use of plus 90 as the upper limit of the temperature of the human body, and minus 90 for the lowest temperature of the air in Europe, and also the temperature obtained by the mixture of salt and ice. Fahrenheit subsequently used a second scale in which plus 12 and minus 12 replaced the plus 90 and minus 90. In 1714 he adopted a third scale—viz , plus 24 for the temperature of the body and zero for the lowest temperature at Dantzic in 1709. His fourth scale was plus 96 for the temperature of the human body and zero for the great cold of 1709 This scale gave him 32 as the temperature of melting ice, but that natural point was not directly adopted by him. With this first satisfactory mercurial thermometer (made in 1721, and whose scale was graduated according to this last system but extended much farther upward, by extrapolation) he found that the boiling-point of water was constant, or nearly so, at 212 degrees. The fact that Newton's 'arithmetic scale' read 33 or 34 for boiling water had no influence with Fahrenheit in the formation of his scale."

TRAINED NURSES REGISTRATION SOCIETY.

To the Editors of THE LANCET.

SIRS,—As a medical practitioner of many years' experience it occurs to me that the time has now arrived to place trained nurses on a firmer footing affording them, as well as the general public, protection against impositions. To meet this difficulty I suggest that a registration society should be formed under Government supervision to be called "The Trained and Registered Nurses' Society," adopting a universal uniform or badge, with the power to impose a penalty or fine on anyone assuming the same unjustly. I shall feel very grateful for any hints or suggestions as to how to proceed in this important scheme which will render tangible service to the most noble and unselfish portion of our fellow creatures —I am, Sirs, yours faithfully,

HENRY BELCHER, M.D. Erlang. (retired).

28, Cromwell road, Hove, Brighton.

TRANSFUSION *VERSUS* SUBCUTANEOUS INJECTIONS.

To the Editors of THE LANCET.

SIRS,—May I ask some of your correspondents to enlighten me on the following matters (1) In saline transfusion is there not greater safety in the subcutaneous introduction of normal saline over the intravenous route where the operation of opening a vein entails, besides a more elaborate technique, the danger of thrombosis and embolism? (2) What are the etiology, prognosis, and treatment of membranous colitis?

I am, Sirs, yours faithfully,

St. Louis, Mo., April 22nd, 1902. J. ROSS CLEMENS, M.R C.S. Eng.

THE POWERS OF A VESTRY.

To the Editors of THE LANCET.

SIRS,—Will you kindly give me information on the following case in next issue of THE LANCET? It is proposed by the select vestry of the church here to add an additional piece of ground to the existing graveyard at the church This would bring the graveyard to a distance of less than 90 feet from the actual wall of a dwelling-house. Is this legal? Is there any legislation on the subject? The place is a portion of a rural district under the Local Government (Ireland) Act, 1898. The town is non municipal, population 1600 The sanitary authority is the district council. *Is it lawful for the vestry to make the ground or have they first to obtain formal permission, and from whom?*

I am, Sirs, yours faithfully,

R. D. C.

April 28th, 1902.

*** By the Local Government (Ireland) Act of 1898 there were transferred to the district councils constituted by that Act the duties of burial boards exercised before by the rural sanitary authority and in certain cases by boards of guardians, under the Public Health (Ireland) Act, 1878. By the same Act the whole of the business of the rural sanitary authority of each district was transferred to the district council. In the Public Health (Ireland) Act, 1878, now enforced by the district council in respect of burial grounds, our correspondent will find a large number of sections dealing with opening, closing, and otherwise regulating burial grounds. We observe that the 174th section forbids new ground to be appropriated as a burial-ground or as an addition to a burial ground nearer than 100 yards to any dwelling house without the consent of the owner, lessee, and occupier of such dwelling house. We also observe that the Local Government Board of Ireland is given considerable powers of interference where its disapproval is invoked in the case of the threatened opening of new burial grounds. We are not, however, sufficiently informed as to the precise circumstances in which the proposed new addition to a burial-ground referred to by our correspondent is to be made or as to the rights claimed by the select vestry to be able to advise him positively as to the position of the district council in the matter or as to that of private individuals. The district council, however, appears to us to be primarily the party which should interfere should interference be deemed necessary, and it seems to us probable that a communication made to its clerk would elicit information as to the attitude which it is prepared to adopt. We should suggest communication with the Local Government Board should there be any question of the district council omitting to perform a duty assigned to it.—ED. L.

PROPOSED MEMORIAL TO THE LATE SURGEON GENERAL W. NASH, A.M.S.

THE following subscriptions have been received since the last notification:—

	£	s.	d.		£	s.	d.
Major H. E. Winter, R A.M.C	1	1	0	Lieutenant L. Wood, R.A.M C.	1	0	0
Lieutenant and Quartermaster G A Sellex	0	10	0	Previously acknowledged in THE LANCET	76	13	6
Captain F. W. Begbie, R A.M.C	1	1	0	Total	£81	6	6
Brigade-Surgeon Lieutenant-Colonel W Creyk, I.M S. (retired)	1	1	0				

A REVOLVING SHELTER FOR PHTHISICAL AND OTHER CASES.

DR A. EYTON LLOYD of Rhyl writes, in reply to the question asked by "Sanitation" in THE LANCET of May 3rd "We have two of Boulton and Paul's (Norwich) revolving shelters at the Royal Alexandra Hospital. They are perfect if placed upon a dry—concrete preferable—foundation."

THE PREHISTORIC REMAINS RECENTLY ACQUIRED BY THE BRITISH MUSEUM

To the Editors of THE LANCET.

SIRS,—With reference to Mr. R Henslowe Wellington's letter in your issue of May 3rd, p. 1293, the following quotation may interest some of your many readers. In "The Realms of the Egyptian Dead" (Ancient East Series: David Nutt) Dr K. A Wiedemann, Professor of Egyptology in the University of Bonn, says (p 41): "The corpse was laid carefully in the coffin, the mouth closed, the arms crossed on the breast or laid straight alongside the body, which was usually stretched horizontally on the back. In earlier periods there are some exceptions to this rule. In the Nagada period, before that of the Pyramids, when embalming was far less common, the bodies were usually placed in a crooked position and so they have been found as skeletons, the knees drawn up to the breast, the arms resting partly upon them, and the hands placed over the face. The dead must rest in the grave in the position in which the child awaits its entrance into the world, which by further analogy was ascribed also to the soul awaiting the resurrection. Somewhat later, and down to about 2000 B C., the corpse was often placed upon the left side, or if on the back the head was turned to the left That was the direction—looking towards the west and the realm of the dead—in which it was believed that the dead man could see out of his coffin and step forth from it To express this possibility more vividly, on a corresponding spot outside the coffin were painted or carved in relief two great eyes out of which the dead man's eyes might look."

I am, Sirs, yours faithfully,
Upper Gloucester place, N W., May 5th, 1902. GEORGE PERNET.

THE R A M C. UNIFORM

To the Editors of THE LANCET.

SIRS,—As volunteer medical officers are now ordered to wear "Sam Browne" belts of the R A.M C pattern except in review order I shall esteem it a favour if you or any of your readers will acquaint me with the differences of this belt as compared with the combatant officers'. Being desirous of obtaining this new belt I sent up to two military outfitters and they both sent me belts *exactly* similar to that worn by the executive officers —I am, Sirs, yours faithfully,

May 6th, 1902. SURGEON CAPTAIN.

⁂ There is only one "Sam Browne" belt —ED L

FEES FOR INSURANCE EXAMINATIONS.

DR. EDGAR DU CANE has forwarded for our inspection two schedules relative to the medical examination of two candidates for insurance in the Yorkshire Insurance Company, 2, Clare-street, Bristol The covering letter from the secretary of the Company, Mr Goodchap, informs Dr. du Cane that "the proposals being under £100 the candidates will pay your fee" On looking at the schedules we estimate that to fill them up properly would entail for each one at least three quarters of an hour's work. We cannot see why the fact of the sum to be assured being under £100 should make the patient liable for the fee. It takes, or it should take, just as long to examine a patient who wishes to be insured for £100 as one who wishes to be insured for £10,000 The client of the medical man is the insurance society, and not the person wishing to be insured. We recommend Dr. du Cane to refuse the services asked of him.

THE "Y" FUND.

SURGEON-GENERAL H. S. MUIR begs to acknowledge, with thanks, donations towards the "Y" Fund from Mrs. J. de Pass, Mrs Pariente, Miss Clibborn, Mr. J. A. St G. Whitty, Mr. J. H. Morgan, Dr. G. Brown, Mr. W. H. Meredith, Deputy Surgeon General E. M Sinclair (retired), Lieutenant-Colonel W. Johnston, A.M.S. (retired), Lieutenant Colonel H. A. H. Charlton, A M S. (retired), Surgeon-Lieutenant-Colonel E. A. Roe (retired), Brigade-Surgeon S. K. Ray (retired), and the following officers of the Royal Army Medical Corps: Colonels J. Maturin and M. D. O Connell; Lieutenant-Colonels R. Blood, J. Martin, M. W. Kerin, R. W. Mapleton, and A. Asbury, Majors G. E. Moffet and G. F. Alexander, and Captain P. H. Whiston. The fund now amounts to £91. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington-gardens terrace, Hyde Park, London, W.

THE MEDICAL PROFESSION AND THE PUBLIC VACCINATOR.

WE have received from a correspondent the following statement of the situation between himself and a brother medical man—the public vaccinator for the district—for it will not be difficult to see that it is B who addresses us.

> In a densely populated district there are two practitioners, A and B, B having only recently started. A was appointed to the post of public vaccinator when he was the only medical man in the district and the appointment has been recently confirmed by the Local Government Board. As in many other districts, certain patients have preferred having their children vaccinated privately and not by the public vaccinator. Last week some patients called upon B, requesting B to vaccinate their children B made an appointment with the patients to vaccinate their children in the course of two or three days. In the meantime A called and was at once informed that arrangements had been made with B. He then stated *that B was not allowed to vaccinate and further that if he (A) did not vaccinate the children he would "report them." Under this intimidation A vaccinated the children against their parents' consent.* What remedy has B against A in such circumstances? Can B sue A for damages for deliberately stating that he (B) is not allowed to vaccinate?

In commenting upon this story we have to remember that we have only B's side of the case before us and that B depends for his information as to A's words upon the parents of the vaccinated children. The parents state that A has alleged that B was "not allowed to vaccinate" and it is the parents, too, who declare that they have been intimidated B. can do nothing unless he is certain that the evidence of the parents is trustworthy and will be forthcoming. Having satisfied himself, or preferably his solicitor, upon these points, he might represent to A the necessity for an apology. We are not blind to the difficulties with which public vaccinators have to contend, but they place themselves wholly in the wrong if they attempt to secure a monopoly for themselves to the prejudice of their fellow-practitioners. B must consult his solicitor with regard to the questions with which he closes his statement.

AN OFFER.

To the Editors of THE LANCET.

SIRS,—I have a set of the *British and Foreign Medico-Chirurgical Review* which I shall be glad to give to any medical library that would like to have it.

I am, Sirs, yours faithfully,
L. M. GRIFFITHS.
11, Pembroke-road, Clifton, Bristol, May 6th, 1902.

◆

M B—Our correspondent has presumably consulted that portion of the calendar of his university which deals with the examination for the degree in question. From our point of view he has a right to the style of "Doctor."

During the week marked copies of the following newspapers have been received:—*Welsh Gazette, Surrey Advertiser, Morning Herald (Perth, N Z), Coventry Herald, Belfast News, Birmingham Daily Mail, Municipal Reformer, Yorkshire Mercury, Liverpool Daily Post, Herts Advertiser, Times of India, Reading Mercury, Mining Journal, Local Government Chronicle, Hertfordshire Mercury, Windsor and Eton Express, Daily Telegraph, St. James's Gazette, Pharmaceutical Journal, Manchester Guardian, Dublin Evening Telegraph, Gazette Médicale de Paris, City Press, Australasian Medical Gazette, Centralblatt für Allgemeine und Pathologische Anatomie, Bulletin de l'Académie de Médecine, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 8th, 1902.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
May	2	29·78	S.W.	0·01	90	58	40	45	46	Raining
,,	3	29·69	W.	0·10	104	56	43	47	51	Cloudy
,,	4	29·80	N.	0·35	94	60	44	45	47	Cloudy
,,	5	29·99	N.W.	0·11	98	55	43	43	44	Raining
,,	6	30·15	N.	0·07	95	53	38	41	45	Cloudy
,,	7	30·16	N.E.	0·01	85	52	37	40	42	Cloudy
,,	8	30·19	N.E.	0·15	95	51	41	42	44	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), *Gt. Northern Central* (2.30 P.M.) West *London* (2.30 P.M.), *London* Throat (2 P.M.), Royal Free (2 P.M.).

TUESDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (14th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. *Thomas's* (2 P.M.), *London* (2 P.M.), *King's College* (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (15th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.). West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (17th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), *Charing-cross* (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the *Central London Ophthalmic Hospitals operations are performed daily.*

SOCIETIES.

MONDAY (12th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M. General Meeting. Election of Officers and Council for Session 1902-3. 8.30 P.M. Ordinary Meeting. Paper:—Dr. P. Manson: The Diagnosis of Malaria from the Standpoint of the Practitioner in England.

TUESDAY (13th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, *Hanover-square*, W.).—8.30 P.M. Papers:—Mr. T. Bryant: An Analysis of 46 Tabulated Cases of Cancer of the Breast which have been Operated upon and Survived the Operation from Five to 32 Years.—Mr. Rickman J. Godlee: A Contribution to the Study of Tropical Abscess of the Liver.

WEDNESDAY (14th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Demonstration of Cases of Interest.

FRIDAY (16th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (North Eastern Hospital for Children, Hackney road, N.E.).—5.30 P.M. Cases and Specimens will be shown by Dr. J. Taylor, Mr D. Drew, Dr. J. P. Parkinson Mr. H Carre Smith, Mr. A. B. Roxburgh, Dr. J. H. Sequeira, Mr. 5 F Rose, and Mr. 8 Stephenson. Paper:—Dr. C. O. Hawthorne: A Note on a Case of Arthritis accompanying Ophthalmia Neonatorum.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Clinique. (Skin.)

NATIONAL INDIAN ASSOCIATION (Jehanghir Hall, Imperial Institute-road, S.W.).—4.30 P.M. Paper:—Prof Jagadis Chunder Bose: Electric Pulse in Plants, with experiments.

TUESDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Sir W. H. Broadbent: Clinique. (Medical.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Risien Russell: The Value of the Tendon-jerks and Superficial Reflexes in Diagnosis.

WESTMINSTER POST GRADUATE COURSE OF CLINICAL DEMONSTRATIONS.—4.30 P.M. Demonstration:—Dr. Allchin: Some Clinical Aspects of Arthritis.

WEDNESDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. A. H. Tubby: Clinique. (Surgical.)

THURSDAY (15th).—*MEDICAL GRADUATES' COLLEGE AND POLYCLINIC* (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique (Surgical.)

CHARING-CROSS HOSPITAL.—4 P.M. Mr. S. Boyd: Surgical Cases. (Post-Graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.).—4 P.M. Mr. Pitts: Demonstration of Selected Cases.

FRIDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. H. Tilley: Clinique. (Throat.)

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A Clinical Lecture

ON

THE NATURE OF DISCHARGES AND DOUCHES.

Delivered at the Central London Throat, Nose, and Ear Hospital on Feb. 28th, 1901,

BY WYATT WINGRAVE, M.D. DURH.,
PHYSICIAN AND PATHOLOGIST TO THE HOSPITAL.

DOUCHES AND IRRIGANTS.

Purposes.—A douche or irrigant may have for its object: (1) the mechanical removal of morbid secretions, accumulations, and foreign bodies; or it may be used (2) for antiseptic purposes; or (3) for diagnosis.

Essentials.—To effect satisfactorily these objects the douche or irrigant must conform to certain requirements which vary according to circumstances. 1. The solution employed should, when practicable, be a solvent of the substance to be removed. 2. The reagent should be itself readily soluble in water and form a clear solution. 3. It should be non-irritating to mucous membranes and sensitive surfaces. 4. To ensure thoroughness it should possess the power of penetrating the surface tissues. 5. It should be miscible—i.e., chemically compatible with the most effective antiseptics. 6. It should be economical in cost and readily available. Of these essentials perhaps the most important one is that of having the power to dissolve the discharge, since there are so many solutions in general use which not only have no such solvent action but actually precipitate and harden the substances which they are intended to remove.

Nature and composition of discharges.—As a preliminary to choosing the materials for a douche it may be expedient to consider the nature and composition of the different discharges and accumulations which demand treatment. So far as our own field of work is concerned they may thus be grouped: (1) catarrhal; (2) serous; (3) purulent; (4) cerumen and cholesteatomata; and (5) fibrinous and hæmorrhagic.

1. Catarrhal products as commonly met with in the nose and naso-pharynx and less frequently in the ear may be either viscid or inspissated to the extent of forming "crusts." Coming from a mucous membrane the fluid consists chiefly of an alkaline solution of mucin, with globulin and serum albumin in proportions varying with the intensity and nature of the morbid process. Epithelial cells in varying degrees of mucoid degeneration, and leucocytes, will be suspended in the fluid, together with varieties of bacteria. Of the organic constituents mucin is readily soluble in weak solutions of alkaline salts, such as bicarbonate of sodium (from 0·5 to 1 per cent.), but insoluble in acids, while cells and serum globulin are soluble in weak solutions of neutral salts, as also the nucleo-albumins of the cells, albumin being soluble in water.

2. Serous discharges rarely call for special removal except when localised. In them globulin occurs in greater proportion than mucin, therefore a neutral saline solution should be selected.

3. Pus will obviously vary considerably according to the conditions of its production and the duration of its retention. It may be thin, viscid, and even solid (caseous), sweet or fœtid. According to Hoppe Seyler the proportions of organic solids in 100 parts of dried pus are: proteids, 13; nuclein, 34; fats and lecithin, 14; cholesterin, 7; cerebrin, 5; extractives, 4; and insoluble substances, 20. Halliburton gives nucleo-albumin, cell globulin, albumoses, and peptones as the chief constituents. In the fluid part or serum globulin with small quantities of serum albumin and albumoses will be found, while the organised solid or cell elements, such as leucocytes, connective tissue fragments, &c., will yield nucleo-albumin, cell, globulin and nuclein, also fats, lecithin, cholesterin, &c., in varying degrees of fatty and other degeneration. All these are soluble in weak solutions of either neutral or alkaline salts respectively.

4. Cerumen may vary from a thin treacly consistence to that of a firm plug, more or less mixed with epidermal squames, hairs, parasites, dust, and other foreign matter. Being fatty in nature it is readily soluble in alkaline salts. But as the duration of contact by an irrigant is so short and the plug oftentimes so dense softening by means of a strong alkaline solution, preferably in glycerine, is often expedient as a preliminary to the douche. Cholesteatomata consist of closely packed laminated squamous epithelium with fatty granules and cholesterin crystals. The cells will yield much keratin and nuclein, both of which with the fatty débris are soluble in alkalies. Sometimes, as in middle-ear suppuration, the epithelium is mixed with pus; if so the neutral salts also should be used in combination.

5. Plastic exudation consisting chiefly of filamentous fibrin entangling leucocytes in its meshes is extremely difficult of solution and rarely admits of more than a softening process by solutions of the neutral and alkaline salts, such as sodium sulphate, calcic hydrate, &c. The same applies to blood-clot, which is, however, less dense and consequently much more readily removed by similar irrigants.

Choice of material for douche.—Knowing the nature of the discharge and the solvents of its chief constituents there will be but little difficulty in selecting an efficient irrigant which shall act both chemically and mechanically. The appended table of reagents in frequent use will facilitate selection. On one side are grouped the solvents, on the other those which either actually precipitate, or at all events do not dissolve, the prevailing constituent of the discharge.

Table of Solvents and Precipitants.

Solvents.	Precipitants.
Sodium sulphate (from 1 to 2 per cent.).	Water (except albumin).
Potassium (from 1 to 2 per cent.).	Mercury biniodide.
Magnesium (from 1 to 2 per cent.).	Mercury perchloride.
Ammonium (from 1 to 2 per cent.).	Alum.
Sodium bicarbonate.	Zinc chloride.
Sodium chloride.	Zinc sulphate.
Sodium hydrate.	Zinc permanganate.
Sodium biborate.	Potassium permanganate.
Sodium sulpho-carbolate.	Hydrogen peroxide.
Calcium chloride.	Formalin.
Calcium hydrate.	Carbolic acid.
Potassium hydrate.	Boric acid.
Potassium carbonate.	Liquor sodii chlorinat.
Chinosol.	Liquor carbonis detergens.
	Izal.
	Alcohol (fats excepted).
	Sulphurous acid.

It will thus be seen that many of the solutions which we most usually employ are not those best adapted to their purpose, since some of them—e.g., the salts of mercury, phenol, boric acid, &c.—actually coagulate or form insoluble compounds with the chief constituents of the discharge, thereby preventing thorough irrigation. One must not ignore, however, the qualification that the duration of contact between the irrigant and the discharge is often so short that either complete solution or complete precipitation of the organic elements can scarcely be expected. Still, it will generally be quite sufficient for the purpose if the matrix is dissolved and diluted so as to facilitate the division and removal of the solid and organised matter—e.g., in the case of "crusts," caseated pus, cerumen, cholesteatomata, &c. This will obviously be more thorough when a solvent of that matrix is employed in preference to a fluid which can at the best act only mechanically. It is scarcely necessary to discuss each agent separately, yet several demand special notice.

Taking water first, this is by no means the most effective irrigant, whether employed as tap or distilled, warm or cold, since of the organic substances albumin is about the only one which it dissolves.

Next in importance are the neutral salts—sodium, potassium, magnesium and ammonium sulphates with sodium and calcium chlorides. These act as solvents of the globulin group but vary in degree and according to the strength of solution employed. Sodium sulphate is by far the most useful, especially if employed in a strength of from 1 to 2 per cent., but if stronger—e.g., from 5 to 10 per cent. or more—it causes precipitation of proteids. It still further has the property of penetrating organic tissues. This is well illustrated in the action of Müller's fluid (a solution of chromic salts and sodium sulphate) which not only hardens the tissue but penetrates to its deepest part. Should the chromic salts be used alone, however, the hardening is only superficial. This quality is of the greatest value when dealing with a granulating surface and in economising cocaine.[1] Sodium sulphate still further has the valuable property of mixing readily with biniodide and other salts of mercury in efficient antiseptic strengths. Calcium chloride, although not quite so good a solvent, is particularly useful as a hæmostatic douche, since calcium salts play an indispensable part in the blood coagulation. Sodium carbonate is perhaps the best solvent of mucin which forms by far the chief organic substance in catarrhal secretions, it is also a solvent of nucleo-albumins, fatty materials, nuclein, keratin, &c.; its strength should be about 0·5 per cent. The same remarks apply to borax (sodium biborate), which salt has the additional advantage of possessing some antiseptic properties. Its strength should be from 0·5 to 1 per cent. Sodium, potassium, and calcium hydrate are valuable chiefly for their softening action upon the tissues and are not applicable as douches except in very weak solutions since they form a glutinous compound with albumins known as Lieberkuhn's jelly, familiar to us in the well-known "ropy" or "gelatinous" reaction between pus and liquor potassæ. The first and second are useful when combined with glycerine for softening ceruminous and epidermal plugs as a preliminary to irrigation. Chinosol does not precipitate and mixes well with the neutral salts, but decomposition occurs when combined with alkalies. Distilled water is preferable to tap water.

We will now consider the behaviour of the opposite group, which apart from their purely passive and mechanical action in very weak solutions are either actual precipitants or at all events do not dissolve the matter which they are employed to remove. As before mentioned, pure water precipitates the globulins and has no solvent action upon fats; used alone therefore it is not an entirely efficient douche. The salts of zinc—sulphate, chloride and sulphocarbolate and permanganate—are chiefly used for their astringent properties, since they form insoluble compounds with the proteids and should only be used as astringents. The same applies to alum and to potassium permanganate. The latter salt may be mixed with sodium bicarbonate or biborate and forms an excellent douche for removing fœtid crusts in the nose and naso-pharynx Boric acid is perhaps one of the most favoured douche agents, probably owing to its supposed antiseptic qualities, but, unfortunately, it is not a solvent of proteids and therefore does not conform to our essentials. Carbolic acid (phenol) is a powerful precipitant of the proteids; it should therefore be mixed with solutions of sodium sulphate or carbonate, when it will prove a more efficient douche. Care must always be taken that the solution is complete, otherwise the phenol will be simply suspended and will obviously cause much irritation, even pain, especially when used as a nasal douche. Imperfect solution can be avoided by using the best preparations of phenol (absolute or No. 1 carbolic acid) by boiling, by using the above salts, or by diluting glycerine of carbolic acid (P. B.). Formalin is now very popular as a douche but it is a very powerful precipitant. Peroxide of hydrogen, unless freely diluted, has the great disadvantage of causing rapid effervescence when mixed with pus. This is extremely awkward when irrigating a cavity such as the maxillary sinus. Izal and liquor carbonis detergens are not only precipitants but have the further disadvantage of being emulsions and opaque, so interfering with diagnostic evidence. They are also toxic and very irritating to the mucous membranes and require great care in their use. Finally, the inorganic salts of mercury—the perchloride and biniodide—are most powerful precipitants, readily forming insoluble compounds with albumins and globulins.

In addition to its purely mechanical use a douche may be required for antiseptic purposes But our most valuable antiseptics are precipitants of proteids and therefore not thorough irrigants; consequently, it is more often expedient to irrigate first with a solvent and use the antiseptic afterwards, as in the case of suppurative middle-ear disease. This need not, however, always be done, since biniodide of mercury, phenol, chinosol, and many powerful antiseptics are not only miscible with pure sodium sulphate but when mixed the solution does not precipitate proteids so readily as a plain solution of the antiseptic would. This is a property of no slight importance. In the use of potassium permanganate where there is much mucin, as in the crusts found in atrophic rhinitis, a combination with sodium bicarbonate or biborate will be found to afford a very efficient deodorant douche with or without sodium sulphate. Boric acid is so feeble an antiseptic, even by itself, that its combinations need no serious consideration. This, however, does not apply to chinosol which, mixed with sodium sulphate, affords not only a clear solution but one having high solvent and antiseptic properties. Its great disadvantage is its cost. Sanitas also mixes well with the neutral salts and its efficiency is markedly increased.

It will thus be seen that few reliable antiseptics when used by themselves actually conform to the essentials of a perfect douche, but when combined with a neutral salt their efficiency is undoubtedly increased, this being due in a great measure to an increase in penetrative power.

A protesting word may here be not superfluous with regard to many popular formulæ combining thymol, eucalyptol, menthol, and other aromatics with various inappropriate salts which are employed as antiseptic douches. These are not only extremely irritating to the mucous membrane—especially the nasal—sometimes causing great discomfort, but their solvent and antiseptic properties are so problematical that they should only be recommended as deodorants and in those cases which demand stimulating as an adjuvant to the routine solvents—e.g., atrophic rhinitis. When available an economical and efficient douche in cases of atrophic and fœtid rhinitis is to be found in sea-water. It should be thoroughly well boiled, decanted, and used at a temperature of about from 60° to 70° F. A pinch of sodium bicarbonate to the pint may be added when the crusts are very firmly adherent. When employed for diagnostic purposes the douche should be transparent and colourless, hence liquor carbonis detergens, creolin, izal, permanganates, &c., are to be avoided. Likewise, too, it is inadvisable to employ any precipitant such as mercuric chloride for exploratory irrigation when the exit passage is likely to be minute—e.g., per Leichwitz cannula in the case of suspected maxillary sinus disease.

Although far from complete the foregoing selection may be considered as fairly representative of the materials frequently employed as douches, and however true it may be that experience eventually leads us to select that which is most serviceable the application of our knowledge of physiological chemistry will doubtless not only facilitate that selection but also guide us to still further improvements. While disclaiming any intention of suggesting a universal irrigant, experiments in the laboratory and clinical observation amply emphasise the fact that we have in the neutral salts, especially sodium sulphate, by far the most reliable basis for an irrigant, especially when pus predominates, but in many instances already referred to the addition of an alkaline salt will render it even more effective. Whatever formula be employed it must obviously be modified according to the clinical circumstances calling for its use and efficiency will be ensured by practically appreciating the teachings of the physiological laboratory.

The appended formulæ are based upon the foregoing principles, having all been thoroughly tested chemically and clinically, and although selected chiefly for use in connexion with diseases of the ear and upper respiratory tract they are equally applicable to general surgery.

Formulæ.

1. Sodium sulphate, from one and a half to three drachms; water to one pint (20 fluid ounces), from 1 to 2 per cent.

2. Sodium sulphate, from one and a half to three drachms; sodium bicarbonate, 40 grains; water to one pint.

3. Sodium sulphate, from one and a half to three drachms; borax, 40 grains; water to one pint.

4. Sodium sulphate, from one and a half to three drachms; sodium bicarbonate, 40 grains; glycerine of carbolic acid, 45 drops; water to one pint.

Note.—Instead of glycerine of carbolic, absolute phenol nine grains or No. 1 carbolic acid may be used. Heat to 155° F.

5. Borax, 40 grains; bicarbonate of soda, 40 grains; glycerine of carbolic acid, 45 drops; water to one pint (diluted Dobell's solution).

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[1] THE LANCET, Dec. 8th, 1900, p. 1679.

reading the correspondence upon anti-vivisection as it appears in the *Times*—a correspondence which really throws remarkable sidelights upon the controversy because of the many minor issues which have been debated by the various writers—we have come to the conclusion that as far as the medical profession is concerned indifference is still the proper position. The anti-vivisectionists believe what they wish to believe, and those of them who are actively concerned in endeavouring to convert others to their view seem to regard all contradiction by the medical profession as the base attempts of a blood stained crew to escape chastisement for their deeds of callous brutality We have never imputed similar depravity to the anti-vivisectionist leaders, even when we see them maligning their superiors in knowledge or trying to wreck the labours of the truly charitable. We know their ignorance of the scientific work that has been done and of the scientific reasons that have led to the doing of it, their ignorance of the enormous alleviation of human ill that has directly followed physiological research in connexion with the lower animals, their ignorance even of the meaning of the physiological terms which they are bold to employ These are the things which make it impossible for the medical man to argue with anti vivisectionists of the more rabid order. And it is just because medical men are too closely interested in the question and possessed of too special a knowledge to be the proper people to traverse the anti-vivisectionists' conclusions that we welcome the assistance of the lay papers—the organs of public opinion. A medical man may be an authority upon a neurological point, but he cannot discuss it with a man ignorant of neurology Medical men, again, are at least as good judges as are their critics of what is right and what is humane, they have as just an appreciation of the place which the lower animals should fill in our lives as has any official of an anti vivisection society But as it is the morality of medical men and that of their professional leaders that is impugned their general testimony, like their scientific testimony, is not of great avail The well reasoned views of the lay press enable the public to grasp the real issues of the question.

The *Times* and other influential journals refuse to credit the suggestion that a large body of well-educated men engaged in work ancillary to a profession which is admittedly existent entirely to alleviate human pain, have *become callously and brutally cruel* as a class and as individuals. The conditions under which physiological experiments are now made constitute reasonable safeguards against cruelty Even if the monstrous supposition that all physiologists were animal torturers held good the laws of the land are sufficient to prevent such cruelty from being habitual. Against these statements we have the propaganda of the anti vivisection societies. There can be no doubt on which side public intelligence will range itself Despite the noise which the anti vivisection societies occasionally make their recruits are neither numerous nor inclusive of any men of high intellectual standing Excellent soft-hearted people they would appear to be, hating only common sense and physiologists. We trust that the result of the correspondence in the *Times* will be to give some of their leaders pause. There are the names of a few influential persons upon the lists of patrons whose actions might be copied by their social inferiors. We would ask them to consider if they honestly think that humanity demands the institution by anti vivisectionists of an organised attack upon the funds of the London hospitals? If they think so let them continue to support the sentimentalists.

Annotations.

"Ne quid nimis."

THE OBSTETRICIAN—PHYSICIAN OR SURGEON?

A CONTROVERSY is now going on at the Lincoln County Hospital bearing upon the old question as to how far an obstetric physician is justified in doing major surgical operations in a hospital. The facts are as follows Some two years ago a gentleman was elected to the staff of the hospital as physician. Sundry gynæcological cases having been admitted under his care he has been in the habit of performing minor operations, such as curettage of the uterus, although remonstrated with by the senior surgeon. Recently this physician gave notice that he was about to perform an oöphorectomy, whereupon the surgical members of the staff, excepting the senior surgeon who chanced to be away, pointed out that hitherto it had always been the custom for such operations to be performed by the surgeon for the week in which the patient chanced to be admitted. A memorandum to this effect, signed by the whole staff except the senior surgeon and the physician in question was handed in to the weekly board and this board decided that it was not outside the province of a physician to perform gynæcological operations. The matter is now to be referred to the quarterly board of governors which will meet on April 10th The medical staff of the hospital has ascertained the practice at 35 other provincial hospitals comparable in size and in other respects to their own, and in all of these major gynæcological operations are handed over to the surgeons, although in some hospitals minor operations such as curettage are performed by the physician. It seems to us that the matter is not one in which there can be any hard-and fast rule. To take the case of London. In all the big hospitals gynæcological and obstetrical cases are under the charge of a physician who has nothing to do with ordinary medical cases. In some of these hospitals all gynæcological operations are performed by the obstetric physician, including such as involve a laparotomy In others the obstetric physician performs only such operations as curettage, operations on the cervix uteri, or repair of vesico-vaginal fistulæ, while operations involving a laparotomy, such as *oöphorectomy, hysterectomy, operations on the tubes*, and the like, are handed over to one of the surgeons, either to the surgeon of the week or to that member of the surgical staff who is definitely appointed for the purpose. In regard to the position at Lincoln we think that precedent should be followed until such time as a new rule is made, not merely by a weekly board but by the governing body of the hospital, including the staff. The physician in question when appointed to his present post either knew the custom of the hospital or he did not know it. If the former he has no right to alter the position which he knowingly accepted, if he accepted the post in ignorance of the customs governing it he again has no right to alter the terms of his tenure on his own initiative.

LONGEVITY

IN an article entitled "Modern Methuselahs," published in the *Evening Standard* of March 19th, reference is made to a man named Michael Solis who in 1878 was living in Bogota,

6. Sodium sulphate, one and a half drachms; chinosol, 10 grains; water to one pint.

7 Sodium sulphate, one and a half drachms; sanitas, three fluid drachms; water to one pint.

8. Sodium sulphate, one and a half drachms; perchloride of mercury, two grains; water to one pint (1 in 5000).

9. Sodium sulphate, one and a half drachms; red iodide of mercury, two grains; sodium iodide, two grains; water to one pint (1 in 5000).

10. Sodium sulphate, one and a half drachms; potassium permanganate, two grains; water to one pint.

11. Sodium bicarbonate, 40 grains; potassium permanganate, two grains; water to one pint.

Note.—Borax (40 grains) may be used instead of sodium bicarbonate.

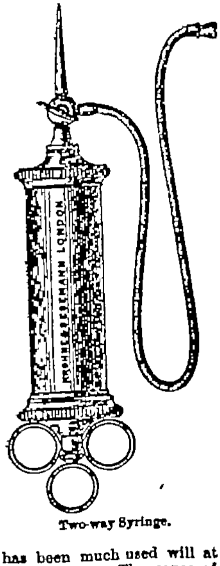
12. Solution of calcium chloride (P.B.) six fluid drachms; water to one pint.

Notes.—The pure exsiccated sulphate of sodium should always be used in preference to the ordinary crystalline salt. Bicarbonate is preferable to carbonate of sodium. Hot water whenever convenient should be employed to make the solutions. Solutions of phenol should be heated to 155°. No. 1 as a simple irrigant for pus, Nos. 2 and 3 when mucus is present or when the discharge is inspissated, Nos. 4, 5, 10, and 11 for inspissated fœtid mucus or "crusts," Nos. 6, 8, and 9 as antiseptics, and No. 7 and 10 as deodorants. No. 12 is chiefly employed for its hæmostatic property.

METHODS OF EMPLOYMENT AND INSTRUMENTS.

The selection of an instrument will be guided, first, by the particular purpose for which the douche is to be employed; secondly, whether it is intended for the surgeon's or for the patient's sole use. This distinction is by no means unimportant, knowing how rarely the layman appreciates the possibility of infection and the importance of cleanliness. In this instance he is perhaps not entirely to blame, since the ordinary apparatus at his disposal—e.g, the rubber ball, glass or metal syringes—are without doubt the most dangerous weapons ever employed An ocular and olfactory, still more a bacterial, examination of the interior of any syringe which has been much used will at once emphasise the truth of this statement. The cause of this is obvious · no apparatus that has to be filled by the aperture which comes in contact with the wound can escape contamination of its interior except through special care which cannot be expected in its domestic employment. In the case of aural and nasal douches the application to the nozzle of a short piece of rubber tubing which can be renewed or removed and sterilised greatly reduces the risk of infection or of injury during self-use. The ordinary form of hydrostatic douche is not liable to infection in this particular way, but it is a somewhat clumsy arrangement and not to be advised for delicate and deliberate work as in aural cleansing, since it admits of but slight variation in volume and pressure.

FIG 1.

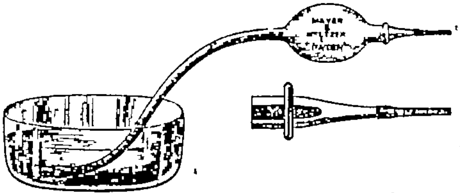


Two-way Syringe.

Dr. J. Dundas Grant's modification of the piston syringe is thoroughly efficient in guarding against septic infection, being fitted with a two-way tap which admits of filling through a separate channel (Fig. 1) This with the ordinary piston glass or metal form is, however, very difficult for the patient to use himself.

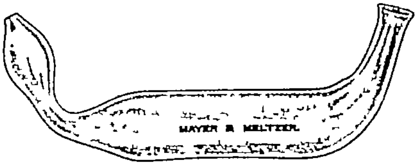
The writer's aseptic douche (Fig. 2) will be found specially adapted to this purpose, since the patient not only has force, direction, and volume of fluid directly under control, but by means of inlet and outlet valves the irrigator can only be filled at the distal end like a Higginson's syringe, of which it is in fact a modification. It is very wide in its application but is specially valuable in cases of disease of the ear requiring great care in auto-irrigation and those forms of rhinitis demanding a copious douche The glass nasal douche (Fig 3) is particularly useful when small quantities only are required.

FIG. 2



Aseptic Aural and Nasal Douche. Nozzle, showing valve.

FIG. 3



Glass Nasal Douche.

It is as unnecessary to describe in detail all the numerous forms of apparatus adapted to special purposes as it is to enumerate and to condemn all those which do not conform to the most rudimentary principles of cleanliness, but it may not be unreasonable finally to emphasise that no apparatus can be safely employed in which one aperture serves both for filling and for emptying

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DEVON AND EXETER DENTAL HOSPITAL.—The twenty-second annual meeting of the subscribers of this institution was held at the Guildhall, Exeter, on April 25th, under the presidency of the sheriff. The report showed that 2778 patients were treated during 1901. The financial statement was satisfactory The late Mr. R. West had bequeathed £1000 which will be placed to the reserve fund which has been opened for providing new premises for the hospital.

HEALTH OF GLOUCESTER.—Dr. J. Campbell, the medical officer of health of the Gloucester Urban Sanitary Authority, in his report for 1901, which has just been published, states that the estimated population at the end of 1901 was 48,473. There were 647 deaths during the year—i.e., 13 3 per 1000, the lowest rate ever recorded for the locality 1378 births were registered, giving a birth rate of 28 4 per 1000, the lowest for the past 10 years, this being due in part to the previous under-estimation of the population 154 deaths occurred in children under one year of age, corresponding to an infant mortality of 111 7 per 1000 born, as compared with an average of 144 8 for the 10 preceding years.

A Clinical Lecture
ON
SEPTIC POLYARTHRITIS.

Delivered at the Manchester Royal Infirmary on Jan. 23rd, 1902,

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GENTLEMEN,—We have in the wards at the present time three patients suffering from what I may call "septic polyarthritis" and it is of certain forms of this class of disease that I propose to speak to-day. I will take the reports of two of these first, with that of another from Scotland, and we can then consider the questions arising from a study of them.

CASE 1.—Our first patient is a married woman, aged 35 years, who was admitted on Oct. 3rd, 1901, suffering from "stiffness of all her joints." She had good health until her first and only confinement in July, 1895. Her child was stillborn. Seven weeks after delivery the small joints of the hands and wrists became swollen, inflamed, and painful, and within four months both great toes had been similarly attacked. She stated that after her confinement she suffered from a continuous purulent vaginal discharge and in 1896 she was for six months in hospital under treatment for this uterine trouble. The discharge, however, continued and towards the end of 1896 her feet and ankles became swollen and inflamed. By June, 1897, the abovementioned joints had become fixed and about this time the knees, cervical spine, and jaws became acutely swollen, the hips and shoulders were also attacked, and by the close of 1897 she was rendered completely helpless by the general rigidity of her joints. She now had marked thickening of the skin of the soles and palms with desquamation and rapid loss of hair. During 1898 her condition seems to have been unchanged and there was still slight vaginal discharge. In the autumn of 1899 "hot-air treatment" was employed. The vaginal discharge ceased at this time, her condition improved, and she was again able to feed herself. From this date to the time of her admission to hospital she began gradually to improve as regards movements of the jaw, neck, and hands, though she was still bedridden. On admission the general nutrition was fairly good, the movements of the spine showed little impairment, the mouth could only be opened to the extent of one inch, and lateral masticatory movements were abolished. The large joints of the upper extremities were enlarged, their mobility was restricted, and the skin covering them was smooth and somewhat reddened. There was no distinct synovial effusion but marked thickening of the joint structures. There was distinct grating on rotation of the shoulder-joint. The wrists were stiffer than the elbows and movements of pronation and supination were almost lost. Both hip-joints were involved to some extent. Both knee-joints were swollen, indurated, and partially fixed in flexion, the right being stiffer than the left. The ankles were much less affected. The hands and feet were more especially crippled. There was a flabby, toneless puffiness of the backs of the hands and fingers, leaving the knuckles marked by depressions; the phalangeal joints were much stiffened, the terminal ones least so. The feet were in much the same condition as the hands.

For the notes of the next case I am much indebted to Dr. Cowan of New Galloway, N.B., who kindly sent them at my request. I had repeatedly seen the patient at her home in Scotland during annual visits to the neighbourhood.

CASE 2.—The patient, a single woman, now aged 29 years, was a perfectly healthy girl until the age of 24 years and was in service. One day during a menstrual period she had a heavy day's washing and felt cold. The next morning the left knee was swollen and painful. In spite of treatment the knee got worse and she had to leave her place. At this time the disease was thought to be tuberculous. Treatment was continued and after a year she was in the Edinburgh Royal Infirmary for a time and the knee was fixed. The joint was apparently kept at rest in one way or another for many months and then massage was employed. The other knee became painful and swollen and later the fingers of the right hand, the right ankle, and then all the other joints of the limbs in rapid succession. She has been confined to bed for five and a half years and has changed little during the last two years. She has had some inflammation about the toe-nails. Opium was given at one time with apparently good effect, though now she is fairly comfortable without it. "She has now (1902) no motion in any joint and is unable to move any of her limbs in the very slightest." "All that she can do is to move her head and even that motion is limited." "The elbow joints are the most swollen and glossy and often ooze a watery fluid." She has had some irregular menstruation but never any leucorrhœa.

CASE 3.—The third patient is a single woman, aged 22 years. She has a tuberculous family history. When she was about 14 years old she had leucorrhœa which lasted almost without intermission till about 12 months ago. She was admitted to hospital on Jan. 1st, 1902, complaining of pain and swelling in the right ankle. About three years ago the left foot and ankle suddenly became very painful and swollen. She was in bed for three weeks and was quite well in a month. Three or four months later the right foot became swollen and painful and has remained so ever since, though the swelling is not so great as it was. At first the inflammation was acute and the skin was red and hot, but after a few days the active symptoms passed off, only the pain remaining. The wrists and left shoulder have also at times become swollen and painful and the right calf has latterly been much swollen and very tender. The patient is very anæmic. There is a somewhat pulpy swelling pushing forward the extensor tendons of the right ankle; there is also a little œdematous thickening over the malleoli, with slight swelling on either side of the tendo Achillis. Movement is limited and is accompanied by crackling. There are a good deal of pain and tenderness but there is no redness about the joint. There is also pain in the left ankle and left wrist and in the right metatarso-phalangeal joint but no visible change in the appearance of these joints. The right calf is somewhat œdematous and very tender. There was a slight vaginal discharge on admission which ceased after a few days' treatment.

A study of these three cases shows us, first, an affection which attacks many joints though it may begin in a single joint, which lasts for a long time, even years, which may give rise to the most complete crippling, which shows no tendency to cause extensive suppuration or even suppuration at all, which may leave a joint intact, which may subside and recur repeatedly, and which does not give rise to any nodular, bony, or cartilaginous outgrowths, or to hydrarthrosis. In this disease soft parts other than joints may be inflamed and the skin and nails may be apparently the seat of trophic changes. The general health of these patients has not been gravely impaired.

Since it is not perhaps quite generally recognised that these conditions are due to the cause which I assign for them we may consider for a moment what possible relationship they may have. Acute rheumatism may be rejected at once. "Rheumatic arthritis" may be excluded without much difficulty since there are no osteophytic growths or hydrarthrosis and neither the course of the disease nor the implication of non-articular structures would support a diagnosis of this hotch-potch of unclassified joint troubles. A diagnosis of chronic rheumatism does not take us any further; nor does, perhaps, a statement that the condition is a neuropathy. We sometimes see conditions of joints closely resembling these as sequelæ or complications of typhoid fever. We have in the wards now a girl, 11 years of age, who was admitted suffering from acute necrosis of a metatarsal bone after a blow. This child has pain, swelling, and stiffness of her ankles, knees, and hips, with evidence of septic endocarditis, and is clearly suffering from a condition that no one would, I think, hesitate to call acute septic arthritis. I need not describe her case because the condition is well known and familiar and undisputed, but it very closely resembles the others except in the more severe degree of poisoning that exists in this child. The possibility of the mischief being due to syphilis might be considered in one of the cases but not in the others, and it is not, I think, a probable explanation.

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[1] Based upon notes of cases taken by Dr. T. L. Fennell, house surgeon, and Mr. A. Hodgkinson and Mr. A. Hodge, dressers, and upon others supplied by Dr. J. Cowan of New Galloway, N.B.

An acute tuberculous joint disease is worth thinking of and I am not at all sure that in Case 3 the ankle is not tuberculous. In some of these cases that I have seen I have been *strongly impressed with the possibility of tubercle being* a factor and have thought that the mischief might be due to a mixed tuberculous and other process. It will have been noticed that Case 2 was evidently treated as tuberculous at one time.

In May of last year Dr T. K. Monro of Glasgow published in the *British Medical Journal* an account of one of these cases occurring in a young man after frequent wettings. He refers to a paper by Dr J Griffiths in which there is a full discussion of the morbid anatomy of ankylosis, but unfortunately the histories are not in sufficient detail to enable us to draw any certain conclusions as to the etiology of the disease.

Now I have no doubt that all these cases are instances of septic arthritis—i.e., are directly due to absorption of one or other of the ordinary septic organisms from some unhealthy or enfeebled area. We have seen how the condition may be produced as the result of an acute septic periostitis—in the pus taken from this case staphylococci alone were found. There are plenty of records of similar cases in which injury or the depressing effect of cold and wet have lit up acute infective processes. We know of course that gonorrhœal rheumatism, so-called, produces exactly similar conditions and Dr Griffiths mentions that in three of the cases which he collected gonorrhœa was considered to be the exciting cause of this ankylosing arthritis, and it is quite a familiar fact that without any obvious suppuration septic arthritis is specially likely to end in a stiff joint. I take it, then, that two of these cases are instances of ankylosing leucorrhœal polyarthritis, one in a far advanced and one in an early stage, and that Case 2 is a similar condition due to absorption of poisonous material from the genital tract by reason of disturbance of the menstrual process by cold and fatigue. A menstrual synovitis is mentioned by Barwell who also mentions such a condition arising during pregnancy One of Dr Griffiths's cases was also possibly due to disordered menstruation. Dr E. J Cave of Bath read a very *interesting paper, mentioning various sources of infection,* at the meeting of the British Medical Association last year

We can hardly go so far as König and say that 90 per cent. of cases of acute arthritis are due to urethritis, but I do wish you to carry away with you two ideas. The first is that slight uterine disorders, such as leucorrhœa, very commonly indeed give rise to troublesome joint inflammations which do not get well until the absorption of the poisonous material is checked and that in a doubtful case of joint disease the probability of some such cause should be carefully considered. The second idea is that such cases if neglected may go on to the production of such terrible crippling as we have in two of the cases which I have mentioned, in one of which you have seen the patient. I think that you will often be able to recognise these cases by the peculiar indurated condition of the peri-articular tissues which exists after the acute stage is over if the mischief has been at all severe.

I do not want you to think that there is anything new or far-fetched about what I have said. It is all quite well known but it is not sufficiently remembered in examining cases of joint disease. The channels of absorption of septic material which is specially apt to infect joints perhaps from their close relationship to lymphatic structures, such as serous sacs, are manifold. The conjunctiva (Lucas), the digestive tract, the bladder, &c., as well as those which I have mentioned to you to-day, have all been shown to be liable to act as paths for the entrance of septic material to joints, and the same thing is probably true as regards septic bone diseases.

As to treatment I will not say much to-day. The great point, of course, is to get rid of the septic focus as quickly as possible. As regards the joints, rest and soothing applications at first, with massage, inunction of oleate of mercury, and a course of iodide of potassium later, are probably the best measures. In these, as in most cases of stiff joints, active movement is of much more value than is passive movement. I exclude, of course, in this statement the question of localised adhesions.

Though in one of the patients "hot-air treatment" was credited with a great deal I am inclined to think that the cessation of the leucorrhœal discharge was a much more important factor in the improved conditions. The great thing is to recognise the cause of the mischief.

THE DIAGNOSIS OF MALARIA FROM THE STANDPOINT OF THE PRACTITIONER IN ENGLAND.[1]

BY PATRICK MANSON, M.D ABERD., F.R.C.P. LOND., C.M.G., F.R.S.

SLIPSHOD diagnosis is not to be commended. We must confess, however, that so far as the interests of patients are concerned, in the vast majority of diseases, provided the physician abstain from a too active interference with natural processes, it matters little whether diagnosis be exact or even correct. In too many diseases we possess little or no power for good. Fortunately for the reputation of our art there are a few diseases over which we can exercise absolute or relative control, and just because we possess in the case of these remediable diseases this power it is of the utmost importance that we recognise them—that we diagnose them accurately The disease about *the diagnosis of which I propose to offer a few remarks this* evening—malaria—is one of these. For it in quinine we possess an almost infallible remedy Hence if we fail to recognise malaria when it is present, and in consequence of such failure in diagnosis omit to administer the appropriate remedy, the patient suffers and we grossly fail in duty. Contrariwise, if in some given case we erroneously diagnose malaria and treat the patient accordingly we certainly treat the case wrongly, perhaps miss the chance of cure by more appropriate means, waste a valuable drug, and certainly run the *risk of damaging our own reputation. The ability to* diagnose malaria is therefore a matter of high practical importance.

In those countries in which malaria is endemic and common it not infrequently happens that the infection is overlooked. As a rule, however, it is the other way about, malaria is far too frequently assumed to be present where it has nothing whatever to do with the case. This remark is equally, if not more, applicable to certain cases of disease which come to England from abroad. Such is the exaggerated idea of the insalubrity of tropical countries, of the universal prevalence of malaria in them, that a very large proportion of the febrile and even non-febrile diseases coming from them to this country are diagnosed and treated as malarial. It happens far too often, both in England and in the tropics, that the practitioner when in difficulties about a tropical patient assumes the case to be malarial. The patients likewise are very prone to be content with, and to endorse, such a diagnosis, for they, too, from one cause or another have come to believe that in the matter of disease "tropics" *spells "malaria." Somehow,* to many there seems to be a sort of fascination and appropriateness about the word "malaria," as if it carried with it mystery, romance, and explanation such as is said to belong to the blessed word "Mesopotamia." In the course of 12 years' experience of London practice I have seen some two or three cases only in which malarial infection had been overlooked. In the same time I have seen a very large number of cases in which malaria had been diagnosed but in which malaria was neither present nor had anything whatever to do with the symptoms The latter type of case I meet with so *frequently that I thought,* when asked to read a paper before this society, I could not do better than choose for my subject this very practical matter of the diagnosis of malaria as we find it when imported into England.

Whatever *may* have been the difficulties in the way of reliable diagnosis of the infection in the past, recent discovery has enabled us to be precise and absolutely sure about it—at all events in 99 cases out of 100 There are few diseases so easily diagnosed; nevertheless, although nearly every member of the profession knows in an academic sort of way the principles on which the points of diagnosis are founded, my experience tells me that these principles are not applied systematically or in actual practice assessed at their proper value. Possibly it may serve some useful purpose if, availing myself of this opportunity, I recapitulate and accentuate these principles. The pathognomonic indications of malarial infection may be conveniently arranged under these headings: (1) the clinical; (2) the therapeutic; and (3) the microscopical.

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[1] Delivered before the Medical Society of London on May 12th, 1902.

1. *The clinical diagnosis of malaria.*—There are many signs and symptoms of malarial infection—fever, anæmia, icteric tinting of skin and scleræ, enlargement of the spleen and liver, gastro-intestinal disturbance, and a tendency to spontaneous recovery and to subsequent recurrence. All or any of these may lead one to suspect, but not one of them, nor the concurrence of all of them, justifies a positive diagnosis of, malaria. None of them and no grouping of them is pathognomonic. They are present separately or variously combined in many other morbid conditions. They may justify in any given case a suspicion, but not a diagnosis, of malaria.

There is only one clinical symptom that justifies a positive diagnosis. This is periodicity—periodicity of a particular type—tertian or quartan periodicity—a rhythmical recurrence of symptoms every 48 or 72 hours. In no other morbid condition are these to be found and wherever they are well marked malaria is present.

In malarial disease the appearance of quotidian periodicity is common enough but it is only the appearance. It is very doubtful if true quotidian periodicity ever occurs in malaria. If it does it is certainly very rare. The parasites of malaria are either tertian or quartan in habit and many of the symptoms which they give rise to are correspondingly tertian or quartan in their recurrences. Multiple infection by two kinds of parasites or by two or three generations of the same series of parasite may give rise to double tertian or treble quartan infection with diurnal recurrence of symptoms, but this pathologically, whatever it may be clinically, is not a true quotidian periodicity. It is common enough in malaria but I would insist that it is not pathognomonic of malaria, for a similar quotidian periodicity is very general—in fact, it is usual—in almost all febrile complaints. Therefore, to make quotidian periodicity a ground for a diagnosis of malaria is wrong. More than that, it is most dangerous and is, perhaps, the commonest cause of erroneous diagnosis of malaria. Experience has made me formulate a rule for myself which I commend to you—have absolute confidence in tertian and quartan periodicity as a basis for a diagnosis of malarial infection, but distrust, or rather absolutely disregard, quotidian periodicity

In tropical practice I have seen more mistakes from relying on quotidian periodicity as a ground for diagnosing malaria than from any other cause. The temptation to attach weight to it is often very strong but I would again urge on you to harden your hearts against it.

When a patient from the tropics comes to you with a story of evening rigor, rise of temperature to 103° or perhaps 104° F., and a profuse sweat the idea of malaria naturally presents itself. Most probably the patient tells you that he has malaria. And if one finds the patient anæmic and that his spleen is large—perhaps very large—the diagnosis of malaria seems to be clinched. But people abroad get splenic and spleno-medullary leucocythæmia and other diseases in which the spleen is enlarged as well as people in England, and such patients often have marked quotidian fever. These leucocythæmic and other kinds of enlarged spleen cases I frequently see on the supposition that they are malarial. Had the patients never been abroad probably the idea of malaria would never have been entertained.

Another type of case in which there is enlargement of the spleen associated with anæmia and quotidian fever I occasionally see, probably because it, too, is sometimes supposed to be malarial. In a sense the cases I refer to are malarial—or, rather, post-malarial. I allude to what is known in Assam where the condition in certain districts is very common and very fatal—as Kala azar. The same condition occurs in other malarious countries, however. The patient gives a history of malarial attacks which at first were controlled to some extent by quinine. After a time the recurring attacks became more frequent and less amenable to quinine. Finally, the fever resisted treatment, became quotidian, the spleen becoming permanently enlarged, the anæmia intense, the skin sallow or even melasmic, and ultimately, in spite of treatment, the patient, if not cut off by some intercurrent disease, dies from pure anæmia. This disease, although possibly induced by malaria, has long ceased to be malaria—it is, in fact, a post-malarial cachexia brought about by organic changes in the blood organs and induced possibly by some additional and distinct infection attacking organs already damaged by antecedent malaria. I find that the presence of enlarged spleen is a bait that few resist when attempting the diagnosis of a quotidian fever in a patient from the tropics. The combination is so suggestive. But we must bear in mind that many people in the more malarious districts in the tropics have, though free from active malarial disease, chronically enlarged spleen, and we must also bear in mind that the possession of an enlarged spleen is no protection against other diseases and that enlarged spleen is symptomatic of many diseases, febrile and other. I have several times seen ulcerative endocarditis in patients with spleens enlarged from antecedent malaria in coincidence merely. The same occurrence I hav often seen in phthisis and in many septic conditions.

If quotidian fever associated with enlargement of th spleen is to be distrusted as a combination indicative o malaria, still more so is quotidian fever associated with enlargement of the liver. The latter combination usually means abscess of the liver. Anyone who has had much experience of tropical practice must know that this disease is often, I might say generally, at all events in the earlie stages, diagnosed malarial fever. Osler says he had seldom seen an abscess of the liver in which the patient had not been liberally dosed with quinine. This is my experience likewise Strange to say, syphilis, both secondary and tertiary, is no infrequently, on the strength of an associated quotidian feve and a residence or visit to a malarious country, diagnosed malaria. Septic absorption of pent-up pus is a well-recognised cause of quotidian fever not unfrequently attended with marked rigor and diaphoresis. Sometimes the most carefu examination fails to determine the situation of the pus. Now if suppuration of this description occurs in an individua who has resided in malarious countries the case is almos sure to be diagnosed malaria. I have seen many such cases. Pyelitis, catheter fever, pylephlebitis, empyema phthisis, middle-ear disease, elephantoid fever, the feve of early leprosy, the fever sometimes associated with gall-stones—these and many similar conditions occurring in patients from abroad, because they are accompanied by an ague-like quotidian fever and because they occur in individuals who have been abroad, are constantly being diagnosed malaria and treated as such. Therefore I say in approaching the diagnosis of a pyrexia in a possible malaria while regarding tertian and quartan periodicity as absolutely conclusive attach no weight whatever to quotidian periodicity.

2. *The therapeutic diagnosis of malaria.*—Whatever may be the case in certain malignant infections in tropica countries quinine, properly given, so far as my experience goes, never fails to arrest a malarial attack occurring in this country, and this within 48, or at most 96, hours of its administration. Therefore a periodic or remitting fever that persists after adequate dosing with quinine, say for four days, is not malarial. Everyone believes, or says that he believes, in the anti-malarial virtues of quinine, but it is strange how little confidence some practitioners have in its diagnostic value Thus I frequently see in consultation patients with fever presumed to be malarial who have been taking quinine in large doses for weeks or even months, and yet no suspicion about the correctness of diagnosis had been entertained. When asked to see a case of supposed malarial fever of a persistent nature my first question usually is, "Has the patient taken quinine, for how long, and in what doses?" If I am told, as is often the case, that he has had large doses for many days I feel sure, without seeing the case, that it is not one of malaria. In this country if any of you are called on to treat a fever you suppose to be malarial, and if this fever resists quinine properly given and in full doses for three or four days my advice to you is to revise your diagnosis; the fever is not malarial. I could quote many cases in illustration; it is hardly necessary to do so.

There are two important matters, however, which require to be attended to in applying the quinine test. First, the dose must be adequate. Second, the quinine must be absorbed. In many instances quite an insignificant dose will check an ague. Many years ago while in practice in the island of Formosa I ran short of quinine and had to economise my very limited stock. With this object I experimented to ascertain the minimum dose that would check an ague and ultimately came down to half a grain three times a day. My Chinese patients in several instances said that they were cured by this insignificant amount—so potent is quinine in some cases of malaria.

This winter I had in hospital a patient suffering from double benign tertian infection. By a properly timed small dose of quinine it is sometimes possible to eliminate in such a case one group of the parasites without injuring the other group and so to convert a quotidian ague into a tertian. I wished to demonstrate this to the students at the School of Tropical Medicine. I gave the patient three grains of quinine an hour or thereabouts before an expected paroxysm. Small though the dose was it killed out, not only the group of parasites which I proposed to eliminate, but the other group as well, and cured for the time being the patient.

Quinine as against the malaria parasite is a very potent drug but for reliable diagnostic, as well as for therapeutic, purposes it must be administered in much larger doses than those I have just mentioned. I would say that if a fever in this country resists 10 grains of quinine given three times a day for four days it is not malarial.

The dose of quinine should not only be adequate but we must assure ourselves that it is absorbed. I am quite certain that many of the failures to control malaria by quinine are attributable to neglect of this essential. A catarrhal state of the gastric mucous membrane is usual in severe malarial attacks; such a condition is very unfavourable to absorption. Persistent vomiting is also common enough; food and drugs are alike rejected. To get the therapeutic action and diagnostic value of quinine in such circumstances the drug must be given hypodermically or by enema.

Quinine nowadays is often given in tablet or coated pill form—a most dangerous method in serious cases and a most unsatisfactory one for diagnostic purposes. For some time quinine tablets have not possessed the flint-like hardness that used to characterise them a few years ago; they are now more soluble, but even lately twice I have seen them fail to be absorbed. In one case the patient developed a severe malarial attack on his way home from the Gold Coast. He took quinine tablets and persisted in their use after his arrival in London. So much quinine did he take in this way without benefit that both the patient and his medical attendant lost confidence in the drug and the patient came very near dying. Three or four intra-muscular injections of the acid hydrochloride broke the fever and the patient quickly recovered. In giving quinine, therefore, whether for therapeutic or for diagnostic purposes we should assure ourselves that it is absorbed.

3. *Microscopical diagnosis of malaria.*—Of the three means for diagnosing malaria this is the most satisfactory provided it is undertaken by one with large experience. A negative result by the amateur is valueless: a positive result is not much more to be trusted. It takes a large amount of practice to be able to recognise all forms of the malaria parasite or to discriminate between them and vacuoles in the red corpuscles in fresh films, or dirt in dried and stained films. Articles in the medical papers by amateurs in malarial blood examination sometimes supply amusing reading. The frequency with which such writers encounter malarial rosettes and flagellated bodies and free flagella, forms of the parasite least frequently met with, is very suggestive. Free pigment—in reality, dirt—they often see. White blood corpuscles I have known described as malarial parasites, blood platelets as spores or sporulating parasites, and cotton fibres or fibrin as flagella. No one without some knowledge of the histology of normal blood and much experience of microscopical examination of malarial blood should attempt to write on the subject of the malarial parasite, much less attempt responsible diagnosis of malaria with the microscope. The thing is easy enough when one has been properly taught and after large experience. Then the microscope is invaluable in diagnosis, but those who have not been so taught and who have not had much experience are eminently unreliable—they are often worse than useless. Therefore, for the majority of medical men, if they wish to have blood examined for the purpose of diagnosis in regard to the presence of a possible malarial infection, the services of an expert are necessary But although he may not be able himself to diagnose malaria with the microscope every medical man should know how to prepare blood films suitable for such an examination. Very singular notions are entertained about this. I have sometimes had blood sent me in capillary tubes such as are used to hold vaccine. I have also had sent me blood so thickly smeared on a slide that the preparation would not transmit light. I have also had sent me from a distance an ordinary slip and cover-glass wet preparation with a request to examine it for malaria. Blood transmitted in any of these ways is useless. Unless the fresh blood can be examined at the bedside or within an hour or thereabouts of preparation dried films should be made and subsequently transmitted to the laboratory for fixing, staining, and microscopical examination

There are many ways of preparing malarial blood-films I have tried most of them The best, I believe, is that described by Dr S R. Christophers and Dr. J W. W. Stephens or some modification of this An ordinary microscope slip is carefully cleaned with alcohol. The patient's finger-tip or the lobe of his ear is similarly cleansed. The finger or the ear is then pricked with a clean and rather long ordinary sewing needle. A drop of blood is pressed out and, as it may contain epithelial débris, wiped away. A second but very minute drop of the size of a large pin-head is then expressed and touched lightly (the skin must not be touched) with the clean surface of the slip about an inch from the one end. Immediately the shaft of the needle is laid transversely on the droplet of blood so transferred to the slip. After waiting a second or two for the blood to run out by capillarity between the surface of the slip and the needle, the latter, held between finger and thumb, is drawn along the surface of the glass. In this way with a very little practice a beautifully fine and even film is produced. Half a dozen such films should be prepared The single prick suffices as the films can be made very rapidly one after another. After they have dried they should either be wrapped in very clean tissue paper or placed in a dust-free slide-box and transmitted to the laboratory. Here they are fixed with alcohol *(five or ten minutes) and subsequently stained and examined.*

For purposes of diagnosis I use either borax methylene blue or dilute carbol thionine. These are very reliable stains, keep well, act rapidly, and give sufficiently good results. Undoubtedly one of the several modifications of Romanowsky's stain when successful gives a more brilliant picture, but they are somewhat unreliable, and unless the particular sample of stain employed is in frequent use and known to be good this method is not advisable for ordinary purposes of diagnosis. Leishman's modification of the Romanowsky method gives very beautiful results and has the advantage of not requiring a preliminary fixation of the blood with alcohol, but it, too, has the objection of unreliability in ordinary clinical conditions. Malarial blood should not be fixed by heat.

In stained films, or in fresh blood, it is practically always possible to find the parasite, at all events in those cases of malarial infection that come to England. But this only on one condition, and this condition I would impress on you—the patient must not have taken quinine recently. You may find certain forms of the parasite—the crescent, for example—after full dosing with quinine, but the usual fever-causing forms, as a rule, rapidly disappear after administration of the drug. Therefore, if you wish to have a reliable microscopic diagnosis in supposed malarial fevers do not give quinine, or suspend its use for some time, before preparing the blood slides.

In rare instances and at certain times in a considerable proportion of cases the parasite, or its product melanin, even in severe infections may not be detectable in the peripheral blood, and, as I have mentioned, even small doses of quinine therapeutically in sufficient doses may cause its disappearance temporarily or in the case of cure for good Even in these circumstances it would seem that the microscope may be relied on for a diagnosis

It has been known for some years that during and for some time after malarial attacks the leucocytes are greatly diminished in proportion to the red blood corpuscles. The diminution, however, is principally in the polymorphonuclear and lymphocytes, so that there is a relative increase in the large mononuclears. Dr Christophers and Dr. Stephens, fixing their attention on this point, have marked out a method by which it is possible to give a fairly reliable diagnosis of actual or recent malarial infection and this no matter whether quinine has been administered or not. The increase in the mononuclears they state is principally during the apyretic intervals setting in as soon as temperature begins to fall. They say in a report to the Royal Society that "an increase beyond 15 per cent. is proof of an actual or recent malarial infection." Captain L. Rogers, I.M S., after a very careful investigation of the point, endorses[2] this opinion. He concludes: "An increase in the large mononuclears to about 12 per cent. and upwards, especially during the remissions of the temperature, strongly indicates malaria."

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[2] Brit. Med. Jour., April 5th, 1902.

Dr. C. W. Daniels, superintendent of the London School of Tropical Medicine, has paid a great deal of attention to this point. In reply to a request for a statement of his views he writes: "*Leucocytic variation after malaria.*—In all forms of malaria after and to a smaller extent during the fever the large mononuclear leucocytes are relatively increased to the other leucocytes. This increase may be slight and in certain cases has been so slight that they only formed 15 per cent. of the leucocytes. Commonly after malaria they vary from 25 to 30 per cent. and occasionally are over 40 per cent. The increase does not seem to be dependent on the species of parasite, or the number of parasites present during the acute attack, or on the severity of the symptoms or sequelæ. It is maintained for a period varying in different cases from two or three weeks to at least as many months and slowly diminishes. It is not affected by quinine either in large or frequently repeated doses. With some exceptions it affords a satisfactory proof of the probable recent presence of parasites. In normal blood it is rare to find more than 12 per cent., though I have seen as high a percentage as 16. In typhoid and Malta fever I have seen a similar increase but it is exceptional. It is said to occur in small-pox. In certain diseases, particularly scurvy, there is also a marked increase but in this disease there is also leucocytosis and a more marked increase in the lymphocytes. The absence of this variation is of more value as a diagnostic point than its presence. As far as I have worked with the method the only exceptions I have seen were when an intercurrent disease, such as pneumonia, which is associated with increase in the polymorphonuclear elements, also occurs. In other cases it has shown itself to be a reliable method for the exclusion of recent malaria. Working for three sessions with classes of students of 20 odd, many of whom coming from the tropics have suffered from malaria, this test has readily discriminated those of the students who have recently had malaria from those who have not. It has proved of value in differentiating cases of yellow fever from malaria (Low and Gray in St. Lucia). It has proved of value in differentiating the hyper-pyrexial fever of West Africa from malaria (Sims, Congo). Though not of the same value as the presence of parasites or of pigmented leucocytes or recent pigment in the organs, it is of much higher value as a test of recent malaria than splenic tenderness or enlargement and is of particular importance in cases where either in the natural course of events or after the administration of quinine there are no characteristic symptoms. It is probably of about the same value as the agglutination test in typhoid with moderate dilutions of the serum, say, 1 in 20. The main objection to the method is the difficulty that is sometimes present in deciding which are large mononuclears and which are lymphocytes. After actual practice this difficulty is small and a column for undecided or doubtful leucocytes will be found useful at first. After a short time this will be in the majority of cases little used. In these determinations, however, there is a certain personal equation so that counts made by different individuals vary within small limits." These are Dr. Daniels's opinions and being based on large experience I attach much value to them.

We sometimes get assistance in concluding for or against malaria from considerations of time and locality. It is very commonly believed that a malarial infection may last a lifetime. Thus the old Indian, many years after he has come home for good, may tell us that he has recurrences now and again of a jungle (that is, malarial) fever contracted in youth. I do not believe in the malarial nature of such attacks. I have never been able to find the parasite in any such case. My belief is that malarial infection does not persist after three years from the date of invasion—of course, a patient can become reinfected, that is another affair; but I do not think the duration of any given infection exceeds three years. I will not be positive about this. We want more observations. But in my experience a malignant tertian tends to die out in from 18 months to two years, a benign tertian in about from two to two and a half years, and a quartan in about three years We know that other protozoal organisms having asexual and sexual phases require resuscitation by passing through the sexual phase every now and again; otherwise they become extinct. I believe the same to be the case with the malarial parasite. Other people besides the old Indian get feverish colds and different kinds of short febrile seizure, but because they had never been in India or Africa they call them influenza or what not. Had the old Indian never been to India he would do the same. He is rather proud of his jungle fever and sticks to it longer than it sticks to him. While alive to the possibility of my being wrong in my belief I am inclined to regard any fever which occurs three or more years after the patient has been away from the possibility of fresh malarial infection as non-malarial. If a patient has never been to a malarial country he cannot get malaria unless by artificial or abnormal means. In the malarial belt there are many non-malarial places—Malta, for example. A chronic or recurring fever from Malta in a person who has not visited a malarial place is probably Malta fever or enteric fever, certainly not malaria. Similarly, Barbados is not malarial. Therefore a chronic or recurring fever in a patient from Barbados who has never visited a malarial place cannot be malarial—most probably it is the fever symptomatic of some of the lesions in filariasis so common in Barbados. Commonly enough, because such fevers are ushered in by severe rigor these filarial fevers are locally known as "ague." This is a misnomer; they have nothing to do with malaria.

I have a good many reputedly malarial patients from the fen districts and other formerly malarious spots in England. On critical examination not one of them has turned out to be malarial. They were assumed to be malarial because there was some periodicity about the fever, perhaps enlarged spleen, and because they came from localities which were formerly malarious. I have never seen a case of indigenous English malaria. I believe the plasmodium has died out in England like the wolf and the wild boar.

In concluding these rambling and disconnected, but I trust practical, remarks I would again impress on you the importance of a thorough reliance on these three classical methods of diagnosing malaria: the clinical—tertian and quartan periodicity; the therapeutic—the curative effect of quinine; and the microscopical—the detection of the parasite or its products in the blood and the characteristic leucocytic variation. A thorough and intelligent application of one or all of these methods seldom, if ever, fails to lead to a correct diagnosis for or against malaria. At the same time I would warn you that although a positive diagnosis of malaria may be indicated in some given case the presence of malaria does not exclude other diseases. On the contrary, malaria often predisposes to other infections. Similarly, the explosion of a latent malaria is favoured by other infections, especially typhoid fever and tuberculosis.

REMARKS ON THE SUBSEQUENT HISTORY OF CHILDREN BORN WHILST THE MOTHER WAS INSANE.

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Whilst engaged upon an inquiry in 1900 into the causes of idiocy and imbecility I incidentally came into contact with a considerable number of women who, whilst actually suffering from an attack of insanity and under detention in an asylum, had given birth to children, and it occurred to me to trace, if possible, the subsequent history of these children. This seemed all the more desirable because, as far as could be gathered, no special attention had previously been given to the subject, although an impression prevailed generally amongst asylum medical officers that most of the children so born were illegitimate and stillborn (which impression the inquiry showed to be erroneous). Further, it was hoped that information bearing upon the subjects of heredity and maternal impressions might also be obtained. Want of time prevented me from proceeding with the inquiry then but it has now been completed and the results are given in this paper.

It was first of all necessary to obtain some idea of the number of children born under these conditions, and even a simple inquiry of this kind was by no means an easy matter owing to the absence in many asylums of any special record of births. However, through the kindness of the medica superintendents of the London County Asylums at Cane Hill, Colney Hatch, and Claybury I eventually obtained a list of 121 women who had given birth to children whilst under treatment in those institutions.

My object was to ascertain whether the mental and physical development of these children were in any way abnormal and, if so, whether any connexion could be traced between such abnormality and the condition of the mother during pregnancy. For this, data of three kinds were necessary—viz., (1) of the subsequent history of the child; (2) of the age, variety and duration of insanity of the mother; and (3) of the family history of both parents. In each of these directions great difficulties presented themselves. The children having been passed on to the workhouse or to friends were particularly difficult to trace; many of the mothers had either died in the asylum or, having recovered from the attack of insanity, had been discharged and lost sight of; and the class from which pauper lunatics are drawn being of pronounced migratory habits it will be readily understood that the difficulty of obtaining a satisfactory family history of the father was even greater. However, by personal inquiries, correspondence, and industrious searching through the case-books a large number of accurate details were finally obtained. But unfortunately it frequently happened that where a good account of the child was forthcoming up to a considerable age the particulars of the parents were defective, and *vice versâ*, so that the determination to include only those cases in which full data were obtainable led to a great reduction of the material and by the time the cases were put together the 121 originally started with had dwindled down to 38 (13 males and 25 females). It is to be regretted that it was not possible to gather together a larger number but considering the nature of the inquiry this was perhaps only to be expected and it is believed that the extreme care which has been taken to insure accurate and complete details will in a great measure compensate for the paucity of material. The results obtained, moreover, are so uniform and they corroborate so completely my observations while investigating the causes of idiocy and imbecility that I do not think that a larger number of figures would affect the deductions.

THE CHILDREN.

First of all, then, let us consider the subsequent history of the children. With regard to their mental and physical condition they readily fall into two groups: (1) those who are alive and of good mental and bodily development, of whom there are 13; and (2) those who are dead or are mentally affected, of whom there are 25. The healthy children comprising the first group have, with one exception, been traced beyond the age of two years, so that they fairly may be considered as having arrived at the stage at which any pronounced marks of degeneracy or mental or physical abnormality would have shown themselves; indeed, the larger number of them are now going to school and are to all appearances bright, intelligent, and normal in every way. In the second group, those dead or mentally affected, all are as a matter of fact now dead, although some of them lived long enough to show definite signs of mental abnormality. Further, close examination shows that the majority in this group succumbed quite early in life, as is seen from the following figures:—

Stillborn	3
Died under the age of 1 month	5
" " 2 months	7
" " 3 "	4
" " 6 "	1
" " 1 year	2
" " 2 years	1
" " 3 "	2
Total	25

It is thus shown that no less than 22 out of the 25 children were dead before the first year. This, then, gives an infant mortality (under one year of age) of 22 out of 38, or 580 per 1000, amongst children born whilst the mother was insane—truly an alarming figure when we remember that the infantile mortality in the most thickly-populated parts of London averages only 225 per 1000[1] and is in many parishes much less, and the conclusion would naturally be that the mental condition of the mother does indeed have a very important effect on the subsequent condition of the child; such a view, however, as will immediately be seen, requires very considerable modifications.

THE MOTHERS.

Turning now to the mother, it has to be ascertained whether any connexion exists between her age, the variety of insanity, the length of time the attack has lasted, the presence of any morbid heredity as revealed by her family history, and this abnormally high mortality of the children. The age of the mothers varied from 18 to 46 years. The variety of insanity was generally mania or melancholia (mania predominating), but general paralysis, delusional insanity, and primary amentia also occurred. In some cases the attack had first made its appearance when the pregnancy was approaching its termination, in others it had existed since the fourth month. After a very careful *examination into each of these possible factors* I have come to the conclusion that no connexion whatever can be traced between any of them and the subsequent condition of the child. This indeed appears to be more closely related to the number of attacks of insanity through which the mother has passed or to their nature as regards recovery or otherwise, since in those instances in which previous attacks have occurred or where the insanity has become chronic the percentage of unsatisfactory children is much greater. It must, however, be remembered that recurrent attacks of insanity are more often associated with a morbid heredity and this brings us to the consideration of the family history, in which I believe the true explanation of this high mortality lies.

MORBID HEREDITY.

In order to study the influence of morbid heredity upon the child the family history of both parents must be inquired into, though since we are studying cases in which the mother is actually insane it obviously follows that the maternal antecedents of these children are much more likely to be tainted than the paternal. I have found it the most convenient plan to arrange the cases in five groups dependent on the degree of morbid heredity present, as the effect upon the children can then more readily be observed. These five groups are as follows:—

TABLE I.—*Showing the degree of Morbid Heredity present.*

CLASS A.—MORBID HEREDITY NEGLIGIBLE (10 children living and four children dead)

Group I.—Eight Children Alive and Four Children Dead.

Mother.—Insanity present in the child's mother only, her antecedents and collaterals being healthy.
Father.—*Nil.*

Group II.—Two Children Alive.

Mother.—In addition to the child's mother being insane, insanity or epilepsy is also present in her brothers or sisters but the antecedents are healthy.
Father.—*Nil.*

CLASS B.—MORBID HEREDITY WELL MARKED (three children living and 21 children dead).

Group III.—Three Children Alive and 13 Children Dead.

Mother.—In addition to the insanity of the mother it is present in *one* previous generation of either her maternal or paternal ancestors.
Father.—*Nil.*

Group IV.—Four Children Dead.

Mother.—In addition to the insanity of the mother it exists in either *two* preceding generations on one side or in *both* her maternal and paternal ancestors.
Father.—*Nil.*

Group V.—Four Children Dead.

Mother.—Any of the preceding groups.
Father.—Insanity, alcoholism, or phthisis strongly marked.

It will be seen that in the first group, save the actual insanity of the mother, there is no morbid heredity (by which I mean insanity, pronounced alcoholism, or phthisis). In the second group insanity is present in the collaterals of the mother, but the most searching inquiry fails to find it or other injurious influences in her antecedents, the child's paternal antecedents being also untainted. I think that we may therefore place these two groups together in one class and consider that in them the morbid heredity is practically *nil*. In this class there are 14 cases,[2] of whom 10 are at present alive and apparently perfectly normal, and four are dead; of these four, however, one was quite healthy until the age of two and a half years when he succumbed to bronchitis, so that it is open to question whether this child should not really be placed in the satisfactory group of children; and in two others of these four

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[1] Ninth Annual Report of Medical Officer of Health of the County of London, 1900.

[2] Actually there are only two cases in Group II., as against 12 in Group I.

TABLE II.—A SYNOPTICAL TABLE SHOWING THE RELATION OF MORBID HEREDITARY INFLUENCES TO THE SUBSEQUENT HISTORY OF THE CHILD.

The Numbers in the Squares refer to the Cases.

—	Children alive and of normal mental and bodily condition, traced as far as the age stated.				Children dead at the age stated.							
Class A.—No morbid heredity.	1 9 years.	2 4 years.	5 7 years.	7 4 years.	14* 3 weeks.	21 3 months.	28* 2 months.	43† 2½ years.				
	8 2 years.	27 7 years.	29 4¼ years.	32 3 years								
	40 13¾ years.	41 15 years.	Total, 10.								Total, 4.	
Class B. — Morbid heredity present.	6‡ 2 years.	10 5 years.	20‡ 3 months.		3§ Under 2 years.	4 3 weeks.	9 2 hours.	11 3 months.	15 7 weeks.	16 Stillborn.	17 2 months.	18 1 hour.
					22 2 months.	24 1 month.	26 6 weeks.	31 2 months.	33 6 months	34 7 months	35 2 months.	36 10 weeks.
			Total, 3.		37 Immediately after birth.	38 Stillborn.	42 3 months.	44 9 months.	45‖ 3 years.		Total, 21.	

* Mother strongly alcoholic; no heredity; defective vitality of child probably due to mother's *physical* condition. † Died from bronchitis; previously normal. ‡ Slight heredity on mother's side only (Group III.). § Died from disease of the brain. ‖ Died from wasting disease of the brain.

children the insanity of the mother was brought about by excessive indulgence in alcohol (in one case assisted by semi-starvation), so that I think it is justifiable to conclude that in these the diminished vitality and early death of the child may really be attributed to the *physical* state of the mother during the ante-natal period, especially as I have elsewhere shown[3] that the physical state of the mother during this period exerts an important influence upon the child.

The next three groups (Groups III., IV., and V.) may likewise be placed together in one class, in which morbid heredity is present. In Group III. insanity exists in a previous generation of either the paternal or maternal ancestors of the child's mother; in this group there are 16 children, three of them being alive and 13 dead. In Group IV. insanity exists in either two preceding generations on one side or in *both* the paternal and maternal ancestors of the child's mother; in this group there are four cases, all the children being dead.

In none of the above groups is there any morbid taint on the child's paternal side.

Lastly, in Group V. are placed those cases in which, in addition to the insanity of the mother, well-marked morbid heredity is transmitted to the child through its *paternal* progenitors, and in this group, therefore, I regard these hereditary influences as being at their maximum. Here also there are four children, all being dead.

So that, briefly to summarise these results, we find that in Class A, in which morbid heredity may be considered to be absent, there are 14 children, 10 of whom are alive and four dead; and in Class B, in which such heredity is present, there are 24 cases, three of the children being alive and 21 being dead. The accompanying table emphasises these points and shows also the period up to which each child was traced (Table II.).

It has been mentioned that some connexion seems to exist between the subsequent history of the child and the number of attacks of insanity from which the mother has suffered or their nature as regards recovery or otherwise. That this, however, is due to the fact that recurrent attacks, or insanity which passes into a chronic and incurable condition, are usually those in which strong predisposition exists is ily seen from Table III. In it are two groups—(1) the mothers who have been discharged recovered; (2) those who have either died insane in the asylum or have become chronic lunatics. The letters A and D refer to the condition of the child as being alive or dead, the figures underneath denoting the number of the case.

TABLE III.—*Showing the Relation of the Mother's Heredity to her Subsequent History as regards the Attack of Insanity.*

—	No morbid heredity in the mother's antecedents.	Morbid heredity present in the mother's antecedents.
Mother discharged recovered.	A. A. A. A. A. 1 7 27 40 41 D. 21 Total 6.	A. A. 10 20* D. D. 26 35 Total
Mother died insane or became a chronic lunatic.	A. A. A. A. A. 2 5 8 29 32 D. D. D. 14† 28† 43‡ Total 8.	A. 6* D. D. D. D. D. D. D. D. D D. 3 4 9 11 15 16 17 18 22 24 D. D. D. D. D. D. D. D. D. 31 33 34 36 37 38 42 44 45 Total 20.

* Heredity only slight. † The mother's insanity due to alcohol. ‡ The child died at the age of two years and six months from bronchitis; previously healthy.

From this table it is seen that out of the 14 mothers in whom no hereditary predisposition occurred six were discharged as recovered (five children being alive and one dead), whilst eight either died insane or passed into a condition of chronic insanity (five children alive and three dead), whereas out of the 24 mothers in whom hereditary predisposition occurred only four were discharged recovered (two children alive and two dead) and 20 died insane or became chronic lunatics (one child alive and 19 dead). I think that this clearly shows that although a large number of mothers may become insane during pregnancy in the absence of any hereditary taint and that in many of them the insanity is not recovered from, the condition of the child is not thereby influenced but is only related to the presence or absence of morbid heredity. Whether these

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utia, Its Causes, Varieties, and Pathology, Archives of the ury Pathological Laboratory, vol. ii. (in the press).

TABLE IV.—ABSTRACT OF CASES.

	Mother.					Heredity.			Child.		
No. of case.*	Years of age at birth of child.	Mental condition on admission	No of attack	No of pregnancy	Result	Child's maternal side.	Child's paternal side.	Group No.	Sex	Conditions of birth.	Subsequent history
1	46	Melancholia.	First.	Tenth	Discharged recovered six months after the birth of the child	Nil.	Nil.	I	F	Normal	Nine years old; at school; bright and intelligent
2	25	Epilepsy with mania; fits since childhood	,,	Third.	Still in an asylum six years afterwards; frequent fits; becoming demented	,,	,,	I	M	,,	Four years old; alive and well
3	36	Melancholia.	,,	Ninth	Still in an asylum four years afterwards; chronic mania with occasional epilepsy	Epilepsy and phthisis on the maternal side.	,,	III	F	Illegitimate	Died under two years of age. "Something the matter with the brain"
4	34	Mania of six weeks duration due to alcohol	,,	Fifth	Still in an asylum four years afterwards with chronic mania.	Epilepsy and alcohol on the maternal side	Alcoholism and phthisis	V	M	Normal	Died, three weeks old
5	24	Mania	,,	Second	Still in an asylum seven years afterwards with chronic mania and delusions	Nil	Nil.	I	F	,,	Seven years old; at school; bright and intelligent.
6	44	Melancholia (had had epileptic fits three and a half years previously)	,,	Tenth	Still in an asylum two years afterwards; melancholia with frequent epileptic fits	The mother's father's mother insane	,,	III	,,	,,	Two years old; apparently healthy
7	26	Mania of two months duration	,,	First.	Discharged recovered five months afterwards	The mother has a sister and a brother insane and a sister epileptic.	,,	II	,,	,,	Four years old; at school, bright and intelligent,
8	40	Mania	,,	Fifth	Still in an asylum seven years afterwards; chronic mania with delusions.	The mother's brother has fits; nothing otherwise.	,,	II	,,	,,	Alive and well up to two years of age; cannot be traced further
9	27	,,	,,	First	Still in an asylum twelve years afterwards; chronic mania; becoming demented	The mother's sister insane. Insanity on the maternal side	Alcoholism strongly marked	V	,,	,,	Died in two hours
10	21	Melancholia.	,,	,,	Discharged recovered two months afterwards.	Insanity	Nil.	III		Illegitimate	Five years old; at school; bright and intelligent
11	35	Recurrent mania; first attack 17 years ago	Fifth	Seventh	Still in an asylum four years afterwards with recurrent mania.	Said to be nothing	Insanity and alcoholism strongly marked	V		Normal	Died three months old, from consumptive bowels
14	37	Mania; an attack of insanity induced by starvation and alcohol	First.	(?)	Still in an asylum 10 years afterwards; chronic mania with delusions	Nil	Nil	I	,,	,,	Died three weeks old from diarrhœa, vomiting, and emaciation
15	27	Melancholia.	Third	(?)	Passed into a state of chronic mania and died from dysentery four years after the birth of the child	Insanity and alcoholism on the paternal side.	,,	IV	M	,,	Died seven weeks old, from weakness
16	31	Melancholia; attacks of insanity with the previous pregnancies.	Sixth	Sixth	Discharged on petition of the husband five months after the birth of the child.	Insanity on the maternal side.	,,	III	,,	Stillborn	—
17	42	Melancholia	Second	(?)	Still in an asylum four years afterwards; chronic mania; becoming demented	Insanity	,,	III	,,	Premature	Died, under two months old
18	39	Melancholia, with general paralysis; fits for four years; slightly mentally affected previously	(?)	Seventh	Died from general paralysis five months after the birth of the child	,,	(?) Syphilis	III	F	Normal.	Only lived one hour
20	22	Melancholia	(?)	(?)	Discharged recovered three months afterwards.	The mother's mother insane	Nil	III	,,	,,	Alive up to the age of three months; cannot be traced further

TABLE IV.—ABSTRACT OF CASES—(*continued*).

	Mother.					Heredity.			Child.		
No. of case.*	Years of age at birth of child.	Mental condition on admission.	No. of attack.	No. of pregnancy.	Result.	Child's maternal side.	Child's paternal side.	Group No.	Sex.	Conditions of birth.	Subsequent history.
21	22	Mania of five months' duration.	Second.	(?)	Discharged recovered one year afterwards.	*Nil.*	*Nil.*	I.	M.	Illegitimate.	Died, three months old, from marasmus.
22	36	Recurrent mania (alcoholic).	Fourth.	(?)	Still in an asylum four months afterwards.	Insanity.	,,	III.	F.	,,	Died, two months old, from gastric catarrh.
24	(?)	Recurrent melancholia.	(?)	(?)	Still in an asylum one year afterwards; condition unchanged.	,,	,,	III.	,,	Premature, seven and a half months.	Died, one month old, from asthenia.
26	25	Melancholia.	(?)	(?)	Discharged recovered four months afterwards.	Alcoholism strongly marked.	,,	III.	M	Normal.	Died, six weeks old, from inanition.
27	37	Mania.	Second.	(?)	Discharged recovered one month afterwards.	*Nil.*	,,	I.	,,	,,	Seven years old; in good mental and bodily health.
28	29	Recurrent mania (alcoholic and epileptic).	,,	(?)	Still in an asylum five years afterwards; becoming demented.	,,	,,	I.	F.	,,	Died, two months old.
29	41	Recurrent mania.	Fourth.	(?)	Still in an asylum four years afterwards, condition unchanged.	,,	,,	I.	,,	,,	Four years and three months old; in good mental and bodily health.
31	23	Melancholia.	First.	(?)	Still in an asylum one year afterwards.	,,	Insanity strongly marked.	V.	,,	Illegitimate.	Died, two months old, from marasmus.
32	39	Mania of six months' duration	,,	Seventh.	Gradually became demented and died three years afterwards.	,,	*Nil.*	I.	,,	Normal.	Three years old; alive and well.
33	(?)	Mania of recent duration.	,,	(?)	Died five days afterwards from convulsions and coma (Left cerebral hemiatrophy present—congenital.)	Insanity.	,,	III.	,,	,,	Died, six months old, from pneumonia.
34	(?)	Mania.	Third.	Third.	Still in an asylum four years afterwards, chronic mania with delusions.	,,	,,	III.	M.	,,	Died, seven months old.
35	30	,,	First.	(?)	Discharged recovered two years afterwards.	,,	,,	III.	F.	,,	Died, two months old.
36	26	Congenital imbecility.	,,	(?)	Died one month afterwards from septicæmia.	,,	,,	IV.	,,	Illegitimate.	Died, 10 weeks old.
37	30	Melancholia.	,,	(?)	Still in an asylum five years afterwards, becoming demented.	,,	,,	III.	,,	Normal.	Died almost immediately after birth.
38	18	Congenital imbecility.	,,	(?)	Still in an asylum four years afterwards, imbecility with mild mania.	,,	,,	III.	,,	Illegitimate; stillborn.	—
40	26	Mania.	,,	First.	Discharged recovered four months afterwards.	*Nil.*	,,	I	M.	Normal.	13 years and nine months, good mental and physical health.
41	(?)	Melancholia.	,,	(?)	Discharged recovered three weeks afterwards	,,	,,	I.	,,	,,	15 years; in good mental and physical health.
42	27	Mania.	,,	(?)	Died two months afterwards from organic disease of the brain.	Insanity.	,,	III.	F.	,,	Died, three months old, from consumptive bowels.
43	32	Delusional insanity.	,,	Sixth.	Still in an asylum four months afterwards, chronic mania.	*Nil*	,,	I.	,,	,,	Died, two years and five months old, from bronchitis.
44	(?)	Mania.	,,	(?)	Still in an asylum five years afterwards	Insanity and alcoholism.	,,	IV.	M.	,,	Died, nine months old, from consumption.
45	(?)	,,	,,	First.	Still in an asylum three years after wards.	Insanity.	,,	IV.	,,	,,	Died, three years old, from wasting of the brain.

* The missing numbers are those of cases which are not included owing to the particulars being imperfect.

United States of Colombia, South America, and at that time claimed to be 184 years old. The writer goes on to say that "there is very little doubt about this remarkable case. THE LANCET investigated it thoroughly in 1878, and came to the conclusion that the man was at least 180 years old then." This is evidently an over-estimate of the attention which we have given to this particular instance. The facts are that in our issue of Sept. 7th, 1878, p. 343, we mentioned the current rumour on the subject and spoke of the man's alleged age as "offered for our credence." Moreover, a fortnight afterwards—namely, on Sept. 21st, at p. 427—we published a letter from Dr. W. L. Dudley of Cromwell-road, South Kensington, who had resided for over 20 years in Bogotà and had been physician to the General Hospital and to the British and American Legations. This gentleman wrote to us that, speaking within his knowledge, he would judge that the age of this individual, six years before the date of writing, was between 80 and 90. He added that longevity was rare in these districts and that there was no baptismal or other kind of registry in the city. Readers in search of "records" of longevity may perhaps be gratified by the perusal of Mr. Charles W. De Lacy Evans's "Can We Prolong Life?"[1] reviewed in THE LANCET of June 21st, 1879, p. 884. An antidote to Mr. Evans's extravagancies will be found in the first half of Mr. T. E. Young's interesting and scientific summary of the present state of knowledge on this subject.[2]

THE KING'S CORONATION DINNER TO THE POOR.

LENT being over it is natural that the thoughts of men should turn to feasting. His Majesty the King, as we announced in THE LANCET of March 22nd, p. 840, has signified his intention of giving a dinner to 500,000 of his poorer subjects so that they may share the joy of the coronation in a tangible form. The money for this feast is at hand, supplied by His Majesty from his own purse, the food is easily obtainable, and there will be no lack of guests. But to bring the food to the right persons will call for powers of organisation scarcely inferior to those at present demanded by the situation in South Africa. In 1897 we expressed our opinions as to the carrying out of the Jubilee dinner organised by the gracious lady who was then Princess of Wales. In our issue of May 22nd, 1897, p. 1423, we said:—

> We have no details at present as to how the scheme of feeding these poor people is to be carried out, and in our opinion a vast amount of careful organisation will be required if the project is not to end in failure. That there is a terrible depth of bitter poverty in London no one can doubt, but as a rule it is just the most deserving who hide their misery and prefer to suffer in silence. Will any steps be taken to seek out the really deserving and, more important still, will there be any attempt to confine the dole to the poor of London alone? If something of this kind is not attempted every scoundrel or loafer—all those who have never done any work and never mean to do any—will come from all parts of the kingdom and batten on the charity provided. This was the case some years ago when the Mansion House famine fund was started; the metropolis was inundated with provincial tramps and there was great doubt as to whether the really needy profited at all. Another matter of vital importance is the likelihood of the spread of infection by the gathering together of those who owing to their mode of life are most prone to contract and disseminate infection. The revelations made some year or so ago by Dr. Waldo about Salvation Army shelters showed that even under ordinary circumstances the crowding together of the homeless was anything but free from danger and such danger will be multiplied a thousandfold in the coming month. The most careful watch should be kept upon all lodging-houses and workhouses on the roads leading into London as well as in that city itself and we think that some attempt should be made to see that the food supplied does not go to fill the bellies of those who make a trade of poverty.

We have no wish to pose as alarmists and so far as statistics show no increase in the number of cases of infectious disease for 1897 could be traced to the crowds assembling for the Jubilee celebrations. But still the risk has to be thought of and precautions should be taken, for owing to the increase in population and the world-wide interest taken in the coronation all the points of difficulty which we have mentioned above exist with even more force to-day than in 1897, more especially in face of the small-pox epidemic, as regards the danger of the spread of infectious disease. It would be well, we think, if some method could be hit upon of excluding those who have not resided in London for a certain time—at least since Christmas Day, 1901—but perhaps this check would be impossible to impose. In the meantime, we can but await details of the organisation by means of which the scheme is to be carried out.

THE STAGES OF THE MALARIA PARASITE AND THEIR TERMINOLOGY.

PROFESSOR LANKESTER has devised and communicated to the Royal Society a set of terms applicable to the complicated series of stages through which the parasite causing malaria passes during its life-history in the mosquito and in ourselves. The aim is that the terms made use of should explain themselves; and, accordingly, such vague and barely explanatory terms as "sporozoites" and "blasts" are dropped out of use and replaced by a new set which have the merit of serving as a *memoria technica* to the student desirous of remembering the manifold changes exhibited by the sporozoön of malaria. We may conveniently commence with Professor Lankester at the spore which is injected into our blood by the bite, and with the saliva, of the anopheles. This spore, a minute needle-shaped particle, is formed in the gnat's body, and as we naturally look upon the most important stages in its life as being those which are passed in our bodies the name of "exotospore" may be applied to this acicular spore as indicative of its origin *outside* our bodies. These spores ultimately enter each one of them a red blood corpuscle, though the actual mode of their entry has not yet been observed. Arrived within the blood disc they lose the acicular shape and become amœbiform. For this stage the expression "amœbula" is used. The amœbula grows and moves about as far as possible within the blood corpuscle; finally it breaks up into a number of spherical spores which are set free by the destruction of the red blood corpuscle. To these spores, the third stage in the life-history of the sporozoön, the term "enhæmospores" is applied by Professor Lankester. The term signifies, of course, that they are formed within the blood of the infected human being. The enhæmospores remain in this condition for several generations, entering other corpuscles and multiplying by further division. It is this process which infects the whole body with the parasite. After a certain time, which varies, and owing to conditions which have not yet been ascertained, the enhæmospore ceases to break up into fresh enhæmospores but grows largely in size and becomes different in shape. This stage is commonly crescentic in form; it still remains within the red blood corpuscle which loses its pigment; the pigment is devoured by, and undergoes slight alterations in colour within the body of, the sausage-shaped or crescent-shaped parasite. This is designated the "crescent" or "crescent-sphere." This fifth stage, the "crescent," is to be differentiated from those which have been already considered by the important fact that it is sexual, but no means exist of distinguishing the male from the female crescents, except, of course, their subsequent behaviour. It is, moreover, the last stage which we find in the human body. Arrived at this stage the parasite can undergo no further development unless it is sucked up by a mosquito. When this latter event happens the crescents become rounded and from the one kind, the male, develop spermatozoa much in the fashion after which they develop in the sperm mother-cells of the earthworm—that children in later years evince any special tendency to become insane I am unable to say and it is doubtful whether a sufficient number of children could be followed far enough in life to enable this question to be satisfactorily answered. It is, however, abundantly clear that up to the age at which it has been possible to trace them they in no way differ from ordinary children. This fact is of considerable interest in connexion with "maternal impressions," for it would be difficult to conceive of a more profound mental change than is frequently present in the insanity of pregnancy, ranging as it does from the most violent and acute mania to a melancholia almost approaching stupor and yet, as has been seen, the child may be perfectly normal.

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[1] Baillière, Tindall, and Cox, second edition, 1885.

[2] On Centenarians. London. Charles and Edwin Layton. 1899.

Many authorities hold the view that the mind of the mother *is* capable of exerting an influence upon the developing embryo, but I cannot but think that the facts here given are strongly opposed to any such view, and, as far as my own personal experience goes, all that I can say is that in the investigation of nearly 200 cases of idiocy and imbecility I was unable to find evidence in a single instance of the operation of any such influence, although it must be admitted that such was frequently alleged.

On the other hand, it is plainly evident that when a strong morbid heredity exists the vitality of the child is so much impaired that its chances of surviving more than a few months are small, and I am convinced that this morbid hereditary influence plays a very important part in the *degeneration of the offspring and finally culminates in either* idiocy or extermination.

Incidentally it may be noted that abnormalities of parturition do not occur with any greater frequency in these cases than in the outside population Three children were stillborn and one was born prematurely, but the remaining 34 births were normal in every way and of the whole 38 only seven were illegitimate.

In view of the preceding facts I do not see what other conclusions can be drawn than that (1) the mental and physical condition of the child is in no wise influenced by the mere fact of the mother being insane during pregnancy, (2) neither is the condition of the child influenced by the variety of insanity, the duration of the attack, or the age of the mother, nor even directly by the number of attacks from which the mother may have suffered, but that (3) *this condition is directly dependent upon the presence or absence of morbid hereditary influences*

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LIQUID AIR AS A FREEZING MEDIUM IN THE LABORATORY.

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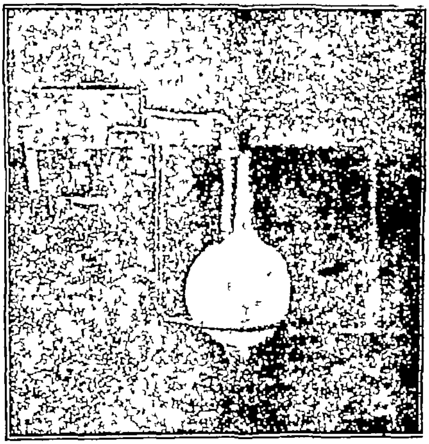
FOR the past month or so I have been using liquid air instead of ether as a freezing medium in the laboratory at the Bethlem Royal Hospital and I have found the advantages to be so great and the results so satisfactory that I have no hesitation in commending its general use to other pathologists.

Liquid air is obtained by mechanical compression of ordinary atmospheric air to one eight-hundredth of its volume and by removal of the impurities by fractional solidification. It is a fluid like water in appearance but of lower specific gravity It boils at a temperature of − 312° F and therefore at the temperature of the atmosphere when placed in ordinary vessels It evaporates, however, quite slowly when stored in the vacuum flasks used by the manufacturers An untouched gallon evaporates from the storage flask in about six weeks. In ordinary constant use in the laboratory a gallon lasts a little longer than a fortnight Liquid air is therefore very much cheaper than ether for laboratory purposes. Further it acts much more rapidly than ether—*about from 20 to 30 compressions of* the indiarubber bulb are always sufficient to freeze the gum and the tissue remains frozen much longer On the other hand, tissues are not destroyed by liquid air freezing more than by ether freezing. Lastly, the unpleasant smell of ether is done away with and instead thereof a *supply* of pure air issues from the microtome. I have had an opportunity of inspecting the impurities removed from the atmosphere in the process of manufacture of liquid air and have observed that the stench from these is worse than that from the worst London fog I regard this supply of pure air as most important; it makes pathological work much more pleasant and healthy. When working with liquid air the best method of ventilation for the laboratory is to shut all the windows and ventilators and to be satisfied with the pure air issuing from the microtome. It is no exaggeration to say that after a morning's work in the laboratory with liquid air I have felt as if I had been for a blow in the country

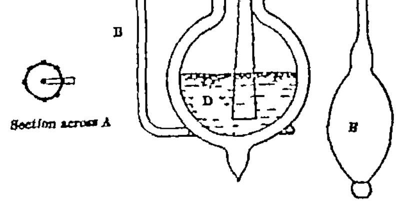
The vacuum flasks in which the liquid air is stored are made of glass and each consists practically of two flasks one inside the other with a vacuum between the two. For use with a Cathcart microtome a support for one of the flasks is a necessary attachment. This attachment is shown in Fig 1.

FIG 1.



A Cathcart microtome is shown on the left. The brass attachment supporting the vacuum flask is seen in the centre of the figure The valvular indiarubber bulb is on the right (From a photograph)

FIG 2



Sectional view A is placed in the sliding cylinder of the microtome. The nozzle is shown on the right of this. B, brass support for, C vacuum flask containing, D, liquid air E, rubber bulb.

The *inner sliding* cylinder of the microtome also requires some modification. It should be of smaller diameter than is usual in the Cathcart microtome and should be fitted with vertical strips of brass This device is necessary for purposes of partial insulation and also to diminish the risk of the cylinders freezing together. A transverse section of the inner cylinder is shown in the small figure to the left of Fig. 2.

A simple nozzle is fitted into the side of the cylinder and is turned up so as to play on the under surface of the plate. An indiarubber cork with two holes is fitted into the vacuum flask. Through one of these holes (the left in Fig. 2) is a glass tube passing from the vapour above the liquid to a piece of indiarubber tubing attached to the nozzle of the microtome. This indiarubber tubing freezes hard when the microtome is in use and thus forms a further support for the flask. Through the other hole in the cork passes another piece of glass tubing one end of which dips below the surface of the liquid air while the other is attached to the valvular indiarubber bulb. It is necessary for this piece of glass tubing to be expanded at the lower end which dips into the liquid air. The whole apparatus is worked on the same principle as a Junker's chloroform inhaler. By means of the valvular indiarubber bulb ordinary air is blown through the liquid air. The liquid air is vaporised and plays on the under surface of the plate of the microtome. As the atmospheric air passes into the liquid air the moisture condenses from the former on the inner surface of the glass tube which soon becomes blocked with ice unless it be dilated as recommended above and as shown in Fig. 2.

The above apparatus may be seen at work at Mr. Charles Baker's, 244, High Holborn, London, W.C., and is sold by him for 30*s* The present form of Cathcart's microtome as modified for use with liquid air is sold for 15*s*. Liquid air is to be obtained for 2*d*. per gallon from the Liquid Air Power and Automobile Co, Limited, 29A, Gillingham-street, Pimlico, London, S.W

In conclusion, I ought to say that I can personally lay no claim to any originality in connexion with the above. The idea of using liquid air for freezing in the laboratory is due to Dr T. B. Hyslop, superintendent of the Bethlem Royal Hospital, and the mechanical adaptation of Cathcart's microtome for the purpose is due to Mr. Hans Knudsen of the Liquid Air Power and Automobile Co., Limited, to whom I now tender my warmest thanks for his kindly interest and generous assistance.

Bethlem Royal Hospital, S.E.

SOME OF THE SURGICAL ASPECTS OF GLYCOSURIA AND DIABETES.

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(*Concluded from p. 1316*)

CLASS III. (*continued*).

Operations on the Rectum.

EXCISION of the rectum by Kraske's operation has been performed on a man, aged 60 years, for carcinoma; he was very corpulent and his liver was enlarged. At the time of operation there was no sugar in his urine, though there was a history that he had suffered from diabetes and albuminuria five years before and had been under treatment at Karlsbad with the result that the sugar was absent for the two years immediately preceding the operation; there was, however, still a trace of albumin. There was a history of rectal trouble for two years with the passage of blood for one year. After excision the wound was plugged with iodoform dressings. The same evening his urine contained 2·4 per cent. of sugar. The next day he was restless and iodoform poisoning being suspected the dressings were changed, the sugar disappearing meanwhile Three days later it reappeared and iodine was no longer detected in the urine. The next day there was a trace of iodine and 4 per cent. of sugar Four days later he died comatose. The coma may have been uræmic in origin, as opium had been administered every two hours and his kidneys were unsound. Desprès records the removal of hæmorrhoids with the écraseur, the patient recovering. The percentage of sugar was from 0 8 to 1 5

In connexion with these cases must be considered a case recorded by Wallace, of a man, aged 72 years, who underwent excision of the rectum for carcinoma. The wound became very foul after a few days. Simultaneously sugar appeared in his urine and reached 2376 grains in 24 This fell to a trace in a month. The highest recorded was 101° F. Wallace considered this to temporary glycosuria. The patient was lost sight afterwards. (*Vide* Table VII.)

Operations on the Extremities.

A large popliteal aneurysm was excised by Trendelenburg. The patient was a man, aged 64 years. Ether was administered and the operation was done with the aid of Esmarch's bandage; it lasted 60 minutes and there was much bleeding on removal of the bandage. He had much pain on recovery from the anæsthetic. The next day his condition was good. On the third day, however, his temperature rose to 103·2° F. and there was slight ptosis on the right side. Later on the same day he became unconscious. A search for sugar was now made for the first time; 6·7 per cent. was found; a slight fruity odour was observable. That evening his temperature rose to 104 3°; the next morning he died comatose. Post mortem a dilated heart, emphysema, and atheromatous arteries were found.

At St. Bartholomew's Hospital the superficial femoral artery was ligatured for a left popliteal aneurysm by Mr. Howard Marsh. The patient was 34 years of age and he had contracted syphilis seven years previously. Sugar was found in his urine for the first time on the day of operation (? before or after the operation). 13 days later sugar was still present. He was discharged a month later surgically well; no mention of diet is made. 14 months later he was admitted under the care of Sir Lauder Brunton with well-marked diabetes (the urine was of specific gravity 1040, the amount was six pints, and it contained 13·8 per cent. of sugar; the total amount present per diem before death was 7262 grains). He died comatose. This was probably a case of diabetes throughout, though Fort's case must be remembered of diabetes the result of an anæsthetic. (St. Bartholomew's Hospital Male Surgical Register, 1896, vol. iv., No. 1696.)

In 1900 Mr. H. T. Butlin amputated the right hand of an engine-driver for epithelioma. He was 45 years of age and was a big corpulent man. On admission his hand was swollen on the inner side and the skin was red, smooth, and painful. His temperature was 97·6° F. and his urine was of specific gravity 1028 and contained 5 per cent. of sugar. The swelling was explored under an anæsthetic and a sinus was found; a piece was removed for microscopical examination. This proving to be epithelioma an amputation was performed through the wrist. Gas and ether were administered on each occasion. All carbohydrates were withheld from his diet. He was quite free from pain the next few days but his temperature gradually rising to 100° on the fourth day the wound was dressed and sloughing of the flaps was discovered. The sloughs separated gradually and on his discharge the wound had practically healed. The following table shows the state of the urine:—

Date.	Amount		Specific gravity.	Percentage of sugar.	Total amount of sugar.	
	in ounces.	in cubic centimetres.			Grains.	Grammes.
June 5th.	—	—	1028	2·0	—	—
„ 6th.	60	1703	1030	5·0	1311·8	85·18 (Operation.)
„ 12th	43	1221	—	8·3	1563 6	101·53 (Operation.)
„ 14th.	75	2129	1032	5·0	—	—
„ 20th	58	1641	—	4·0	1011·0	65·65 (Slough.)
„ 21st	56	1590	1030	4·5	1101·8	71·55
„ 26th	60	1703	1030	4·3	1138·6	73·94
„ 28th.	66	1874	1027	2·5	716·1	46·50

On July 4th, 5th, and 9th only traces of sugar were discovered. The ferric chloride reaction was never present. The percentage of sugar in this case was high and did not materially diminish until the sixteenth day in spite of diet; it eventually became a mere trace. The euphoria during the period of sloughing is noteworthy. He was readmitted in

February and in March, 1901, for removal of enlarged epitrochlear and axillary glands. On the second occasion there was about 1 per cent. of sugar present; the ferric chloride reaction was absent. There was, moreover, no acetone as shown by Legal's test. These two operations were quite successful. (St. Bartholomew's Hospital Male Surgical Register, 1900, vol. iv., No 1479; and 1901, vol. iv.) (Personally observed.)

Three primary amputations on diabetics have been performed with two deaths. Verneuil amputated the foot of a man, aged 52 years, by Roux's method for a crush received the evening before from a wagon wheel. The patient had recovered from the shock of the accident and was willing and ready for the amputation. Hæmorrhage was troublesome during the operation; 24 hours later stupor appeared; chronic diabetes was now discovered to be present (with 3·8 per cent. sugar in his urine) and he died comatose. The stump was quite healthy. This case is quoted by Becker as an example of *coma precipitated by an anæsthetic.*

In St. Bartholomew's Hospital a primary amputation through the upper third of the leg was performed on a woman, aged 60 years, for a compound fracture in the middle third. On the third day the flaps were gangrenous. A charcoal poultice was applied and sugar and albumin were found in her urine. She died on the ninth day. Post mortem a line of demarcation was present; the arteries were very atheromatous. In the third case the inner four digits of the foot were removed by Hache for

TABLE VII.—OPERATIONS ON THE RECTUM.

No.	Sex and age.	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
1	—	Desprès.	Hæmorrhoids.	Removal by écraseur.	Recovery.	—	Sugar in the urine from 0·3 to 1·5 per cent.
2	Male; 60 years.	Hoffa	Carcinoma recti.	Kraske's operation.	Plugged with iodoform dressings. Coma. Death.	—	Sugar absent for two years (had suffered from diabetes for five years). The urine contained albumin. Signs of iodoform poisoning. Re-appearance of the sugar after operation. Coma; ? due to uræmia, as much morphia was given after the operation and the kidneys were unhealthy.
3	Male; 72 years.	Wallace	Carcinoma recti.	Excision	Recovery	—	The wound became sloughy a few days after the operation. The urine now contained 2378 grammes of sugar in the 24 hours which fell to a trace in a month. Highest temperature 101° F. ? Diabetes. ? Glycosuria due to sepsis.

TABLE VIII.—OPERATIONS ON THE EXTREMITIES.

No.	Sex and age.	Reference.	Disease.	Operation	Result.	General treatment.	Remarks.
1	Male; 64 years.	Becker (Trendelenburg's case)	Popliteal aneurysm.	Excision.	On the fourth day coma. Death.	—	Ether was the anæsthetic. On the appearance of the symptoms of coma 6·7 per cent. of sugar was discovered.
2	Male, 34 years	Marsh (St. Bartholomew's *Hospital* Surgical Register, vol. iv, 1890)	"	Ligature of the superficial *femoral*	Recovery.	—	Sugar was discovered on the day of the operation (*? before*). 14 *months* later the patient was re-admitted to the hospital and he died from diabetic coma.
3 a.	Male; 45 years.	Butlin (St. Bartholomew's Hospital Surgical Register, vol. iv, 1900, 1901)	Epithelioma of the hand Ulcerated.	Amputation at the wrist.	Sloughing of the flaps (painless) Recovery.	General treatment adopted.	The sugar varied from 5·3 per cent. to *nil*. A stout patient. No ferric chloride reaction.
b	—	—	Enlarged gland at the elbow. 1901.	Excised.	Recovery.	—	A trace of sugar. No ferric chloride reaction.
c.	—	—	Enlarged axillary glands.	"	"	-	About 1 per cent. of sugar. No ferric chloride reaction.
4	Male; 52 years.	Verneuil quoted by Becker	Crushed foot.	Amputation of the foot. Roux's method	Much hæmorrhage. Coma. Death.		Chronic diabetes; 3·8 per cent. of sugar. Stump healthy. (?) Coma due to anæsthetic.
5	Female; 60 years.	St Bartholomew's Hospital Surgical Register, vol iv, 1887.	Compound fracture of the middle third of the leg	Primary amputation in the upper third.	Sloughing of the flaps. Death on the ninth day		Sugar and albumin present. Atheromatous arteries. Line of demarcation.
	-	Hache.	Fracture of the four outer metatarsals.	Partial amputation of the foot	Recovery	-	
	-	Reynier (with Dr. Fourrey)	Sarcoma of the size of an orange on the dorsum of the foot near the root of	Removed.	"		

fracture of the metatarsal bones. The operation was quite successful. Reynier has recorded the successful removal of a sarcoma of the size of an orange from the dorsum of the foot. Seven patients have thus been operated upon with three deaths, the actual number of operations performed on these seven patients being nine. The percentage of patients recovering was 57·1 and the percentage of successful operations was 66 6. (*Vide* Table VIII.)

Fractures in Diabetes.

The statement has been made that in diabetics fractures do not unite properly, non-union or delayed union being the rule. The original paper on the subject I have been unable to find and therefore cannot run to earth the data on which it was based. Several cases, however, have been published in support of this view but their number is very small (being five in all). Against this view are three cases treated at St. Bartholomew's Hospital in which the fractures united in quite a normal manner. Two other cases were also admitted during the last 20 years. Both patients, however, died, one after a primary amputation and one from sepsis from an empyema complicating fractured ribs. (In connexion with this it is interesting to note that Naunyn in his monograph on diabetes states that he has never seen an empyema complicating that disease nor has he found any reliable observation by others of such an occurrence. Furthermore, he states (p. 330) that suppurative inflammation of serous membranes is very rare in diabetes.) Legendre also records a normal result in a fracture of the humerus. Rather full details are appended of these cases of fractures as the subject is one of considerable importance.

CASE 1.—A man, aged 51 years, sustained a fracture of seven ribs from the passage of a wheel over his chest. On admission there was extensive surgical emphysema; his urine contained 5 per cent. of sugar. He was much collapsed and suffering great pain and his breathing was very rapid. Six days later he was dieted and put upon codeine. He was discharged 27 days after the accident surgically cured. There was, however, still 3 per cent. of sugar in his urine.

CASE 2—A man, aged 40 years, fractured several ribs by falling on his right side. On admission to St. Bartholomew's Hospital he was much collapsed and there was surgical emphysema over the right lumbar and thoracic regions. On the day of the accident much sugar was discovered in his urine and a history of thirst, excessive appetite, and progressive loss of strength was elicited. On the eighth day a needle was introduced into his right pleural cavity and pus was discovered. A rib was excised, the chest wall being found infiltrated with pus. He died on the sixteenth day after the accident. The amount of urine passed was from 30 to 50 ounces but no quantitative estimation of sugar seems to have been made nor is there any mention of the diet employed.

Both these were severe injuries which might have proved fatal in a healthy subject, yet one patient recovered without there being any noticeable delay.

CASE 3.—A man, aged 58 years, was admitted to St. Bartholomew's Hospital with a sub-trochanteric fracture of the right femur. His urine on admission contained much sugar; its specific gravity was 1038 Sugar persisted for three weeks to reappear again later as a mere trace. He left the hospital from six to seven weeks after the accident with the fracture quite united. No mention is made of any special medical treatment.

CASE 4—A pronounced diabetic, aged 55 years, was admitted with a Pott's fracture. The fracture united well without any delay. He was subsequently transferred to a medical ward for his diabetes.

Legendre records a fracture of the surgical neck of the humerus from direct violence in a woman, aged 60 years, who suffered from intermittent diabetes. Union was complete in four weeks and two months later her arm was as useful as before. During treatment glycosuria was intermittent but there was a large increase in the nitrogenous excretion.

An interesting history is published by Spitzer of a professor, aged 46 years, a very intellectual man, who had been under his care for diabetes since 1895. The total daily amount of sugar was reduced by diet from 12 to 25 grammes to from five to 10 grammes and the daily excretion of ammonia was one gramme and under Acetone and aceto-acetic acid had always been absent. On June 27th, 1899, he was seen and his urine contained 0 8 gramme of ammonia in the 24 hours and 18 grammes of sugar (0 9 per cent.). There was no albumin and no ferric chloride reaction was given. On the 29th about 11 A.M. he fell and fractured his clavicle at the junction of the inner and middle thirds. At 3.30 P.M. he had a sensation of tightness about his chest His urine from the 29th to the 30th measured 5·1 litres, containing 245 grammes of sugar (4·8 per cent.). Sodium bicarbonate was now given by mouth and by rectum (70 grammes in all per diem). He improved until July 3rd, when he became rather restless. His urine was now strongly acid and gave the ferric chloride reaction. He was excreting 2·1 grammes of ammonia despite alkaline treatment. He became steadily worse and died on the 6th comatose. Oxybutyric acid was apparently absent throughout. This case is particularly interesting on account of the coma obviously induced by trauma and on account of the increase in the ammonia and the possibility of giving an unfavourable prognosis.

An account has already been given of the compound fracture for which amputation was unsuccessfully performed. Smith and Durham quote three cases in which the fracture took from four to five months to consolidate and two in which non-union occurred. On the death of one of the latter patients some nine months later from an accident a false joint was found with much provisional callus; nevertheless, the arm was quite useful.

Several cases of transitory glycosuria after fractures have been recorded, the most interesting being Renard's case, where owing to the absence of pain sugar was suspected and found to disappear in a few days. Highly saccharine food failed to cause any return of the glycosuria. The amount also was slight, being only 0 63 per cent.

In connexion with this subject the following remarks of von Noorden are noteworthy: "According to the researches of Toralbo, van Ackeren, and Gerhardt, diabetics often excrete such an excess of phosphoric acid and lime salts over the quantity in the food ingested that they must come from one of the tissues of the body. This can only be from the bones. Gerhardt attributes this to the increased acidity; administration of alkalies diminishes the excretion of lime." Osteomalacia, in which a similar increase in the amount of lime and phosphoric acid excreted occurs, arising in unfavourable conditions of nutrition, &c., sometimes passes over into diabetes under more favourable surroundings (Lymann). Naunyn states that imperfect union may occur even though at the time sugar be not excreted; this he also attributes to hyperacidity. He also refers to the frequent painlessness of fractures in diabetic subjects. Thus, out of 12 cases of fracture in diabetic subjects three of the patients died, one after a primary amputation, one from coma induced by the shock of the accident, and one from pyopneumothorax the result of fractured ribs. In five cases union was delayed or was non-existent. In the remaining four union resulted in a normal manner. The number of cases is small, but when it is considered that the fact that union was not normal led to the publication of five of the cases and that of the other four three were taken from the casebooks of a large hospital (St. Bartholomew's) from the years 1884 to 1900, and that the result was quite good as regards union, considerable doubt must be thrown on the former statement that non-union was very common. But taking van Noorden's observations *re* the lime salts into account it would certainly be advisable to administer lime salts, preferably the carbonate, on account of the liability to the occurrence of acids in excess, to every diabetic who should be so unlucky as to sustain a fracture. (*Vide* Table IX.)

CLASS IV.

This class includes all those cases in which a septic element is already present at the time of observation. It includes, therefore, gangrene, abscesses, carbuncle, middle-ear disease, &c. A short reference will be made to gangrene and the subject of middle-ear disease will be more fully considered.

Gangrene.

Gangrene is, as has been stated already, rarely the direct result of diabetes, occurring only indirectly as the result of arterial sclerosis or nerve degeneration. The term "diabetic gangrene" is usually applied to gangrene of the lower extremities. A vast amount of literature has accumulated around the subject and the subject is further complicated by the fact that ordinary senile gangrene may be complicated by glycosuria. The best paper on the subject is that of Gussenbauer, with whom my own researches agree. He advocates diet and general treatment in the first place. The condition of the arteries should be carefully investigated on both sides. If the pulse be distinctly present in the anterior

TABLE IX.—FRACTURES IN DIABETICS.

No.	Sex and age.	Reference.	Injury.	Operation.	Result.	General treatment.	Remarks.
1	Male; 51 years.	St. Bartholomew's Hospital Surgical Register, 1899, No. 1492.	Fracture of seven ribs from wagon wheel	—	Recovery without delay.	Adopted on the sixth day after the accident. Diet and codeine.	Much surgical emphysema. Urine: 5 per cent. of sugar; on discharge on the twenty-seventh day 3 per cent.
2	Male; 40 years.	Ibid., vol. iv., 1890.	Fracture of several ribs from a fall. Empyema. (The chest wall infiltrated)	Excision of a portion of a rib on the eighth day.	Death on the sixteenth day.	Not mentioned.	Diabetic history. The amount of sugar not recorded. Much surgical emphysema.
3	Male; 58 years.	Ibid., vol. iii., 1891.	Sub-trochanteric fracture of the femur (right).	—	Recovery (left the hospital in from six to seven weeks).	”	Urine: specific gravity 1058; much sugar. After three weeks the sugar had nearly disappeared.
4	Male; 55 years.	St. Bartholomew's Hospital, Matthew Ward book, 1890.	Pott's fracture.	—	Recovery. No delay.	—	A pronounced diabetic. Subsequently transferred to a medical ward.
5	Female; 60 years.	Legendre.	Fracture of the surgical neck of the humerus.	—	Recovery. Union complete in four weeks.	—	Intermittent diabetes. Much increase in excretion of urea.
6	Male, 35 years.	Verneuil (Bulletin de l'Academie de Medecine, 1889).	Compound fracture of the left femur.	—	Sloughing and ulceration. Union nearly complete in four months.	—	Diabetes for four years. From two to three litres of urine; much sugar. Delayed union (but the fracture was compound).
7	Male; 67 years.	”	Fracture of the neck of the humerus.	—	Much callus. Three months later, on death occurring from an accident, pseudarthrosis was discovered.	Refused.	Diabetes for two years. 10 litres of urine; much sugar. Non union.
8	Male; 54 years.	”	Fracture of the radius and ulna.	—	Non-union; still present nine months later.	Adopted.	Reduction of the sugar present from 7·96 per cent. to nil. For four years symptoms of diabetes.
9	Male.	Berger.	Fracture of the lower third of the leg.	—	Union complete in 14 weeks.	”	Diabetes for years. Sugar from 7·5 per cent. to 4·8 per cent.; reduced by treatment to 1·7 per cent.
10	—	Lésty (Smith and Durham).	Fracture of the leg.	—	United in five months.	—	Diabetes.
11	Male; 46 years.	Spitzer.	Fracture of the clavicle, June 29th, 1899.	—	Death on July 6th from coma.	Adopted	The patient had been under medical treatment for four years for diabetes. The amount of sugar per diem rose from 18 grammes to 245 grammes (from 0·9 to 4·8 per cent.) and the amount of ammonia from 0·9 gramme to 2·1 grammes per diem in spite of sodium bicarbonate.

and posterior tibials and in the dorsalis pedis local removal of the diseased parts will suffice. If, however, the pulse be not perceptible there, but be well marked in the popliteal, amputation below the knee may be performed, provided that the gangrene has not spread beyond the dorsum of the foot and that the leg is free from phlebitis and lymphangitis. If, however, these conditions be not fulfilled or the popliteal pulse be not felt, then amputation must be performed through the thigh. If gangrene has spread beyond the dorsum of the foot, or if the urine contains acetone or aceto-acetic acid, or if stupor or hiccough is present, the prognosis is necessarily bad. He illustrates his paper with nine cases, of which the following two are the most instructive. A man, aged 56 years, who had suffered from diabetes for some years, became the subject of gangrene of the right foot, the dorsum and sole being affected. Lymphangitis was present above the internal malleolus. He was dieted. Gritti's amputation was performed with success. Two years later, general treatment having been in abeyance in the meantime, the left great toe became gangrenous. The dorsalis pedis distinctly pulsating a local amputation was performed, the patient recovering perfectly. In the other case, though the brachials were rigid and the posterior tibial pulse could not be felt, the dorsalis pedis and popliteal pulsated distinctly. Local removal was successful after dieting and local antiseptic measures. The urine contained 4·8 per cent. of sugar. As a local disinfectant he employed aluminium acetate. He does not refer to the state of the reflexes, though these should certainly be considered. It will also be observed that he does not limit himself to the simplest operations but employs such methods as Gritti's. During the years 1884–1899 the following were the numbers of cases treated at St. Bartholomew's Hospital: unoperated, 11 cases, all resulting fatally; and amputated, eight cases with six deaths. Of the latter in six cases an amputation below the knee was performed; one patient recovered after sloughing of the flaps, the wound not completely healing for many months. Among the fatal cases sloughing of the flaps occurred in four; in the fifth the patient died on the sixth day demented, the wound being united by primary union. In this case there was no tibial pulsation and the amputation was below the knee. In the remaining two an amputation through the thigh was performed. One recovered after slight suppuration during the course of which he became very restless and almost comatose. The other, a woman, aged 79 years, died, probably from sepsis as the wound did not run an aseptic course; the gangrene in this instance was moist. The arteries were healthy but the nerves were degenerate. If in doubt an amputation should be performed above the knee rather than below. A few cases of gangrene of the upper extremities have been recorded. Grossman's paper based on some 224 cases of gangrene in diabetes I have been unable to consult save in a review. He also emphasises the importance of arterio-sclerosis and nerve changes. He further states that a slight amount of sugar in the tissues is favourable to the growth of pyogenic cocci and their symbiosis with other bacilli.

The following case of gangrene which was under the care of Mr. W. J. Walsham is of interest, as the amount of ammonia was estimated, and being excessive sodium bicarbonate was administered with success. The patient eventually died and though before death he was unconscious, yet death cannot be considered to have been due to diabetic coma as the temperature was raised and bacteriological examination of the blood showed streptococcus poisoning. Death was therefore due to sepsis.

The patient, a male, aged 67 years, was admitted on April 17th, 1901, with gangrene of the second toe on the left foot; this resulted from some damage earlier in the winter. On admission he was well nourished and his temperature was normal. There was sugar in the urine but the amount at the time was not estimated. The urine contained 1·5 grammes of ammonia in the 24 hours. He was then placed on sodium bicarbonate in 30-grain doses thrice daily which were increased later to 90-grain doses every four hours. This reduced the ammonia to 0·25 gramme. The sodium bicarbonate, however, made him vomit. He was at the same time dieted and was placed on codeine. After the above preliminary treatment the leg was amputated through the lower third by lateral flaps (the patient not consenting to an operation higher). The arteries were diseased; a microscopical section of the posterior tibial showed a channel thrombus. On the third day after a rigor gangrene was discovered to have spread to the flaps. (The original operation was performed on April 30th.) After dressing the temperature fell for a few days but it rose again, and as he got steadily worse a further amputation was performed through the lower third of the thigh by antero-posterior flaps, but owing to his general septic condition at the time he was not much improved and finally he became unconscious and died late on May 16th. (The second operation had been performed on the 14th.) His temperature just before death was 102° F., having been the day before from 103° to 104°.

Necropsy.—The arteries about the base of the brain were very atheromatous. The lungs were emphysematous and very œdematous. The heart was hypertrophied (18 ounces). The liver was slightly enlarged and there was an empyema of the gall-bladder; the gall-bladder was also adherent to the duodenum by recent lymph. The spleen was diffluent. The kidneys were enlarged (18 ounces). The pancreas was normal to the naked eye. The tissues of the stump were sloughing but there was no osteomyelitis of the femur. The femoral artery was rather atheromatous.

Bacteriological examination.—In the heart's blood there were streptococci, with contaminations. A subculture yielded pure streptococci.

Microscopical examination.—The pancreas showed no trace of degeneration; on the other hand, its cells seemed to be large and active. The kidneys, save for some round-celled infiltration and cloudy swelling such as would be accounted for by the temperature, were normal in appearance. The amount of urine varied between two pints and four and a half-pints. The amount of sugar was between 0·4 and 1·64 per cent. The largest amount was on May 9th when 736 grains were excreted in the 24 hours. The temperature was normal on this day. The average total amount was about 300 grains. (Personally observed.)

Diabetes and Otitis Media.

Much has been written by foreign surgeons on the relation between otitis media and diabetes. Some consider that there is a special diabetic form in which mastoid symptoms predominate; some even consider that the mastoid is primarily affected. Kuhn, Raynaud, and Wolf are the chief exponents of this idea. Friedrich's views are similar; he considers the reason of the early, if not primary, mastoid disease to be the existence of arterio-sclerosis. Eulenstein has collected from the published papers a large number of cases which with his own amount to 50 in all; 45 of these were acute cases. Of these 50 cases 17 patients developed extensive mastoid disease, 11 developed slight mastoid disease, and 22 had no mastoid complications. Therefore, in 56 per cent. mastoid complications occurred. Of the acute cases the time of occurrence of the mastoiditis is mentioned in 12, in eight of which it occurred within a month of the onset of otitis media, in one case appearing as early as on the sixth day. Eulenstein states, however, that he has seen mastoiditis as precocious in non-diabetic cases. When it is remembered how in diabetics sepsis frequently runs riot it is not surprising that extensive suppuration and necrosis take place, since the mastoid process furnishes a good nidus for the organisms to develop. In many instances (Sheppard's case in particular) diabetes was not discovered until extensive cellulitis occurred in the neck, spreading down from the tip of the mastoid process and often reaching the clavicle. In the section on the influence of diet on the course of wounds a clinical history of such an occurrence was given where, on the discovery of 3·7 per cent. of sugar, rigid diet was adopted, the patient recovering completely. Sheppard's patient also recovered.

Pain is a prominent symptom and occurs early. In one of Friedrich's cases there was tenderness over the mastoid on third day of the attack in addition to severe pain over the side of the head.

The affection may be thus summed up. Otitis media is common in diabetics, infection spreading up from the pharynx which is often in a state of chronic catarrh. Its onset is sudden; the pain is of great intensity and persistence, even though there be free discharge through the external meatus; the discharge is often bloody; and there is a great tendency to mastoiditis and necrosis (Eulenstein). In many instances extensive cellulitis of the neck succeeds operation, but in others the disease has run quite a normal course. All are agreed that if an operation be required it should be performed in spite of the presence of sugar, general treatment being also adopted. Particular attention should be paid to Gerhardt's reaction and to the amount of ammonia excreted. Thus Lannois operated on a man whose urine measured three litres per diem with a percentage of sugar of 9·8, but the amount of ammonia was low. He recovered from the operation in spite of gangrene of the skin (he died suddenly two months later, the mastoid having quite recovered). In the case of a man, aged 42 years, a drinker, whose urine contained 5 per cent. of sugar and albumin, Friedrich merely opened an abscess over the mastoid under the ether spray, the abscess healing completely. He thinks that if the percentage of sugar be high and uninfluenced by diet, or if the heart, the lungs, or the kidneys be unsound, the prognosis is bad and a simple operation under a local anæsthetic should be performed.

Other Septic Affections.

Spencer records an interesting case of cellulitis starting in the bursa olecrani for which he performed an amputation, the patient recovering, although the operation was performed through indurated tissues and although at the time of the operation he was in a semi-comatose condition. The following case recorded by Naunyn is of interest from the fact that it bears out the observations of Nicolas that glucose favours the pyogenic properties of many organisms whilst it diminishes their virulence. A man, aged 62 years, came under observation, after undergoing several rigors, with a large abscess in the left thoracic region. Although at the time of the rigor the right half of his prostate was enlarged it was scarcely painful. The urine contained 11 per cent. of sugar but no other abnormal substances were found in it. A large abscess formed in the prostate and spread up behind the symphysis pubis; the thoracic abscess also spread widely; nevertheless, both healed up completely after incision. Thus very extensive suppuration is not necessarily fatal in diabetes. Other septic affections, such as carbuncle, will not be considered.

GENERAL CONCLUSIONS.

These conclusions are based on the cases in Group III. and all the doubtful cases of temporary glycosuria, such as one of Tuffier's tongue cases and Giles's fibroid case, have been omitted. It will be seen on examination of the tables that most of the principal major operations of surgery have been performed with a large amount of success. In all 92 operations have been performed on 83 patients, of whom 23 died, giving a percentage of patients recovering of 72·28 and of successful operations a percentage of 75. This at first seems to indicate a high mortality, but when it is considered that in three cases death seemed to be inevitable within a few days if an operation was not performed the mortality is not unduly high. (These three cases include two strangulated herniæ, in one of which coma was already appearing and in the other gangrene of the gut was present, and an inguinal colotomy for complete obstruction, an operation at all times extremely grave when obstruction is present.) Further, in 11 cases the operation was performed for malignant disease, and since the latter is more likely to be fatal within a shorter period than diabetes in an elderly subject much must be risked to gain much. The same cannot be said of the parotid tumours, as their nature is not indicated, but one was undertaken on an at that time unknown diabetic and was a very difficult operation. The dermoid tumour of the ovary was a very difficult operation owing to the extensive adhesions. The patient who underwent Kraske's excision of the rectum also had unsound kidneys and probably died from uræmic coma induced by the use of much opium. The excision of a popliteal aneurysm was also on an unsuspected diabetic.

The operations of expediency were singularly successful. These include five radical cures of hernia, six plastic operations on the female generative organs, and one operation for piles. A case of vaginal hysterectomy for procidentia, however, was fatal. The actual cause of death was coma in 11 cases and sepsis in seven; of the others pneumonia and shock figure, whilst in three the cause is doubtful. (Coma and sepsis will be considered separately later.) Of these 83 patients 35 were males, of whom 24 recovered, and 42 were females, of whom 32 recovered, the percentage being of males 68·5 and of females 76·1; of the remaining six of unstated sex five recovered. This predominance of females is probably due to the fact that the disease was not so acute. Of 49 patients over the age of 45 years 19 died, whilst of nine under that age only one died. Two contrary factors are at work here, one being the more chronic nature of diabetes in advanced life but accompanied by the great probability of arterial and nerve-degeneration. The details are too meagre to draw accurate conclusions of the influence of nerve-degeneration on healing, the only ones available being Reynier's. He has drawn up some tables of cases with and cases without knee-jerks, of which, however, the only comparable cases are the septic ones. Of these, of 13 septic cases in which they were absent all died, whilst of 13 in which they were present only two died. But the cases in the first group seem to have been more severe.

As to the condition of the urine, the percentage of sugar is no criterion as fatal results have followed from coma when no sugar had been present there for some time previously. The highest percentage in fatal cases was eight and in non-fatal cases was 11·5. A more instructive figure might be obtained if the total sugar excreted per diem were considered, but as this is in so many recorded cases impossible to ascertain it will not be further considered. Albuminuria is a serious complication; the three patients in whom it was present all died. The presence of abnormal substances, such as acetone or aceto-acetic and oxybutyric acids, and with them an increase in the amount of ammonia excreted, is of the utmost significance, and if irreducible of unfavourable prognosis. This will be considered in detail in the section on coma. In none of the cases in Group III, save in a fracture case, was the amount of ammonia excreted stated, and here its persistance indicated an unfavourable prognosis which was fully borne out by the fatal termination. In one or two of the otitic cases it has been recorded, and in the case of gangrene under Mr. Walsham's care an increase in the amount was discovered, but this responded to treatment, the patient, however, ultimately dying, but not from coma. Alcoholism is considered by Verneuil to exert an unfavourable influence. In many of the cases the patients were full-bodied, constituting the condition called "diabète gras." Many of the older writers consider that diabetes exerts a baneful influence on the healing of wounds, but this apart from sepsis does not necessarily follow, it must be remembered, however, that a wound may slough or suppurate without any pain or even much rise of temperature. This euphoria is rather a noticeable feature in such cases (*vide* the amputation of the hand and the vaginal extirpation of the uterus) But of wounds of the anterior abdominal wall, as for operations for radical cure of umbilical herniæ, ovariotomies, &c, out of 15 in seven union was not good, disunion even occurring in three, no union in one, and in three its progress was described as being slow Preliminary treatment was adopted in 34 cases, in six of which the patients died, two from sepsis and two from coma. In 11 cases there was no preliminary treatment. Of these four patients died, two from sepsis and two from coma. The percentage of recoveries of the dieted is therefore 82·3 and of the undieted 63·63. Though the number of non-dieted cases is small yet the difference in result is 18·66 per cent. Of those in whom the preliminary treatment was doubtful 13 out of 39 died, yielding a percentage of recovery of 66·66. In none was the sodium carbonate treatment adopted. The effect of diet on pre existing sepsis is strikingly shown in the following case reported by Davidsohn.

A man, aged 49 years, was admitted in July, 1894, suffering from suppurative otitis media. This dated from a chill on May 6th, discharge appearing on the 9th. No fresh symptoms were noted until pain appeared behind the ear on July 3rd, followed by a rigor on the 6th. On the 9th there was obvious mastoid suppuration. The mastoid was explored on the same day by Schwabach. The bone was diseased and was scraped and the wound was packed with gauze. The progress of the wound was favourable until the 26th, when brawniness due to cellulitis of the neck occurred This had spread down to the clavicle by the 30th in spite of free incisions. Counter-incisions were freely made under an anæsthetic. Slight improvement resulted, but two days later the discharge was very offensive and contained sloughs A history of diabetes reaching back to February was now elicited, the urine containing 3·7 per cent. of sugar Under rigid diet in eight days the percentage fell to 1 and in nine days it disappeared, the wound at the same time healing rapidly, so that by the end of August it was completely healed The perforation in the membrane healed and the patient gained weight.

Many other similar cases might be cited (*vide* Table III on operations on the breast).

Diabetes and Sepsis.

Some foreign surgeons have emphatically stated that if after an operation the wound for no apparent cause becomes septic or sloughs the urine should be examined for sugar. This sometimes will be found present although absent immediately before, since in some cases diabetes is latent, sugar reappearing after the disturbance of functions caused by the anæsthetic or by the mental effects of the operation. This is comparable with the well-known increase in the amount of the sugar excreted, which often occurs under such circumstances. Kraske, Fischer, Bujwid, Müller, von Noorden, and others have demonstrated the presence of staphylococcus aureus, staphylococcus albus, and other suppurative micro-organisms in the septic processes that occur. Occasionally moulds have been found associated with the abscess formation in diabetes (Auché and Dantec) Bujwid performed a series of experiments and showed, (1) that sugar was not produced by the growth of staphylococcus aureus; (2) that its growth in a culture containing sugar was less luxuriant than in a sugarless though otherwise similar medium and further that its growth was colourless; (3) that that amount of staphylococci which when suspended in an indifferent though sugarless fluid did not produce suppuration when suspended in a similar though sugar-containing fluid did produce it, (4) that if the injection of a subminimal amount of staphylococci into an animal were followed by the injection of normal saline fluid no suppuration ensued, whereas the injection of a sterile solution of sugar was attended by suppuration, and (5) that if the sugar solution were withheld until the staphylococci disappeared from the blood no suppuration resulted. In one animal gangrene of the skin ensued on the introduction of a sugar-containing fluid

These experiments have been repeated by Nicholas and Karlinski with similar results Nicholas showed, however, that the actual sequelæ differed slightly with the seat of injection, a subminimal dose of staphylococci producing a slightly different result according as to whether it was injected into the blood stream or into the cellular tissue Further, such a dose of cocci followed by sterilised water produced suppuration almost as readily as did a solution of sugar, showing that it was not so much the sugar as the damage to the tissues produced by it In addition, a dose of staphylococci sufficient to kill an animal in a few days, if followed by a solution of sugar, either did not kill it at all or only after a much longer period, and that a large abscess made its appearance instead of a small one or septicæmia. Ferrero has established similar facts for staphylococcus albus Thus sugar diminishes the virulence of micro-organisms but increases their pus-producing properties.

In addition to the lowered vitality produced by the circulation of an abnormal amount of sugar the presence of arterio-sclerosis and nerve degeneration must be taken into account, for the diabetics that usually seek surgical aid are middle-aged or at least suffering from a chronic form of the disease; for many are stout full-blooded individuals (*diabète gras*). With reference to nerve degeneration, it is well known that after severance of a nerve there is a greater tendency to trophic lesions. Herman and Kasparek have performed a series of experiments with the pyogenic organisms and have shown that after the division of the sciatic nerve on injection of the organisms suppuration was liable to follow on the injured side in the marrow and joints. Thus there is abundant reason for the occurrence of suppuration in diabetics. The sugar directly lowers the vitality of the tissues and by inducing chronic vascular and nerve changes also adversely affects the body. It must be remembered in this connexion that sepsis sometimes produces temporary glycosuria, but even here there is a difficulty, for the patient may be suffering from intermittent diabetes, and the shock of the operation may cause it to reappear.

Coma.

It is well known that in diabetic subjects the most trivial incident or accident may be followed by coma, whilst, on the contrary, at times even the most severe injury may be sustained without any untoward result. It is therefore advisable to study in detail the pathology of diabetic coma. In diabetic coma the urine contains one or more abnormal substances the principal of which are acetone, and aceto-acetic and oxybutyric acids. Dreschfeld has shown that considerable amounts of acetone and aceto-acetic acid can be administered to man or animals by mouth without any bad consequences and that little of them can be recovered from the urine. Moreover, acetone can be subcutaneously injected without danger provided that the amount be small and that elimination be not hindered, but if these conditions be not observed the animal passes into a state closely resembling diabetic coma. These bodies have also been found in the urine of patients who have died comatose after such diseases as malignant disease of the liver. These bodies also cause albuminuria—a condition alleged by Stokvis to be an accompaniment of diabetic coma. Huchard, Kirstein, Coranda, Hallevorden, and others consider that coma is due to acid poisoning. Stadelmann and Minkowski have discovered an acid in the urine of certain diabetics identical in composition with oxybutyric acid but lævo-rotatory, the artificial acid being optically inactive; this they therefore call "oxybutyric acid." The actual mode of operation of these acids seems to be that they become neutralised by the sodium carbonate present in the blood and that if they are present in excess there is considerable risk that the alkalinity of the blood may be so reduced that it is unable to carry on its functions in an efficient manner. That this is so in animals is proved by the fact that if sodium carbonate be injected acid poisoning does not occur. Minkowski found in a comatose patient only 19·5 volumes per cent. of carbonic acid instead of the normal 35 volumes. This fact shows that its alkalinity was reduced. Diabetic blood is still, however, toxic, though to a less degree, after its alkalinity has been restored

There seems, however, to be a safety-valve arrangement, for with an increase of indestructible acids in the urine there is a concomitant increase in the amount of ammonia excreted; this may be as much as from four to six grammes, or even more, per diem instead of the normal 0·7 to 0·9 gramme. In febrile conditions it also rises. Therefore, by destruction of the proteids a certain amount of ammonia instead of urea is set free whereby the fixed alkalies of the blood are protected. Naunyn sums up the matter thus. In severe diabetes, especially in young patients, the acids are excreted combined with fixed alkalies; if the acidosis be excessive they are also excreted in combination with ammonia obtained by the destruction of proteid (ammonia taking the place, in part, of urea, the amount of ammonia excreted being an index to the danger of death from coma). If more than three grammes of ammonia be excreted per diem there is great risk of coma and if it exceeds four grammes, in his experience, coma is inevitable sooner or later. Becker has brought forward the hypothesis that coma, as a post-operative complication, is frequently induced by the anæsthetic. He found that acetone, as indicated by the nitro-prusside test, was present in 125 out of 188 patients after the administration of a general anæsthetic (66 per cent.). Abram repeated these observations and found it in 16 out of 25 (64 per cent.), and that on distillation it could be detected in all. It remained in the urine for from five to eight days, but there was no relation between its duration and the length of the anæsthesia. After ether Becker found it in 67 per cent. out of 148 cases. After chloroform Abram found it in 75 per cent. (the number of cases was, however, small). In six instances Becker found aceto-acetic acid as well. Kast and Master have found that prolonged chloroform narcosis causes increased proteid destruction with an increase in the amount of acids excreted. These facts indicate that a general anæsthetic is attended, in a diabetic subject, with a risk of the supervention of coma. It must be remembered that every case of coma in a diabetic is not necessarily of diabetic origin; in some it may be the unconsciousness of septic poisoning, in others, as in the fatal excision of the rectum, it may be possibly of uræmic origin. In the cases in Group III. the youngest save one, who was described as "a young woman," was 47 years of age; all the rest were over 50 years, but the majority of diabetics who undergo surgical operations are middle-aged. Coma the result of an anæsthetic usually appears within the first 48 hours. Occasionally the anæsthesia passes direct into it. After a hysterectomy by Landau, a suprapubic cystotomy, and a catheterisation under chloroform the patient in each case died from coma, in all probability the result of the anæsthetic.

Indications against Operation and Rules for the Conduct of Operations.

A thorough examination of the urine must be made in all cases. Not only the amount of sugar is to be ascertained but the presence or absence of acetone or acid bodies; the ferric chloride reaction and Legal's test are to be employed in every instance. The presence of oxybutyric acid is not easy to demonstrate or to estimate save by the polarimeter. The total amount of ammonia must always be estimated. 1. No operation save of the extremest urgency is to be performed if there is over one gramme of ammonia excreted in the 24 hours until this has been reduced to the normal amount. 2. An operation should be postponed if there be aceto-acetic acid in the urine, though the ammonia be not markedly increased. 3. Much albumin in the urine is a bar to operation. 4. If serious disease of other organs such as the liver be present an operation should be avoided. 5. Rapid wasting in a stout diabetic not obviously dependent on the surgical lesion demanding treatment should be a reason for postponing an operation until the general condition be improved. An operation should be performed: (1) for malignant disease, if apart from diabetes such would be urged; (2) in the case of large abdominal tumours, especially in females; (3) in diabetics in good health without extensive arterial or nerve-degeneration cosmetic operations may be performed, especially in females; and (4) an emergency operation is to be undertaken even in the most unfavourable circumstances, but a very guarded prognosis is to be given. Save in the last category, if any of the indications against operation be present the operation should be postponed until they are ameliorated.

Preliminary treatment and method of operation.—In all cases in which delay does not mean loss to the patient a careful diet is to be adopted; further drug treatment, such as codeine or morphia, may be adopted. If ammonia be present in excess sodium bicarbonate is to be administered daily until the percentage becomes normal; the actual amount required may be as much as from 30 to 40 grammes per diem. Should it make the patient vomit it may be given per rectum. By this preliminary treatment the risk of sepsis and coma is lessened. Such operations as can be conveniently carried out under a local anæsthetic should be performed by its aid. Laisney operated on 102 cases of cataract, with 99 successes (Legendre), and Glasscott operated on 30 cataracts under cocaine without mishap (Dreschfeld). If a general anæsthetic be employed ether may possibly be safer than chloroform, but in any case sodium carbonate is to be administered for a few days before and after. If the increased vulnerability of the tissues be considered an aseptic rather than an antiseptic operation is the ideal undertaking. All strong antiseptics are to be kept from the wound. Further, the patient is not to be considered cured until the wound is completely healed. Hæmorrhage under modern methods of operation is not to be feared. In operations upon the urogenital organs where asepsis is difficult to maintain an internal antiseptic such as urotropine should be administered.

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Cairo, Egypt.

SOME NOTES FROM AN INQUIRY INTO THE ACTION OF DINITRO-BENZENE UPON THE URINE OF MAN,

AND EXPERIMENTS PROVING THE INNOCUOUSNESS OF DINITRO-TOLUENE UPON ANIMALS.

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IN this inquiry we find that a dose which is immediately fatal or fatal within 24 hours does not exhibit its presence in the urine of man or animals. On the other hand, animals fed upon continuous doses—that is, doses which cause serious and dangerous symptoms or death in a few days—show well-marked pathological features in their urine. These consist of tube casts, brown flakes, and hæmoglobinuria. This latter point has been well worked out by Strassmann and Stocker. In our experiments the dinitro-benzene was administered either hypodermically, or by innunction through the skin to cats. None of the urine of cats so killed showed any perceptible change of colour and in only one which had died from slow chronic poisoning did we find an indication of free dinitro-benzene.

In no fatal case of poisoning amongst the workmen have we ever discovered any evidence of blood corpuscles or hæmoglobin in the urine. In chronic and subacute cases the typical dark tawny colour of urine is always well marked, which is probably due to some pigmentary derivatives, not to free hæmoglobin. No doubt large and long-continued doses given by the mouth to men would produce, as in animals, hæmolysis, broken-up blood-clot in the intestines, and the exudation of blood into the tubules of the kidneys. But we find that neither in the inhalation of dinitro-benzene vapour, its absorption through the skin, nor when given hypodermically to man or animals, are the grosser lesions observed, even in fatal cases. This fact strengthens us in the belief that it is chiefly through absorption by *the skin* that cases of poisoning occur during the industrial manipulation of this substance.

We have tabulated below the results of the analysis of the urine of men who were constantly working with dinitro-benzene. Each case was of an exceedingly mild character. The frequent presence of urobilin has not been recorded previously and points to the powerful hæmolytic action of this poison even when absorbed in very minute doses.

A TABLE SHOWING THE RESULTS OF THE ANALYSIS OF THE URINE OF MEN WHO WERE CONSTANTLY WORKING WITH DINITRO-BENZENE

No.	Specific gravity water = 1000	Appearance.	Colour.	Reaction to litmus.	Urea per cent.	Albumin.	Bile pigments.	Sugar.	Urobilin.	Dinitro-benzol.
1	1029	Clear.	Red brown.	Acid.	2 6	*Nil.*	*Nil.*	*Nil.*	*Nil.*	*Nil.*
2	1030	„	Yellow.	„	—	—	—	Present.	—	„
3	1024	Slight precipitate mucus.	„	„	—	*Nil.*	*Nil.*	*Nil.*	*Nil.*	„
4	1021	„ „	Red brown.	„	—	„	„	„	„	„
5	1025	Heavy red precipitate.	„ „	„	—	„	„	„	Present.	Trace.
6	1027	Clear.	„ „	„	3·3	„	„	„	*Nil.*	Faint trace.
7	1026	Thick white precipitate.	Pale yellow.	„	2 9	„	„	„	„	„ „
8	1026	Red deposit.	Red brown,	„	3 1	„	„	„	Present.	*Nil.*
9	1022	„ „	„ „	„	3·0	„	„	„	„	„
10	1022	Clear.	Yellow.	„	2 8	„	„	„	*Nil.*	„
11	1027	Red deposit.	Red-brown	„	3·1	Trace.	Trace.	„	Present.	„
12	1025	„ „	„ „	„	2·9	*Nil.*	*Nil.*	„	„	„
13	1024	„ „	„ „	„	2 3	„	„	„	„	„

It will be noticed in the above table that all the samples are acid, many being strongly so. Nearly all are dark-brown in colour and generally precipitate out a red deposit, principally urates. In most of these urobilin is present and can be easily recognised by the following test. 100 cubic centimetres of the urine are acidified with 10 drops of strong hydrochloric acid and are then shaken with 20 cubic centimetres of chloroform. The chloroform which falls to the bottom is separated by means of a separating funnel and filtered into a test-tube. Four cubic centimetres of a solution of one gramme of crystallised acetate of zinc dissolved in a litre of 95 per cent. alcohol is then poured gently down the side of the test-tube and at the junction where the liquids meet a green fluorescent ring characteristic of urobilin will appear, and on shaking the solution will become fluorescent, being green by transmitted light and rose-coloured by reflected light. This pigment can also be detected by means of the spectroscope.

No experimental evidence has yet proved that reduction takes place in the body in case of the nitro compounds of benzene to aniline or phenylene-diamine. In several samples of urine tested both nitrates and nitrites were present, so that in the case of phenylene-diamine being present the pigment Bismarck brown would be formed and would give the urine a brown tint. The samples of urine were tested for free dinitro benzene by the following method. The urine is treated with zinc and hydrochloric acid for some hours. Any dinitro-benzene that may be present is reduced by the nascent hydrogen into phenylene-diamine. The urine is then alkalised with caustic soda and well shaken up with ether. The ether is then separated, filtered, and evaporated. The residue is treated with diluted acetic acid and nitrite of soda, when a yellow or brown colouration shows the presence of dinitro-benzol in the *original sample*. In three cases a slight indication was found. This was in the case of a man who showed indications of poisoning and who had to leave off working.

A second question which has claimed our attention, and also a large proportion of the chemical trade interested in the practical manipulation of the toluene and benzene group of the nitrated aromatic series, is the comparative danger of *these two groups*. Commercially it is found that some of the toluene group can be substituted for the benzene in the manufacture of certain explosives. The employment of the *benzene group* is surrounded by a number of technical precautions. It is largely and widely becoming the custom where possible to substitute those of the series which are less harmful for those which experience has shown to be the more dangerous.

In an article in THE LANCET of August 31st, 1901, p. 582, a statement was made by one of us that dinitro-toluene is considered highly deleterious and is dreaded by the workmen who are engaged in its production. This settled belief has been repeated to us and it appears to express the general consensus of the opinion of the employés and officials at certain works. Dr. T. M. Legge, H.M. medical inspector of factories, from his large experience of such industries, thought there might be some doubt on this point. We therefore deemed it advisable to experiment upon animals, *with the following results*. To two cats were administered a 1 per cent. solution of dinitro-toluene in cod-liver oil. The quantity given was two cubic centimetres in the morning and two cubic centimetres in the evening daily until each had partaken of 24 cubic centimetres. Neither cat exhibited any symptoms of poisoning. Two weeks later one of the above cats and a second fresh cat were each dosed with a 1 per cent. solution of dinitro-toluene in cod-liver oil, four cubic centimetres in the morning and four cubic centimetres in the *evening until* each cat had received 24 cubic centimetres, with no result except a very slight change in the colour of the mucous membrane.

These experiments prove that to cats dinitro-toluene is rather a harmless drug and if we compare it with the results published in the article in THE LANCET already alluded to where similar doses of dinitro-benzene were administered to cats the contrast is most marked. It must be remembered that these experiments deal with animals, but our experience with allied groups of the aromatic series show a close similarity of action when they are exhibited to animals and men and further industrial experience strengthens our belief that mono- di- and tri-nitro-toluene can be safely manipulated with ordinary precautions.

NOTIFICATION OF CHICKEN-POX.—At the meeting of the Falmouth Corporation held on May 8th it was decided, on the recommendation of the Sanitary Committee, to make chicken-pox a notifiable disease for six months.

is, the periphery is converted into spermatozoa, while the central mass remains undifferentiated. This stage is to be called "sperm mother cell," while the corresponding female body is termed the "egg cell." The result of the fertilisation of the last by the first is the "zygote." The zygote grows and becomes vermiform in shape, exhibiting fairly active movements. To this stage, which is the largest in point of bulk, the term "vermicule" is applied. Up to this point the parasite has remained within the stomach of the gnat. But the vermicule by the help of its active movements pushes or bores its way out of the stomach and gains access to blood-spaces, enveloping that organ, where it acquires a spherical form, enlarges greatly, and surrounds itself with a structureless membrane. This may be called the "cyst" or "spore-cyst." From the breaking up of the protoplasmic contents of this enlarged cell the exotospores arise and the cycle is completed. This latter process is not, however, direct. The cyst at first breaks up into smaller "spore mother cells" from which latter the needle-like exotospores are formed by subsequent division. Professor Lankester's paper concludes with a useful tabular comparison of the stages in the life-history of this hæmosporidian, as the group of the order sporozoa which contains the malaria parasite is called, with the corresponding stages exhibited by the two other subdivisions of the order—viz., the gregarinidea and coccidiidea.

GLAUCOMA FROM A LAYMAN'S POINT OF VIEW.

A COMMUNICATION which will be found in another column of our present issue demonstrates the advantage that may be obtained from an account by an educated layman of his own symptoms in cases of disease. In this instance the affection was diagnosed by the ophthalmic surgeon, Dr C. E. Glasscott of Manchester, under whose care the patient placed himself, as one of chronic glaucoma, and a grave forecast of the result was given. This view was subsequently supported by Professor A. Maitland Ramsay and was fully borne out by the progress of the disease. The patient, who seems to have been one of the victims of the struggle for existence in these days, was originally strong and vigorous and could, he tells us, cover 30 miles in a day without distress. He attributes the onset of the glaucomatous symptoms to a combination of constant mental worry and excitement, over-exertion of the eyes in literary work, and the damp and cold climate of the North-west of England. He gives a graphic account of the early stages of the disease, including the ciliary neuroses, fogs, and obscurations of vision and flashes of light that are so commonly observed. Various symptoms mentioned, however, seem to show that the case was not one of pure glaucoma, but that the central nervous system was more or less implicated, as, for example, the kind of paralysis of the nose, the lips, and the chin, making speech occasionally quivering, the periodical numbness of the forehead, and the occurrence of fantastic designs, figures, and phantasmagoria which do not commonly accompany glaucoma. No mention is made throughout of increase of tension in the eyes, though the patient must often enough have been tested to determine this point and must have perceived the importance attached to it by his medical attendants. Presuming the globes to have been normal or subnormal we think that a wise conclusion was arrived at in abstaining from the performance of iridectomy or any of the substitutes for that operation. At the same time it is easy to conceive that differences of opinion in regard to the cause and nature of the disease might have led to different modes of dealing with it in the hands of different practitioners. We have, however, no desire to comment on the treatment pursued, but we have published the case as extremely interesting because it is rare to meet with a clear account of the progress of any disease from the patient himself, and where such patient is intelligent symptoms may be noticed which the surgeon might easily overlook but which might afford valuable hints in regard to treatment.

SMALL-POX IN LONDON.

THE returns of small-pox for the past week are as follows: On Saturday, March 29th, there were 48 fresh cases notified and removed; on Sunday, the 30th, there were 46 fresh cases; on Monday, the 31st, there were 61 fresh cases; on Tuesday, April 1st, there were 62 fresh cases; and on Wednesday, the 2nd, there were 57 fresh cases.

THE CONTINENTAL ANGLO-AMERICAN MEDICAL SOCIETY.

A PROPOSAL by Dr. F. H. Burton-Brown (of Rome) was laid before the annual meeting of the Continental Anglo-American Medical Society that a luncheon of the society should be held every year at the meeting of the British Medical Association. A special committee was then appointed to consider how far the proposition could be carried out with a prospect of success. Any members of the society who propose to be present at the annual meeting of the British Medical Association to be held at Manchester in July, 1902, are requested to write to that effect before leaving their winter quarters to one of the members of the special committee: Dr. D. W. Samways, Place St. Roch, Mentone; Dr. Leonard N. Robinson, 1, rue d'Aguesseau, Paris; and Dr. StClair Thomson, 28, Queen Anne-street, London, W.

ACHONDROPLASIC DWARFS, HISTORICAL AND PREHISTORIC.

DR. FELIX REGNAULT has recently published an interesting study of the action of achondroplasia in producing dwarfism not only in the human subject but among the lower animals as well. His article, which is profusely illustrated and fills 24 pages of the February number of the *Archives Générales de Médecine*, does not deal with living examples but with museum specimens, individuals of whom historical accounts or portraits are extant, ancient Greek or Roman statues, and pictorial representations on Egyptian monuments. In the achondroplasic fœtus the long bones are shortened and thickened and the deviations from the normal straightness which they present are not gradual curvatures but are obviously angular; the resulting appearances are distinguished from the effects of intra-uterine fractures by the fact that in achondroplasia the bendings of the bones are symmetrical on each side at the same level; the deformities produced by intra-uterine rickets differ also from those of achondroplasia, for the former are gradual curvatures of considerable radius. In achondroplasia the facial bones seem to recede and the forehead to project, the nasal bones being at the same time flattened. In adult subjects the shortening of the long bones is more pronounced in the humerus and the femur than in the radius and the tibia and the three middle fingers are of equal length; the skull is large and brachycephalic; the facial and nasal bones are as already described. Among the dwarfs whose likenesses have been preserved from past generations Dr. Regnault distinguishes those whose condition was due to achondroplasia on the one hand or to myxœdema on the other. Two of his achondroplasic dwarfs are (1) Owen Farrel, an Englishman who died in 1742 and whose portrait is in the Royal College of Surgeons of England; and (2) Sebastien de Morra, a servitor of Philip IV. of Spain. Two of his myxœdematous dwarfs are Tom Thumb and Simon de Paap, a Dutchman who was exhibited in the early years of the nineteenth century. Among the ancient Egyptian deities the figure of Phtah is

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF RODENT ULCER OF THE NOSE AND EYELIDS TREATED WITH THE X RAYS.

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DURING the last 18 months I have treated a number of inoperable cases of rodent ulcer by the x rays with varying success. Some of them have equalled the following case but none have excelled it.

The patient in question was introduced to me by Dr. E. Adam. He was 82 years of age and had been employed in the mercantile marine. His previous history was as follows. For 20 years or more he had suffered from a small chronic ulcer on the right side of his nose which caused him much pain. He was treated with the usual remedies but without any benefit. Six years ago Dr. Adam brought him to me and I applied potassa fusa but failed to effect a cure. I have no record of the exact appearance of the ulcer at that time but when Dr. Adam brought him again in May, 1901, the disease presented the typical rolled edges of a rodent ulcer. It had much increased in size, extended to the inner angle of the orbit, and had destroyed portions of the lids together with the lacrymal canals and caruncle. The patient was in much pain.

Treatment was begun on May 15th. A current of three ampères was used for 20 minutes twice weekly. From June 12th the sittings were increased to four times a week. Up to about August 19th healing had been very slow, but on this date treatment had to be suspended because of the sharp reaction, indicated by a sudden appearance of a dusky red erythema surrounding the ulcer, attended by the destruction of the newly-formed epithelium upon its surface and of the surrounding epidermis, brought about, I think, by change of the x ray tubes from one of high vacuum to one of medium vacuum. It took five weeks for the effects of this reaction to disappear, when spontaneous healing began and was very rapid, for on Oct. 15th the ulcer had cicatrised with the exception of a small area which proved obstinate and where, I believe, I had made the application of potassa fusa six years previously. On this date treatment by the x rays was resumed, but they were applied to this unhealed spot only for 10 minutes three times weekly, the newly formed scar tissue being specially protected from their action with double lead foil shields.

Treatment was completed by Dec. 20th. At that time there was not the slightest evidence of the disease, neither has there been any recurrence. It is interesting to note also that the conjunctiva of the everted lower lid and that of the inner canthus was covered with a smooth layer of opaque horny epithelium and no trace of the puncta remained.

The patient was shown at the Liverpool Medical Institution on March 13th.

Liverpool.

A CASE OF MALFORMED FŒTUS.

BY NICOLAS ELRINGTON, L.R.C.P. LOND., M.R.C.S. ENG.

A PATIENT under my care, a labourer's wife, gave birth recently to a curiously malformed child. The body was well developed and the lower part of the face was that of an ordinary full time child. The frontal bones were widely separated and were flattened back so as to be almost at right angles to the face. The eyes were very far apart and the eye balls protruded. The parietal bones were small and what should have been their upper margins were pointing almost directly backward. The occipital bone was only represented by two small strips of bone lying close to the posterior edges of the parietal bones. All the cervical and the upper five or six dorsal vertebræ were apparently wanting. The chin rested on the second piece of the sternum, the ears, which were abnormally large, lay in front of the shoulders. The back of the head and the neck was occupied by a mass of freshly formed blood-clot which in one place had burst through the skin, there was no hair and the skin of the head was very thin.

The labour occurred at full term and the mother was certain that the child was alive two hours before her pains began which they did only three hours before the child was born. I had to be content with an external examination and consequently I cannot say what was the condition of the brain and the spinal cord. There was nothing during the pregnancy out of the ordinary except the amount of liquor amnii which was very excessive. I think that there is no doubt that the child died from the effect of pressure during parturition. The presentation, as may be imagined, was somewhat bewildering but the progress of the labour was very rapid and the child was born with the chin presenting under the symphysis pubis without any difficulty.

Wethersfield, Essex.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

LONDON TEMPERANCE HOSPITAL.

A CASE OF SOLID OVARIAN TUMOUR, LAPAROTOMY, ENUCLEATION, RECOVERY.

(Under the care of Dr. W. J. COLLINS.)

SOLID tumours of the ovary are much less frequently met with than are those which are cystic. The exact proportion is doubtful, but Bland Sutton's estimate of 5 per cent.[1] is probably fairly correct. The malignancy of the ovarian tumours which are called sarcomata from the histological appearances varies within very wide limits, in some removal of the tumour is not followed by any recurrence even after several years, while in others early and extensive recurrence occurs, and yet no obvious histological difference may have been noticed in the growths. A very guarded prognosis must always be given.

A woman, aged 26 years, was admitted into the medical wards of the London Temperance Hospital on May 5th, 1901. She had been married for three years, she had one child two years old, and menstruation had been regular up to April, 1901. On May 4th she was suddenly seized with severe abdominal pain and was sick and faint. There had been no period from April 10th up to the time of admission. On admission the abdominal pain continued, there were tenderness and resistance in the lower abdomen, more on the left side than on the right. The general condition was good and her appearance was healthy. The temperature in the evening was 102.8° F. On the 5th it was noted that the cervix uteri was soft and patulous and that the pelvis was occupied by a nodular mass. Five days later bimanual examination revealed a tumour reaching as high as the umbilicus, where a sharp edge could be detected, and extending with less definition into the left lateral fornix, the tumour was moveable and appeared to be distinct from the uterus. On the 21st the abdominal swelling was found to be enlarging and it gave rise to considerable discomfort. Moreover, curious nodules and pedunculated parts were detected which raised a suspicion of extra-uterine pregnancy. On June 7th there was what appeared to be a normal catamenial discharge. Dr. Collins was asked to take over the case and on the 21st, under chloroform, he performed median laparatomy, exposing a solid tumour which appeared to spring from the right ovary. The growth seemed to be sessile, springing from a broad base, but with a little difficulty and care the whole tumour was cleanly enucleated. There was very little hæmorrhage. The left ovary contained a small recent corpus luteum but was otherwise healthy.

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[1] Tumours, second edition, p. 123.

The tumour weighed three pounds six ounces and microscopically was a spindle-celled sarcoma. The peritoneum, muscles, and skin were separately sutured with silk; no drainage was employed. The healing of the wound was uninterrupted, with the exception of a small stitch abscess at the inferior extremity of the incision, but the temperature rose to 102° and continued high during three or four weeks owing to some pleurisy on the left side and on July 14th a small collection of sero-purulent fluid was incised and drained from the left pleura. The patient was discharged quite well on August 25th and recent reports from her have been entirely satisfactory.

Remarks by Dr. COLLINS.—The history and some of the symptoms on admission in this patient naturally raised *primâ facie* the question of "hæmatocele" or rupture of an early extra-uterine fœtation. The subsequent bimanual examinations, when more defined portions of the tumour were detected, led some who saw her to think that they could recognise definite fœtal parts; moreover, some lactiform fluid was derived from the nipples. Although one catamenial period had been missed there had been no irregular metrorrhagia and on June 7th a normal period commenced. Nevertheless the case was not free from doubt and as the patient's discomfort was increasing it seemed at least prudent to explore the abdomen. The tumour was of a reddish colour, more like a fibroid than an ovarian cystoma, and exhibited irregular and fantastic extensions of varying density both across the pouch of Douglas and towards the abdomen. The ease with which the mass was enucleated was surprising considering the appearance it gave, at first sight, of an unpromisingly broad pedicle.

NORTHAMPTON GENERAL INFIRMARY.

A CASE OF LOCALISED DISEASE IN THE OPTIC THALAMUS; SOFTENING AND HÆMORRHAGE; DEATH; NECROPSY.

(Under the care of Dr. FRANK BUSZARD.)

IN the present state of our knowledge of the functions of the basal ganglia the value of carefully described cases of lesions affecting these structures cannot well be overrated. In the following case the symptoms were very striking, and the post-mortem account is very clear, though no mention is made of the presence or absence of a clot in the veins of Galen. Dr. E. W. Goodall has related in the Transactions of the Clinical Society of London,[1] a case in which softening of both optic thalami occurred, with thrombosis of the veins of Galen. In that case, as in the one recorded below, there was hyperpyrexia just before death.

The patient was a woman, a multipara, 53 years of age. About a year previously to the onset of the present illness she was said to have had a "stroke" which affected her left arm chiefly, but from which she in three or four weeks completely recovered; with the exception of this she had always enjoyed good health. On the night of August 24th, 1901, she went to bed apparently well. On the following morning her husband stated that he could not get her to answer questions; she appeared to be very dazed and her face was drawn. She was admitted to the Northampton General Infirmary on August 30th. During the interval of one week which had elapsed between the date of the onset of the symptoms and her admission she appeared to have been in a very drowsy state; there was no vomiting during that time, or, indeed, throughout the whole illness. On admission the patient, who was somewhat wasted and looked much older than her years, appeared to be very drowsy and could only be roused with difficulty. She lay for the most part on her left side and answered questions but only in a very slow manner. She recognised objects to which her attention was drawn and named them correctly. The speech was blurred and indistinct and articulation was difficult, syllables being slurred together as in general paralysis of the insane. There were continuous "champing" movements of the jaws. The jaws and tongue were in constant movement as in the acts of mastication and deglutition, and these movements continued without cessation for 10 days, except during sleep. There was no difficulty in swallowing; slight left facial weakness was present. The pupillary reflexes were normal, there being no strabismus, nystagmus, or fundus change. Owing to the mental condition of the patient it was not possible to obtain any definite information with reference to alteration in the fields of vision. Neither the arms nor the legs showed any signs of paralysis. The arms, like the jaws, were never at rest but were the seat of constant athetoid movements which were unusually irregular and at times rhythmic. Tremor of the arms and hands was only present on voluntary movements. They were markedly ataxic and on the patient being told to do anything—e.g., to touch the nose with the index finger of the right hand—the act, which she did with difficulty, would be repeated time after time until she was told to stop, or on other occasions the finger and hand were kept in the new position and were not removed for some time. There was no paralysis or abnormal movement of the lower limbs. She was unable to stand without support, being unsteady and swaying about a great deal. Sensation was normal. The knee-jerks were brisk; there was no ankle clonus; the plantar reflexes were normal. The urine and fæces were passed into the bed. The pulse-rate ranged from 70 to 80, the respirations were 20, and the temperature was 99° F. The urine was normal; the tongue was furred.

From August 30th to Sept. 5th the condition of the patient remained the same. The movements of the jaws and arms never ceased except during sleep, the mental condition perhaps slightly improving. Pyrexia was present to a small extent, the evening temperature ranging from 99° to 100°. On Sept. 5th conjugate deviation of the eyes to the right was first noticed and this persisted until the day of death. From the time she first came under observation there was a tendency for the eyes to wander to the right and she kept them in this position for the most part, although moving them when her attention was directed. She became more apathetic and on the 10th she relapsed into a state of coma. The movements of the jaws and arms ceased and she lay on her left side with the eyes open and turned to the right until the 12th when the temperature ran up to 105·9° at 6 P.M. and she died at 11 P.M.

Necropsy.—A post-mortem examination was made 12 hours after death. With the exception of a little hypertrophy of the left ventricle of the heart and extensive atheromatous changes in the aorta, the thoracic and abdominal organs were normal. On removing the skull-cap the membranes were found to be normal; there was no meningitis or bulging or flattening of either cerebral hemisphere. The vessels at the base of the brain, and particularly the middle cerebral arteries, were in an advanced stage of atheromatous and calcareous degeneration. No clotting in the right middle cerebral artery was observed. On making horizontal sections into the brain and laying bare the basal ganglia the right optic thalamus was seen to be swollen and distended, bulging more than the left optic thalamus into the third ventricle. The left optic thalamus was atrophied; on section it was brownish in colour and firmer than normal. On cutting into the right optic thalamus its interior was found to be occupied by a blood-clot, which, however, was strictly confined to the thalamus and did not in any way involve the internal capsule or corpus striatum. The substance of the thalamus surrounding the clot was in a condition of red softening. It was thought probable that a thrombosis had occurred at the date of onset and had caused softening to occur in the optic thalamus and that a hæmorrhage had secondarily occurred on Sept. 10th, the day on which the coma developed. No blood or excess of fluid was discovered in the ventricles.

Remarks by Dr. BUSZARD and Dr. W. BERTRAM WATSON.—Among the various physiological problems which the neurologist has to face there are perhaps none more complex than those associated with the basal ganglia of the brain. The experimental observations which have been made are in many cases uncertain and conflicting and it is rare to find cases clinically in which the lesions are so definitely localised as to be of any value in arriving at a correct decision as to the functions of the parts concerned. The chief interest of the case which we have just described lies in the fact that the lesion found at the necropsy was apparently strictly confined to the right optic thalamus, although one cannot entirely exclude the possibility of there having been during life some pressure upon the surrounding structures. The salient features of the case were: (1) "champing" movements of the jaws; (2) athetoid movements of the arms; (3) conjugate deviation of the eyes; and (4) thermal disturbance. In connexion with (1) we may cite the experiments performed by Bechterew[2] who found that stimulation of the optic thalami in rabbits set in action a complex of movements necessary for the nutrition of the organism, beginning with those of mastication and deglutition and ending with those of the bowel. (2) An interesting feature of this case was that the athetoid movements affected both sides of the body and were not, as is more common, solely confined to the side opposite to the lesion in the optic thalamus. In this connexion we may refer to the experiments by Nothnagel,[3] *who found that animals in which the* optic thalami were destroyed on both sides seemed to have lost the sense of the position of their limbs, since without being paralysed they allowed them to remain in any position in which they were placed. (3) It is probable that the conjugate deviation of the eyes, as also the left facial weakness, was due to irritation of the internal capsule. (4) It is noticeable that there was no considerable elevation of temperature until the last, when hyperpyrexia set in. It is possible that the latter event resulted from the hæmorrhage into the optic thalamus, leading to pressure upon the corpus striatum, for Hale White, in his experiments,[4] came to the conclusion that lesions of the optic thalamus do not cause pyrexia, whereas irritative lesions of the corpus striatum do.

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[1] Vol xxx., p. 139.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY

An Analysis of Forty-six Tabulated Cases of Cancer of the Breast.

A MEETING of this society was held on May 13th, Mr. ALFRED WILLETT, the President, being in the chair.

Mr. THOMAS BRYANT communicated a paper entitled "An Analysis of Forty-six Tabulated Cases of Cancer of the Breast which have been Operated Upon and Survived the Operation from Five to Thirty-two Years." The objects of the communication were: (1) the prospects of life after primary operations for cancer of the breast; (2) the question of recurrence of the disease at the seat of the primary operation and the second breast; and (3) the nature and effects of operation upon the progress of the disease. Mr. Bryant had always felt that the three years' freedom from recurrent disease after a primary operation which had been laid down as an indication of a cure of cancerous disease, was not only unreliable but misleading, and he had repeatedly demonstrated this. He proposed to divide his cases into three groups. Group I. of the cases included 17 cases of cancer of the breast relieved by operation which were now alive or had died without evidence of recurrent disease five or more years after operation. Taking the whole group of 17 cases together there was an absence of any evidence of recurrent disease from five to 10 years after the primary operation in nine cases and from 10 to 20 years in eight cases. 13 of these patients were now alive and apparently well. Mr. Bryant's routine operation was to remove the whole mammary gland with the skin and fat over the diseased area, and in every case, for examination purposes, to cut into the axilla and to take away glands or lymphoid tissue which appeared to be suspicious. The pectoral muscle he dissected clean but he did not remove it unless it were invaded by disease. He regarded the removal of the muscle as a routine measure to be unnecessary. *Group II.* included 19 cases of cancer of the breast relieved by operation and followed by recurrence in the seat of the primary operation. In three of the cases recurrence took place in the scar of the primary operation and a second operation was performed one year after the primary; two of these three cases were well and in good health four years later and in the third case 10 years later. In nine cases recurrence occurred from three to seven years after the primary operation. In three of these no second operation was called for. Group III. included 10 cases of recurrent disease after operation in which the second breast was involved and four cases in which the breast disease was associated with cancer of other parts of the body. Looking at the tables submitted as a whole it was evident that the interval which might take place between the primary amputation of a breast for cancer and its recurrence in the scar or the second breast, when such occurred, was most uncertain. That whilst in half the cases tabulated recurrence took place in five years or less, in the second half the interval before recurrence appeared varied from six to 32 years, and that in at least two-thirds of these cases it occurred after 10 years. With respect to the *seat of the recurrence* it seemed that this was in or about the scar of the original operation in 14 cases; in the scar and axilla in only one case; in the sternum in three cases; in the second breast in 10 cases, and in five of these 10 the scar of the first operation was likewise involved. In only one case was the axilla cleared out in an operation for a recurrent affection. It was not his custom to clear it out in all, and yet these results did not suggest an inadequate operation. It was shown that operations for cancer of the breast, when undertaken at an early period of the disease, were not so unsatisfactory in their ultimate results as was generally believed. In cases of recurrence not favourable for operation unless the removal of the ovaries could be shown in the future to be successful the x rays should be employed, for the benefit which had been derived by this treatment when judiciously applied by men of understanding had in his experience been so successful as to raise hopes which he hardly liked fully to express and at the same time seemed to be free from danger or serious consequences when utilised by those who knew the dangers of penetrating rays carelessly employed and the difficulties with which the practice bristled. The influence of the rays, to make them effective, must be maintained for several months after it had seemed to be beneficial; a three months' course with about three applications a week appeared to be the shortest from which any permanent good was to be expected.

Sir WILLIAM M. BANKS congratulated Mr. Bryant on his paper. He (Sir William Banks) had had a wide experience of mammary cancer. In former times 10 out of every 100 cases he operated on died. This was due to the insanitary state of the hospital in which the operations were done. The hospital was rebuilt and now out of between 90 and 100 cases there had only been one death. Anything more erroneous than the rule that cancer cases could be regarded as "cured" after three years of non-recurrence could not be imagined. Out of 58 cases which he had operated on and which he had followed up with the greatest care, six cases died from local recurrence (four in from five to 10 years and two in 12 and 14 years). 12 cases died from general but no local recurrence (nine of these cases lived from five to 10 years and three died at 10, 10, and 14 years respectively). In 12 cases there was no return, the patients living from five to 18 years; 14 patients were still alive and well after from five to 10 years, 12 after from 10 to 20 years, and two after from 20 to 23 years. It was most essential to take the case for operation early. That was the most important point in the whole matter. The disease, in his opinion, came back in the lymphatics of the skin around the scar and therefore it was very important to remove the skin liberally at the time of operation. Halsted's operation was wholly unnecessary. When the cervical glands were involved the case was beyond the reach of surgery; when they were not such an operation was both dangerous and unnecessary.

Mr. BRYANT, in reply, agreed with Sir William Banks that the large and so-called "adequate" operations were dangerous and wholly unnecessary. It was possible to do all that surgery could do by more moderate means.

Mr. HICKMAN J. GODLEE communicated a contribution to the study of Tropical Abscess of the Liver which will appear in our columns next week with the discussion thereon.

MEDICAL SOCIETY OF LONDON.

Annual General Meeting.—The Diagnosis of Malaria from the Standpoint of the Practitioner in England.—Election of Officers.

A MEETING of this society was held on May 12th, Dr. W. H. ALLCHIN, the President, being in the chair.

The annual report of the council setting forth the work of the society was presented. The librarian's report referred to the gradually increasing use which the Fellows were making of the library. Dr. J. B. NIAS had been engaged on the work of examining the Greek MSS. belonging to the society. The House and Finance Committee presented its report. All these reports were unanimously adopted.

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[2] Neurologisches Centralblatt, 1894, p. 520.

[3] Topographische Diagnostik der Gehirnkrankheiten, 1879.

[4] Alteration in Bodily Temperature in Lesions of the Brain: Brit. Med. Jour., 1891, vol. i., p. [illegible]

Dr. PATRICK MANSON, C.M.G., gave an address on the Diagnosis of Malaria from the Standpoint of the Practitioner in England which appears in full at p. 1377 of our present issue.

The PRESIDENT warmly congratulated Dr. Manson upon the valuable and practical address delivered before the society and after a few remarks by Dr. C. E. BEEVOR and Dr. T. D. SAVILL, Dr. MANSON briefly replied.

The following gentlemen were elected to the several offices mentioned for the session 1902-3: President: Mr. A. Pearce Gould. Vice-Presidents: Dr. Thomas T. Whipham, Mr. Charles A. Ballance, Dr. Frederick S. Palmer, and Mr. Henry Morris. Treasurer: Dr. David H. Goodsall. Librarian: Dr. Arthur Francis Voelcker. Honorary Secretaries: Mr. Jonathan Hutchinson, jun., and Dr. Henry A. Caley. Honorary Secretary for Foreign Correspondence: Dr. Humphry D. Rolleston. Council: Dr. William Henry Allchin, Sir William M. Banks, Mr. Arthur E. Barker, Mr. J. Bland-Sutton, Dr. Charles W. Chapman, Dr. J. Walter Carr, Mr. Frederic Durham, Dr. William Ewart, Dr. Robert A. Gibbons, Dr. Samuel H. Habershon, Mr. Walter H. Jessop, Mr. Howard Marsh, Mr. C. W. Mansell Moullin, Dr. Isambard Owen, Dr. H. Campbell Pope, Dr. Arthur H. Robinson, Dr. J. S. Risien Russell, Mr. Edgcombe Venning, Mr. Herbert F. Waterhouse, and Mr. Edwin F. White.

CLINICAL SOCIETY OF LONDON.

Congenital Lymphangioma terminating in Lympho-sarcoma — Primary Sarcoma of Synovial Membrane.—"Horizontal" Dilatation of the Left Auricle.—Intercostal Pulsation in a Case of Mitral Stenosis.

A MEETING of this society was held on May 9th, Mr. HOWARD MARSH, the President, being in the chair.

Mr. W. G. SPENCER read a paper on a case of Congenital Diffuse Lymphangioma terminating in Lympho-sarcoma after Lymphangitis with a Continuous Hectic Fever for three months affecting the lower extremity of a girl, aged four years. The patient was born with the right leg longer than the left. It caused no uneasiness until without any assignable cause it became swollen by inflammation immediately before coming under observation. For the three months preceding death there were marked and continuous hectic fever, and an evening temperature of 103° F., with a fall to a subnormal morning temperature of 97° F. or even 90° F. The pulse throughout was about from 130 to 140, on many days rising to 170 or even 180 per minute. First the leg, then the thigh, and finally the hip, the loin, and the groin became swollen. There was no change in the skin, but small incisions allowed serous fluid to escape, containing fibrinous casts of the dilated lymphatic spaces. No chylous fluid ever escaped, nor did lymph vesicles form on the skin, nor did the skin become rugose. At the necropsy the swelling of the thigh and hip region was found to be due to dilated lymphatic spaces with intercystic masses of lympho-sarcoma, as shown in microscopical sections. Other cases, including macroglossia, in which congenital lymphangioma had terminated in lympho-sarcoma, were mentioned.—Dr. H. D. ROLLESTON asked what were the naked-eye evidences that the morbid growth was lympho-sarcoma? Lympho-sarcoma had well-defined macroscopical and microscopical characters, and in the specimens under the microscope he did not recognise the definite reticulum and other features belonging to this neoplasm. The case before the society resembled sarcoma which had arisen in lymphatic glands.—Mr. SPENCER, in replying, referred to the temperature records and clinical history, and said that the secondary growths all consisted of the small round-cell growth supported by a reticulum, so typical of lympho-sarcoma.

Mr. G. R. TURNER communicated a case of Primary Sarcoma of the Synovial Membrane of the Ankle-joint. The patient was a man, aged 28 years, who two months before admission into St. George's Hospital knocked his foot against a brass screw. Three weeks after this he noticed a swelling in front of the right ankle. This had slowly increased in size and measured about one and three-quarters by one and a half inches. There was no obvious connexion with the tendons. When removed it was found to be growing from the synovial membrane of the ankle-joint. Dr. Rolleston had examined the tumour and had reported it to be a fibrifying and chondrifying mixed-cell sarcoma. Attention was drawn to the rarity of *primary* sarcoma of the synovial membranes. Myelomata of tendon sheaths were much more commonly met with and were innocent clinically. Reference was made to a case recorded by Mr. Howard Marsh of primary sarcoma of the synovial membrane of the knee-joint. Mr. Turner's patient had been exhibited at a clinical meeting of the Clinical Society of London in the early part of this year.

Mr. C. B. LOCKWOOD communicated a case of Sarcoma of the Synovial Membrane of the Knee-joint. The patient was a young married woman who had had disease of the right knee of three years' duration. The joint was slightly flexed but possessed almost its full range of movement. The capsule was distended by a swelling of the synovial membrane which made the circumference of the joint three-quarters of an inch greater than that of its fellow. The surface of the swelling was rather warm and it was tender on pressure. A consultation was held and the opinions were almost unanimously in favour of the disease being tuberculous. As no treatment had been tried it was thought well to rest the joint and to apply a splint. Nothing was seen of the patient for about a year when she returned with what appeared to be well-marked tuberculous disease of the knee. A resection was performed and the absence of any evidences of caries and of pus excited some suspicion. The material was examined by two pathologists and was pronounced by one to be "spindle-celled sarcoma" and by the other to be "oval-celled sarcoma." Mr. Lockwood discussed the diagnosis and adverted to the very close resemblance which the symptoms presented to those of tuberculous joint disease. In fact, when the case was first seen there were only two points which might have excited suspicion that the disease was not tuberculous: (1) the absence of muscular wasting; and (2) the free and painless mobility of the joint after having been the seat of disease for three years. There was no doubt, however, that the case was one of sarcoma starting in, and involving, the synovial membrane.

The PRESIDENT, in the discussion on these two papers, referred to the case which he had reported in the thirty-second volume of the Transactions of the Clinical Society of London. The patient, a man, aged 21 years, was admitted into St. Bartholomew's Hospital on account of a swelling in the knee which had existed for 15 months. When the knee-joint was opened the growth was found to be surrounded by synovial membrane. The growth was removed and recurrence took place five times, the first time after three years, and the last time six years from the time he came under observation. On the last occasion the leg was amputated. It was remarkable to note how the growth successively affected different portions of the synovial membrane. Microscopical examination showed that it was a spindle-celled sarcoma. The patient was at the present time alive and was free from any return of the disease. By a curious coincidence he was in the hospital a few days ago with consolidation in one lung. Knowing his history it was feared that the lung was the seat of growth, but the lung trouble had cleared up. A short time ago the President had seen a young woman, aged 22 years, with a condition very like that found in Mr. Turner's case, except that the tumour was in the knee. When the joint was opened the growth was almost pedunculated. It proved to be a sarcoma. Mr. Lockwood had dwelt on a very important point—namely, the obscurity of the diagnosis in these cases. He had remarked that the temperature had led him to suppose that the disease was tuberculous, but this was not really a trustworthy guide in differential diagnosis, because malignant growths in joints were not infrequently found to be associated with high temperature.—Mr. SPENCER called attention to an important point of difference between Mr. Lockwood's case and those of Mr. Turner and of the President. In the former the growth was diffused, whilst in the latter it was localised. The President's case appeared to resemble a class of tumour recently referred to in another society as "endotheliomata." With regard to diffuse growths in the synovial membrane as distinct from tuberculosis he had seen two cases which were put down as "rheumatic" without any sufficient evidence for this view. Mr. J. Hardie of Manchester had described in THE LANCET of June 30th, 1894, p 1619, a sarcoma occurring in the synovial membrane of the knee-joint. These rarer forms of sarcoma affecting synovial membrane appeared to run a different course from that observed in the case of sarcoma attacking bones.—Mr TURNER, in reply, said that the discussion had shown, as Mr. Spencer had pointed out, that these sarcomata were of two kinds, the circumscribed and the diffuse. In his case tuberculosis was not even thought of before operation, the diagnosis lay between some kind of new growth and a bursal cyst.—Mr. LOCKWOOD also briefly replied, laying emphasis on the mobility of the joint as a means of diagnosis from tuberculous disease.

Dr. WILLIAM EWART and Dr ISAMBARD OWEN communicated a case illustrating the clinical feature of "Horizontal" Dilatation of the Left Auricle. This condition had been brought before the Clinical Society of London by Dr. Isambard Owen and Dr W. J. Fenton in 1901.[1] In that case enormous dilatation of the left auricle took place outwards and towards the right and it was remarkable how little pain and what few subjective symptoms were exhibited with the lesion The diagnostic features of the condition were systolic pulsation (synchronous with the apex beat) in the right fourth intercostal space, great increase of the precordial dulness transversely even to, or beyond, the right mammary line, a similar increase in the post-cordial dulness, occasional pulsation of the liver, and cyanosis and dyspnœa without anasarca or dropsy of the serous cavities. Dr. Ewart and Dr. Owen commented on the latency and insidiousness of the affection and hoped in the future to be able to diagnose the condition by skiagraphy Rest and venesection seemed to be important means of treatment.

Dr. ISAMBARD OWEN also contributed a paper on "Horizontal" Dilatation of the Left Auricle, with special reference to other cases and specimens besides the one which he had exhibited with Dr. Fenton[2] in May, 1901. Inquiries at all the principal museums and medical schools in the United Kingdom had shown that only three other specimens were known to be in existence, one of these was at St. Bartholomew's Hospital and one at University College. These were briefly described, after which Dr. Owen compared and contrasted the most important clinical and pathological features of the three cases In all these cases the pericardium was adherent and in none of them was there any definite lesion of the mitral orifice. In one of these cases it was possible to place a rod eight inches long transversely in the auricle, thus resembling his (Dr Owen's) original case which presented in the right axilla and had been mistaken for pleural effusion. He (Dr Owen) thought the term "horizontal dilatation" appropriate to distinguish this rare condition from the more usual spherical or vertical dilatation —Dr ARTHUR F VOELCKER, referring to the case under Dr. Ewart's care, asked if there was a murmur in the tricuspid area, because he thought the pulsation observed in the fourth right interspace might be derived from the right auricle rather than the left. The pulsation of the liver supported this contention.—Dr. W. P. HERRINGHAM entirely concurred with the last speaker as regarded the pulsation observed He thought all the signs described in Dr. Ewart's case might be produced by dilatation of the right auricle, excepting the percussion signs at the back, which needed confirmation. There were some discrepancies in the charts of posterior percussion dulness exhibited which needed explanation.—Dr. EWART, in reply, admitted that the right auricle in his patient might also have been dilated. Pulsation systolic in rhythm was not met with in connexion with right auricular enlargement. He relied on other symptoms also for the diagnosis of the condition and the absence of the secondary evidences of cardiac failure on the right side of the heart, such as dropsy in the serous cavities and anasarca.

Dr. EWART communicated a note on Palpable Systolic Intercostal Pulsation in a case of Mitral Stenosis with Dilatation and Thrombosis of the Left Auricle occurring in a woman, aged 24 years. The purport of the communication was to elicit further information concerning the significance of systolic pulsation of the right auricle, its diagnostic value, and frequency of occurrence

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases, &c —20 Cases of Gastro-Enterostomy performed for Intrinsic Stenosis and Tumour of the Pylorus.—Cyto-diagnosis of Pleural Effusion.

THE ninth ordinary meeting of this society was held on May 7th, Professor T. R. FRASER, F.R.S, the President, being in the chair.

Professor HENRI HUCHARD of Paris was elected a corresponding member of the society

Dr. NORMAN WALKER exhibited four patients treated by various methods of Photo-therapy

Mr. H. ALEXIS THOMSON demonstrated a patient after removal of Hyperostosis of the Upper Jaw and Malar Bone of the left side. The condition was congenital but the increase in size of the jaw had been greater since the girl was struck by a stone some years previously The bony excretion was removed by an incision much the same as that employed in removing the upper jaw. The bone was found to be very soft and cut like hard cheese.

Dr. R. MCBRIDE showed a girl the Bridge of whose Nose had been Restored by Injecting Paraffin.

Mr. HAROLD J STILES exhibited the following cases 1. A boy after operation for large Intradural Abscess following middle-ear disease. The boy was admitted to hospital four weeks previously suffering from slight paralysis of the left arm and with a discharging sinus on the right side of the scalp. The probe passed down through the skull and into the cranial cavity In November of last year the boy had suffered from an ordinary middle-ear catarrh. Subsequently he had a convulsion with paralysis of the left arm About a week previously to his admission a large abscess formed in the fronto parietal region and this was opened. There were now complete optic atrophy of the right eye and partial optic atrophy on the left side. At the operation a large abscess was found between the meninges the result of leptomeningitis secondary to the ear disease. The boy had improved greatly. 2. A girl after treatment of Congenital Dislocation of the Hip by Lorenz's method. The case showed the great importance of early diagnosis of such cases as cure depended on their early treatment.

Dr A. BRUCE showed the following cases. 1 A woman suffering from Complete Paralysis of Conjugate Deviation of the Eyes to the Left with almost complete retention of such movements to the right. There was slight left facial paralysis. The condition resulted from a fall. The lesion was necessarily of the sixth nucleus. Convergence of the eyes was retained. 2. A woman with Spasm of Convergence. She had become run down in health and had suffered from dimness of vision, at first only once in a few days, but latterly this had become more frequent and then remained permanently when she looked at a near object This condition of spasm of convergence could not be unlocked until light was excluded from the eyes. 3 and 4 A girl, aged 12 years, and a boy, aged nine years (brother and sister), who were suffering from Spastic Paralysis following Pertussis. Until five years ago they were in perfect health, when they took whooping-cough The boy had a convulsion at that time. About a year subsequently to the pertussis the boy began to suffer from weakness of one leg and later of the other. The girl soon followed in a similar way Both became unable to walk and their mental condition also deteriorated. The boy exhibited the attitude of spastic paraplegia but these cases were not congenital. In both the knee-jerks were very exaggerated and ankle clonus was present. The cause was probably syphilis, as in both the teeth were typical and the forehead was characteristic. There was probably a meningeal thickening producing atrophy of the cortical centre for the leg and of the intellectual centres also. The pertussis was probably a mere predisposing cause

Dr W. G SYM showed a girl who had Double Vision when looking to the right and especially when looking down and to the right. A spasmodic contraction of the right inferior rectus was the only condition which could give such an affection.

Mr J. M. COTTERILL showed the following cases 1 A woman with Multiple Scirrhus treated by oöphorectomy and the x rays. The right mamma was removed in June, 1900, but the growth recurred in the cicatrix as numerous nodules The left breast was also the seat of cancer as were the glands in the axilla and the neck. As removal was out of the question oöphorectomy was performed. Great improvement went on for four months when menstruation recurred and the tumours began to grow afresh. Dr. Dawson Turner had employed ultra-violet rays for five minutes every second day with excellent effect on the nodules on the right side. There were secondary nodules down the back and over the scalp. 2. A child with Multiple Tuberculous Arthritis (four large joints).

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[1] Transactions of the Clinical Society of London, vol. xxxiv., p 133.
[2] Ibid, vol. xxxiv, p 153

Mr. C. W. CATHCART demonstrated a Portable Stretcher adaptable to the Trendelenburg position.

Dr. G. H. MELVILLE DUNLOP and Dr. STUART MCDONALD showed a Liver from a case of Congenital Obliteration of the Bile-ducts.

Mr. F. M. CAIRD read a paper entitled, "Gastro-enterostomy—20 Cases performed for Intrinsic Stenosis and Tumour of the Pylorus." In this communication attention was drawn to the similarity between the symptoms and indications requiring gastrostomy and gastro-enterostomy. When there were difficulty in the onward passage of food, vomiting, progressive emaciation, anæmia, and subnormal temperature the operation could not be withheld long without incurring grave risk. It had been objected that gastro-enterostomy as practised in cases of malignant disease was an operation of grave risk, that it did not at all prolong the patient's life, and was of doubtful value. This view was controverted and it was maintained that even were life not prolonged the patients at least did not die from starvation, had less discomfort and pain, and did not of necessity face an ordeal of high mortality. It had been found a matter of experience, indeed, that as a result of the operation there was such a great gain in weight and bodily health that even in undoubtedly malignant cases there might arise a question as to the diagnosis. Moreover, in many of the cases the tumour had entirely disappeared. Of the 21 cases 20 were recommended as cancer, one was said to be innocent, due to gastric ulcer, and proved to be so. In every case save one a palpable tumour could be felt and in all it was found at operation. The chief symptoms were vomiting, emaciation, little or no free hydrochloric acid after a test meal, and other associated signs. Mr. Caird favoured the retro-colic operation of von Hacher but could not be certain that it made much difference whether the anterior or posterior method were used or whether the food current were isoperistaltic or antiperistaltic. It was largely a matter of convenience depending on the amount of disease and the mobility of the gastric organ, but he rather favoured a posterior gastro-jejunostomy as close to the duodenum as convenient, reserving the anterior operation for the more complicated cases. No special preparation of the patient was advocated prior to operation. The stomach was not washed out when the patient was unaccustomed to lavage or very weak on account of the tendency to syncope and prostration. After operation the patient received teaspoonfuls of warm water and milk at night if the general condition were good. A small dose of morphine was given for restlessness or pain. On the following morning, if there were eructations, tendency to vomit, sickness, or a rising pulse, the stomach was washed out. The great value of this after-treatment in all cases of gastric surgery was indicated. It frequently checked sickness at once and always did good, although here again the operator had to be prepared for an occasional dangerous syncope. Attention was drawn to the character, source, and quantity of the material evacuated. If the pulse did not fall after washing out then about 30 ounces of saline solution were transfused and always with benefit. Lavage and transfusion played a great rôle in after-treatment and might be judiciously repeated. Among the 21 cases four were fatal. The symptoms, causes, and treatment of the *circulus vitiosus* were discussed but no example of this condition had occurred. One male patient died from pleurisy, broncho-pneumonia, and congestion of the kidneys; the abdomen and field of operation were found to be normal. One woman died within 48 hours apparently from sheer weakness and another died from leakage. The disease had been so far advanced that the stitches were unfortunately planted in diseased tissue. The fourth was a case of peritonitis, probably due to aerial infection. The symptoms were very obscure and at the *sectio* there was found a purulent layer between the anterior parietal peritoneum and the anterior aspect of the omentum. The wound and field of operation were intact and healthy. Of the 17 patients who survived the operation six were known to be dead; three died from extension of the disease, two from sudden cardiac failure, and one from phthisis. Eight patients were alive after periods varying from six years, two years, and for less periods. Three had been lost sight of and probably were dead. At the time of operation all the patients were extremely emaciated. Thereafter they gained flesh rapidly and in many the tumour seemed to vanish and was no longer palpable. One case operated on in 1896 had been re-opened for a ventral hernia at the cicatrix and no trace of tumour or glands could be discovered. A second patient operated on in 1900 had also been subjected to a second laparotomy on account of the appearance of a few nodules on the cicatrix. The abdomen was found to be healthy. The tumours had almost gone; the nodules showed typical carcinomatous structure. The question might be raised whether these cases, which had survived say six months, were really cases of malignant disease after all. There could be no doubt that the diagnosis between simple inflammatory hyperplasias which simulated cancer and true cancer was extremely difficult, yet it would be extraordinary were able physicians so frequently in error. Again, the cases of slow-growing gastric carcinoma reported by Strüdel and others must be remembered, where after an exploratory laparotomy alone and closure of the abdomen the patient survived for several years. The great and rapid improvement in the health of all the above patients, however, could only be ascribed to the gastro-jejunostomy and not to the mere exploration and it offered strong encouragement to give the patient at least the advantage of a probable palliation and not to relegate him to the class of hopeless incurables.—Professor J. CHIENE and Mr. ALEXIS THOMSON took part in the discussion which followed.

Dr. G. LOVELL GULLAND read a paper on Cyto-diagnosis of Pleural Effusions. He stated that there were several varieties of pleural effusion, such as empyema, where an examination of the cells in the fluid was unnecessary, the organisms which caused its production being alone important. In serous effusions, however, the cells were of importance. Pleurisy was one of the commonest of acute chest affections and for many years it had been a matter of discussion whether the common acute serous pleurisy was rheumatic, tuberculous, "idiopathic," or due to acute infection. At one time all serous pleurisies were considered to be "rheumatic," at another idiopathic, and more recently the tendency to regard them all as tuberculous had been steadily growing. The immediate treatment necessarily differed according as one regarded a pleurisy as tuberculous or as idiopathic. A certain proportion of cases did not come into consideration—e.g., those in which a pleurisy supervened in the course of phthisis already diagnosed. There were many cases, however, where the lungs gave no help and where the pleurisy occurred in apparently healthy individuals. Here all the ordinary means of diagnosis might be exhausted without a decision as to the nature of the case being arrived at. The case might be really tuberculous, but the physical signs might be so slight as to pass unnoticed, and if the pleura of the more seriously diseased lung were attacked the effusion might conceal the disease by relaxing the lung or limiting the movements of the affected side so as to weaken the breathing. On the other hand, bronchial breathing and other auscultatory signs might be caused by the effusion itself and could not be referred to a pre-existing tuberculosis. For similar reasons tubercle bacilli might be sought for in vain in the sputum. Either there was no sputum or what there was came from the unaffected lung or from the trachea and bronchi and not from the relaxed lung. The injection of tuberculin for diagnostic purposes was also useless, for in almost all such cases the patients suffered from pyrexia. The sero-diagnosis of tubercle had so many technical and other difficulties that for practical purposes it was useless. The morphological examination of the blood did not give much help, as in slight and chronic cases the blood was practically normal, while in severe cases the leucocytosis might be high. The differential leucocyte count had not yielded any definite indication. In the absence of general indications the fluid drawn off by puncture fell to be examined. In fresh exudate organisms might be discovered either by culture or by the microscope, but the fluid was strongly bactericidal, and after some time the organisms ceased to be capable of cultivation though they might still be found in the fluid. It was true that in undoubtedly tuberculous cases it was only very rarely possible to demonstrate tubercle bacilli, either because very few bacilli were present, because they were destroyed or rendered incapable of growth by the fluid, or because the effusion was due to toxins rather than by the organism itself. In examining the cells in the exudate the methods were simple. The syringe was to be sterilised, by boiling by preference, and it must hold enough fluid to allow of its being centrifuged. If the cells were numerous in the fluid cover-glass preparations might be made directly and without using the centrifuge. Dr. Gulland generally fixed the films by his formalin-alcohol method. The tri-acid stain was not very serviceable but eosin and methylene blue and Jenner's stain had proved of the greatest use To show the granules in the polymorphonuclear cells or other changes Sudan followed by hæmatoxylin when fat was in question or iodine when glycogen had to be looked for had to be employed. The cells found in exudates might be classed according as they were derived from the blood or from the tissues. Red blood-corpuscles and leucocytes were, of course, present; also polymorphonuclear neutrophiles and the lymphocytes of various sizes. Basophile leucocytes were occasionally met with but eosinophiles were almost never seen. The red corpuscles showed no change of importance. The polymorphonuclear neutrophiles might resemble exactly those seen in the blood and usually did so in fresh effusions, but in older effusions degenerative changes were present in such cells. The cell body in such might undergo a simple dissolution, so rendering the granules free in the fluid, or it might undergo a fatty degeneration. The latter was very rarely seen in cells circulating in the blood but was fairly common in exudates. Glycogenic degeneration of the cell body was also more frequently observed in such exudates than in the blood. The nucleus of the polymorphonuclear neutrophiles might simply lose its power of taking up basic stains and might look faintly coloured. Most frequently, however, it lost the intranuclear network and stained deeply and homogeneously. The lobes also often separated one from another and broke up into fragments, each taking a part of the cell body with it, or the nucleus as a whole ran together into a ball and stained homogeneously. Such deeply stained nuclei had been mistaken for nucleated red corpuscles. The lymphocytes usually exactly resembled those of the blood and did not appear to degenerate nearly so frequently as did the polymorphonuclear cells. In simple effusions the cells were derived from the endothelial surface of the pleura. These sometimes occurred in clumps but more often they were single. They were larger than leucocytes usually, had a round or oval nucleus and a large cell body with a regular though more frequently a ragged outline. Fat droplets sometimes were found in the cell body. As regards tuberculous effusions the description differed according to whether the effusion was examined during the first three days or later. At first the cells were mainly polymorphonuclear, but by the third day these had largely disappeared and were replaced by lymphocytes In an established tuberculous pleurisy the microscope showed lymphocytes, red blood corpuscles, a few polymorphs in some cases and sometimes a very few endothelial cells. The lymphocytes ought to be at least half of the true cellular elements, while in most cases they reached four-fifths or even more. Dr. Gulland had drawn attention to the degenerative changes in other cells which caused them to look like lymphocytes because of the great importance which a true lymphocytic effusion had. He had seen effusions in which the degenerated polymorphs which simulate lymphocytes were at least as numerous as the unaltered polymorphs and so it would have been easy to come to an erroneous conclusion as to the nature of the case. The small number of endothelial cells present was generally explained by assuming that the exudation rapidly covered the pleural surface in those cases. As to effusions due to the pneumococcus and streptococcus, these organisms, and probably all others which could cause purulent effusion, had when the effusion was in the serous stage the same result—a great preponderance of polymorphonuclears, unaltered or degenerated, as the case might be, and often numerous endothelial cells, fresh or degenerated. Red corpuscles might also be present. The relations between polymorphs and endothelial cells varied greatly in different cases; the more acute the case and the more likely to go on to empyema the more polymorphs would, as a rule, be present As regarded œdematous effusions, whether such arose from heart or kidney, the cells were almost always very few in number and were mainly endothelial in type. In cases where a pulmonary apoplexy occurred in a lung the pleura of which already contained fluid polymorphs appeared in the fluid. Dr. Gulland then passed on to speak of malignant pleurisies. As a rule cells of the malignant growth would be present in the fluid, often in large numbers. They were frequently swollen and œdematous and they presented abnormalities in the nucleus. They were often fattily degenerated. A certain proportion of polymorphs was present. Dr. Gulland had found cyto-diagnosis distinctly useful and by its aid he had been able to free some people from the suspicion of tubercle, though, unfortunately, he had had to condemn others and he hoped that it might prove of equal value to observers when associated with minute investigations in other directions.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Lead-poisoning.—Milch Cows and the Tuberculin Test.—Inspection of Dairy Sheds.

A MEETING of this section was held on April 25th, Dr. NINIAN FALKINER, the President, being in the chair.

Dr. F. O. MARTLEY, honorary secretary of the section, read a communication from Dr. R. B. McVittie on a case of Lead-poisoning. The patient, a man, aged 58 years, after three months' residence in a new house began to complain of general malaise, muscular weakness, and abdominal pains. Two months later he suffered from vomiting, constipation, and some loss of power in his hands. As he had no teeth the gums showed no lead line. The water-supply came from two wells situated above the house and was conveyed in iron pipes which ended in a few feet of leaden pipe to which the tap was attached. Water taken from the tap was found to contain 1·67 grains of lead per gallon, that from the wells was pure, soft, and slightly peaty. Since discontinuing the tap water he had become completely well Of all the household he alone was affected; this was probably due to his age and to his having lived for some time both in India and in Burma.—Sir CHARLES A. CAMERON said that the case was of interest from the exceptionally large amount of lead present, this being greater than was usually found except in acid solutions. The water-pipes used in Dublin consisted of an alloy of lead, 96 5 per cent., and tin, 3 5 per cent. This had after years of trial, been found to resist the solvent action of water.—Dr. DE LISLE of New Zealand, a visitor, said that in New Zealand lead-poisoning was practically unknown. He had seen two cases only and they were in painters. He ascribed the immunity to the hardness of the drinking-water in the towns. Before he settled in New Zealand he lived in Sydney and whilst lying ill with typhoid fever in the General Hospital of that city he saw many cases, the victims being heavy beer-drinkers whose liquor had been contaminated with lead from the leaden pipes of the beer-machines. The drunkards of Sydney were beer-drinkers; the moderate drinkers took whisky.—The PRESIDENT made a reference to a meeting of the section in 1873, when Dr. O'Carroll brought the subject of lead-poisoning from hair-dyes under notice.

Professor E. J McWEENEY read a paper on the Infectivity of the Milk of Cows which Reacted to the Tuberculin Test but were not Clinically Tuberculous. He said that it was a problem whether the milk of cows that reacted to the tuberculin test should be permitted to be sold for human consumption. He commenced his experiments by trying to learn the percentage of milch cows that reacted to the test. For this purpose he examined a herd of cattle numbering between 80 and 100 animals that was kept under hygienic conditions very much superior to those of ordinary herds, and of these cattle kept under the most favourable conditions 50 per cent. reacted positively to the tuberculin test. He afterwards, in the south of Ireland, examined a herd of cattle that was not kept under the same favourable conditions, and of these from 80 to 90 per cent. reacted to the tuberculin test. To decide that the milk of animals that reacted to the test was unfit for food would be to cut off the milk supply and would be impracticable Some of the animals vigorously reacted to the toxin, the temperature rising from normal to 105°, 106°, and even to 108° F. Strange as it might appear, he found the infection to be inversely proportionate to the extent of the tuberculous lesion, the possible explanation of which might be that the animals which were clinically tuberculous had had their blood immunised by the toxin already in their bodies and injected tuberculin produced a slight, if any, reaction. In the animals in which violent reaction took place he found not more than one or two caseous glands, most commonly in the posterior mediastinum. All these statements were based on post-mortem experiments, for every animal which he experimented on was afterwards killed. Animals that had encysted little masses of tubercle gave milk in which tubercle bacilli could not be found. He then described a series of experiments instituted for the purpose of testing the effects of the milk of cows giving a reaction to tuberculin but not clinically tuberculous. It must be remembered that "acid-fast rods" simulated bacilli and had been mistaken for them. Almost identical experiments, but conducted on a much larger scale, were carried out in Berlin by Perstatay who fed young animals, calves and pigs, on the milk of cows which were tuberculous but in which the disease was not clinically demonstrable. The calves were fed for two months and the pigs for seven months on the milk and in not a single instance did tubercle develop. The milk was perfectly innocuous. On the other hand, the disease was in a very infectious form when the cow's udder was infected, for the least amount of tubercle in the udder made the milk poisonous. Dr. Bang of Copenhagen gave a litre of milk drawn from a cow with a tuberculous udder to a pig and the animal died in a short time as if poisoned. The percentage of tuberculous cows whose udders were tuberculous was calculated to vary from 2 to 4 per cent. Professor McWeeney said that he had never come across a case of infected udder, but there should be no difficulty in recognising it and any educated veterinarian should be equal to the task. So far as his experience went he considered bovine tubercle to be capable of infecting the human being.

Sir **Charles Cameron** read a paper on the Inspection of Dairy Sheds. He thought that dairy inspectors should not be satisfied with the sterilisation of the milk and other matters appertaining to the hygiene of the cowsheds and that the dairy should be looked after. Inspectors in rural districts were not at all so careful as were those in Dublin, neither were the rural cowsheds and attendants as clean as the city sheds and attendants. The recent Vice-regal Sanitary Commission declared that the cows in the city dairy-yards were much better fed than were those in the rural districts. The Dublin cows were sent to grass for seven months of the year; their milk contained 14 per cent. of solids as against 12 per cent. in the country. A veterinary surgeon examined their udders regularly during the winter season and the personal cleanliness of the attendants was ensured by a by-law which made dirty hands punishable by a fine and during the last year 40 milkers were fined for having their hands dirty.—Professor **McWeeney** said that a codification of the sanitary laws was a necessity; as things were a whole library of legal books was wanted to find out the law of sanitation. Sterilisation of milk was out of the question, it made ordinary milk unsightly and unpalatable and spores resisted boiling for three hours under a pressure of two atmospheres. Pasteurisation killed typhoid germs at a temperature of 140° F., and at 190° it killed the tubercle bacilli; no creamery should be allowed to vend milk until it had been properly pasteurised. As for the Dublin dairy-yards, he considered them to be a disgrace to civilisation; they were kept in an intolerably filthy state and, as for the attendants, he thought that if they had the German sanitary law in force in Dublin some 90 per cent of the milkers would be arrested and forcibly washed. There could be no proper supervision of dairies without a bacteriologist; a veterinarian could not make an exhaustive microscopical examination of milk or perform the necessary biological experiments.

Laryngological Society of London.—A meeting of this society was held on May 2nd, Mr. E. Cresswell Baber, the President, being in the chair.—Dr. A. Bronner showed macroscopical and microscopical specimens of a large Papilloma of the Left Maxillary Antrum which had caused destruction of the bone and was accompanied by an offensive discharge. It had been twice removed with a snare and the second time without recurrence.—Dr. J. Walker Downie showed (1) a specimen of Sarcoma of the Right Tonsil from a woman, aged 58 years, which was enucleated in September, 1890, and did not recur until after October, 1901; (2) a specimen from a man, aged 33 years, consisting of the Soft Palate, Fauces, Pharynx, Larynx, and Gullet, the seat of an Extensive Round-celled Sarcoma; (3) a large Fibrous Growth (removed November, 1892) from the Naso-pharynx of a boy, aged 11 years, who a year later developed symptoms of sarcoma of the left maxillary antrum; and (4) a large Fibrous Growth (removed Feb. 6th, 1901), from the Naso-pharynx of a boy, aged 14 years, followed by continued improvement in health, and with no local recurrence.—Dr. J. Donelan showed (1) a case of Laryngeal Stenosis in a man, aged 50 years, resulting from a large syphilitic ulcer of the left side of the larynx; and (2) a case of Syphilitic Contraction of the Posterior Pillars of the Fauces in a man, aged 44 years.—Dr. H. Tilley showed a case of Complete Occlusion of the Right Nasal Vestibule in a man, aged 32 years, following the insertion of a strong styptic for the arrest of epistaxis. The septum was deflected to the right, and Dr. Tilley said that he proposed to remove the scar tissue and at the same time to perform Ash's operation on the septum.—Dr. H. L. Lack showed the following cases. 1. A case of great Symmetrical Thickening of the Upper and Anterior Part of the Nasal Septum in a man, aged 33 years, who had been under constant treatment for the past 12 years for nasal obstruction. It had been cut away and cauterised many times, but had always recurred. 2. A case of Inherited Syphilis of the Nose, Pharynx, and Larynx, with Complete Occlusion of the Anterior Nares in a boy. The appearances in the pharynx and larynx closely simulated lupus but the ulceration which at first had existed about the right anterior nares had healed under iodide of potassium, leaving complete atresia. The left nostril was already occluded.—Dr. J. W. Bond showed a case of large Laryngeal Growth in a woman who had suffered from huskiness of the voice for 10 months. There was no history, or sign, or symptom of either tuberculosis or syphilis.—Dr. StClair Thomson showed a case of Glosso-labial Laryngeal Paralysis with Complete Paralysis of one cord and Adductor Paralysis of the other.—Dr. E. Law showed a case of Excrescences or Incrustations or Chalky Deposits low down in the Trachea.—Mr. R. Lake showed a case of Tuberculosis of the Larynx occurring in a man, aged 30 years, in which the epiglottis had been removed by means of the galvano-cautery snare. The stump had healed quite satisfactorily.—Dr. L. H. Pegler showed a case of Geographical Tongue occurring in a boy, aged 14 years.—Mr. F. H. Tod showed a case of Syphilitic Necrosis of the Intra-nasal Structures.—Mr. E. B. Waggett showed a case of Cystic Adenoma of the Pyramidal Lobe of the Thyroid Gland.

British Gynæcological Society.—A meeting of this society was held on May 8th, Dr. Heywood Smith, one of the Vice-Presidents, being in the chair.—Professor Alfred Smith exhibited a Bilateral Intraligamentary Fibromyoma of 10 pounds Weight in Advanced Mucoid Degeneration removed on April 16th, 1902, from a woman who till last November had been in good health.—Dr. Bedford Fenwick showed a similar specimen of which the lower part on the right side had been embedded in the broad ligament; the upper part on the left had extended right under the ribs and was in extreme mucoid degeneration.—After the exhibitors had replied to some remarks made by Dr. Heywood Smith, Dr. J. J. Macan, Dr. H. Macnaughton-Jones, and Dr. Richard T. Smith, Dr. Macnaughton-Jones related two cases of Absence of the Internal Genitalia. The patient in the first case was a girl, aged eight and a half years. Abdominal symptoms led to recto-abdominal examination, as even after consultation with a physician no definite diagnosis could be made. A soft sausage-shaped tumour was felt by the rectum but no uterus could be detected. On operation the tumour proved to be a sacculated sigmoid, doubled down on the rectum and containing fæces, but the appendix, six inches long, was bound down to the floor of the pelvis and contained pus. There was no uterus or any adnexa. The appendix, which was ruptured in detaching it, was removed, and in spite of a fæcal discharge from the abdominal wound from the fifth to the eighth day and an intercurrent attack of cystitis the child made a good recovery. In the second case the patient was a woman, aged 32 years, who had suffered from persistent primary amenorrhœa, with headaches and molimina, from the age of 18 years. Sexual instincts seemed to be present as there had been a question of marriage, but the absence of the catamenia and uncertainty whether the marriage could take place had led to much mental depression and deterioration of health. The labia, clitoris, and urethral orifice were present but there was no vagina, and bimanual recto-abdominal and recto-vesical examination proved the absence of the uterus, ovaries, and tubes, nor could any trace of such, or of a vagina, be found by exploration of an incision in the middle line into the fibro-muscular tissue between the bladder and the rectum. The patient's mental depression was much improved by the removal of all uncertainty as to her position. Her headaches turned out to be dependent on eye-strain due to hyperopic astigmatism which was completely relieved.—Dr. C H F. Routh, Professor A. Smith, Dr. S. J. Aarons, and Dr. Heywood Smith instanced similar cases and concurred that absence of the internal genitalia was not quite exceptional in women who were well developed externally and who had normal sexual instinct.—Dr. Macnaughton-Jones, in reply, spoke of the futility of unduly delaying diagnosis and continuing ordinary treatment in persistent primary amenorrhœa and of the importance of all cases being recorded in which the genitalia were absent.—Dr. Fenwick read a paper on Fifty Laparotomies which with 35 simple operations for the removal of ovarian cysts or uterine fibroids were the only cases in which he had opened the abdominal cavity from above during the last 16 months. These 50 were all more or less difficult operations and included the only fatal results he had met with in his abdominal sections for nearly three and a half years, two deaths after hysterectomy for malignant disease and for degenerated fibroids of the uterus both by a singular coincidence occurring in the first week of this month, but neither due, save indirectly, to the operation, the patients sinking from heart failure several days afterwards The frequency with which fatty degeneration was caused by abdominal tumours, to which he had drawn attention some 15 years ago, seemed now to be generally admitted. The 50 operations included 24 for ovarian growths, of which five were malignant, the disease being removed in three, but in the other two it was too far advanced for extirpation; 14 for fibroid growths, in connexion with which he laid much stress on the importance of degeneration as an indication for interference and of pain in previously painless cases as a symptom of inflammatory change consequent on such degeneration; six for bilateral and three for unilateral (left) pyosalpinx, all associated with great and increasing pain, profuse menorrhagia, and marked loss of flesh and strength, and by vast improvement after operation; and one each for malignant uterine disease, extra-uterine fœtation, and abdominal hernia due to a fall down a flight of stairs after a previous abdominal section.—Dr. J. A. Mansell Moullin said that among 173 abdominal operations at the Hospital for Women, Soho-square, London, during last year they had had only eight deaths, of which seven followed operations not properly gynæcological, 57 ovariotomies, 21 hysterectomies, and five myomectomies without any mortality, the single fatal case being one of 22 oöphorectomies These figures showed the position of special gynæcological work at the present day and would compare not unfavourably with the results of such work in general hospitals.—After some discussion by Dr. R T Smith, Professor A. Smith, Dr. Macnaughton-Jones, and Dr Heywood Smith, Dr. Fenwick replied.

WEST KENT MEDICO CHIRURGICAL SOCIETY.—The seventh meeting of the forty-sixth session of this society was held on May 2nd.—The President, Dr. T. C Meggison, delivered a presidential address on Migraine. After some preliminary remarks the speaker defined migraine or hemicrania and reviewed the different phenomena which go to make up an attack. The premonitory symptoms were discussed in detail, particularly those affecting the eyes. He remarked on the fact that many persons were first attacked in the early hours of the morning and also how impossible it was for the physician to appreciate the suffering on an ordinary professional visit. The situation and character of the pain, the gradual increase in intensity, the alternation from one side to the other, the sickness and prostration, and the aggravation of the symptoms by light, noise, &c., were rapidly passed in review He noted the alteration in pulse and temperature and described in detail the three principal varieties. He combated the theory of eye-strain being the sole cause and stated that he had long been of the opinion that there was some other influence at work. The history of his own cases showed a decided tendency to transmit the complaint. He considered that there was a great deal of evidence to show that migraine was due to toxins formed in the intestine but only absorbed into the system at certain times, such as during menstruation, after a shock, prolonged fatigue, or excitement. Acting on this theory he had tried washing out the system by large draughts of water with some measure of success but the disadvantages were obvious. Washing out the intestines by large enemata had been of benefit in various cases, though many had suffered from headache during the process. The result was certainly encouraging. For some time he had tried giving an enema whenever an attack seemed imminent with the most gratifying result, the patient generally experiencing complete relief, though sometimes the attack was merely shortened. Various patients had been treated in this way with the same benefit. In other cases washing out had been first performed and then the bowels had been kept clear by mild laxatives with decided success. From these results he was of opinion that migraine did not depend on a single cause but that in all cases there were two or three factors at work and that most probably auto-intoxication was one.—After the address an enjoyable smoking-concert was held. Mr R. F. Tyler presided at the piano and songs, recitations, and violin selections were contributed by Dr. James Donelan, Dr. R. E. Scholefield, Dr. T. E. White, Mr. R. V. Donnellan, Dr. F. S. Toogood, Dr. H. Bowen Williams, Mr. Samuel Masters, and Mr. Wilson James.—The annual dinner of the society will be held at the Café Monico on Thursday, June 19th.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on May 9th, Dr. Arthur T. Davies, the President, being in the chair.—Dr Leslie Durno read notes of two cases of Pemphigus Neonatorum. The mother of the first child suffered from moist eczema at the time of her delivery. Her child developed vesicles on the third night. These quickly multiplied until the skin, save only that of the palms of the hands and soles of the feet, was affected, yet the constitutional disturbance was slight. Healing took place in 14 days except in those parts kept moist by the urine and fæces. The rash of the second child began on the sixth night and was severe, closing the eyelids and producing a good deal of general disturbance.—Dr. J. R. T. Conner thought that such cases were impetigo contagiosa and not true pemphigus—that they were the product of staphylococcic infection and were curable by antiseptics.—Mr. W. Campbell M'Donnell related a case of Septic Thrombosis in a pregnant woman, a multipara, aged 28 years, who shivered daily for a fortnight before her delivery She had pain in her legs but was not medically attended before or after delivery. The day after delivery there was an inflammatory swelling at the back of the left thigh which on being opened later proved to be an abscess. On the fourth day of lying-in there was a supposed dislocation of the wrist, but this also proved to be an abscess. The pus was let out. The joint was ultimately disorganised. There was a large discharge of pus in the urine on the fourteenth day and hæmaturia till the end. Septic pneumonia occurred later and she died on the thirty-sixth day. There was no post-mortem examination. The speaker held the pyæmia to have resulted from septic thrombosis in the varicose veins of the leg—Dr Conner read notes of a case of Injury to the Hip in a man, aged 73 years, from a fall from a bicycle. The injury at first gave no signs of fracture or dislocation beyond the patient's inability to walk. Blood pigment appeared over the hip and the lower abdomen He was in bed for a month. After that time he tried to walk but was unable to do so. Three months after the injury half an inch of shortening of the leg was noticed Dr Conner explained this shortening by the observation of the late Mr. Jones that blows on the hip might produce shortening by interfering with the blood-supply to the bone to such an extent that absorption of the femoral neck resulted.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 16th, Mr. E. C Kingdon, the President, being in the chair.—Mr. R. Wood (Ilkeston) showed a case of Lupus Vulgaris which 10 years ago was treated with injections of Koch's tuberculin. The disease was arrested for a time but remained uncured.—Dr. W. E. Tresidder showed a case of Epithelioma of the Cervix Uteri which had been treated with the x rays, under which all signs of the disease had disappeared. A microscopic section of a portion of the growth taken before treatment was started confirmed the diagnosis—The case was discussed by the President, Mr. A. R. Anderson, Dr F. H Jacob, and Dr. J. S. Bolton.—Mr. Anderson read a paper entitled, "The Surgical Treatment of Gastric Ulcer." After some observations on the question of diagnosis Mr. Anderson confined his remarks to the treatment of (1) non-perforated ulcers and (2) hæmorrhage. Statistics were put forward showing the probable mortality from ulceration and hæmorrhage under medical treatment, and whilst advocating preliminary treatment by medical measures in all cases it was urged that earlier recourse should be had to surgical operation. In regard to the question of hæmorrhage the anatomy of the arterial supply of the stomach was first demonstrated and then the surgical measures for the arrest of bleeding were described.—The lateness of the hour precluded discussion of this valuable paper.

BIRKENHEAD MEDICAL SOCIETY.—The annual meeting of the above society was held on May 9th, Dr. J. Pinkerton, the President, being in the chair.—Mr. S. H. N. Harrington showed a patient with a Displacement of the Heart. The apex beat was in the seventh interspace, midway between the posterior axillary line and the spinal column. There was a complete absence of cardiac dulness in the front of the chest. There was no history of pleurisy or of overstrain to account for the displacement.—The President, Dr. J. Lambert, Mr. H. Laird Pearson, Dr. J. H. Dixon, and Dr. E. H. Brien commented upon the case.—The President showed the following specimens: 1. A small Calculus removed from a child, aged five years, during the operation of circumcision. The calculus was lodged between the prepuce and the glans penis. 2. The Stomach of an infant, aged six weeks, the pyloric orifice of which was so much contracted and thickened that a probe could only be passed through it by exercising considerable pressure. During life the child had vomited almost all food.—Dr. White showed a specimen of Imperfect Closure of the Foramen Ovale.—The Secretary showed a similar specimen.—The following officers and members of committee were elected for the ensuing year:—President: Mr. Pearson. Vice-president: Dr. Brien. Librarian: Mr. S. Wilkinson. Treasurer: Dr. W. R. Floyd. Secretary: Mr. J. H. Fardon. Committee: Dr. W. R. Dalzell, Mr. A. W. Pierce, Dr. R. O. Morris, Mr. W. Johnstone, and Dr. W. Leask.

BRITISH ELECTRO-THERAPEUTIC SOCIETY.—A special meeting of this society was held on May 2nd, Dr. W. S. Hedley, the President, being in the chair.—The motion to admit registered medical students as associates was negatived by the members present.—The ordinary meeting then followed.—The adjourned discussion on Dr. J. H. Sequeira's paper on the Finsen Treatment of Lupus, Rodent Ulcer, &c., was then opened by the President.—The following members took part in the discussion: Dr. H. Lewis Jones, Mr. J. F. Hall-Edwards, Dr. G. H. Graham, Dr. Horace Manders, Dr. F. Harrison Low, Mr. E. W. H. Shenton, Dr. H. McClure, and Mr. Chisholm Williams.—The general opinion of the speakers was strongly in favour of the Finsen and other allied forms of treatment for the conditions in question.—Dr. Sequeira replied.—It has been decided to hold the provincial meeting at Manchester on July 30th.

SOCIETY OF ANÆSTHETISTS.—A meeting of this society was held on May 2nd, Mr. Walter Tyrrell, the President, being in the chair.—Dr. Joseph Blumfeld read a communication entitled, "Some Points concerning Complete Relaxation of the Abdominal Muscles under Anæsthetics."—In the discussion that followed the President, Dr. H. Low, Dr. Dudley W. Buxton, and Dr. Harvey Hilliard took part.—Dr. G. B. Flux submitted a further communication on the Use and Structure of his Open Stopcock.—Dr. W. Millward showed a Modification of Clover's Inhaler designed for the purpose of administering ether or chloroform singly or together.

HEALTH OF EXETER.—Dr. J. Woodman, the medical officer of health of Exeter, reports that during 1901 the births numbered 1084, this being equal to 23·1 per 1000. The total number of deaths registered was 830, this being equal to a corrected death-rate of 16·4 per 1000. The infant mortality under one year was 152 per 1000 births. 533 cases of scarlet fever occurred during the year; 340 of these patients were removed to the sanatorium where four of them died; the remaining 193 were treated at their own homes and six died. Two cases of small-pox, 41 cases of enteric fever, 40 cases of diphtheria, and three cases of puerperal fever were notified.

Reviews and Notices of Books.

The Principles of Pathological Histology. By HARVEY R. GAYLORD, M.D., Professor of Surgical Pathology in the University of Buffalo, attending Surgeon to the Erie County Hospital, Buffalo, N.Y.; and LUDWIG ASCHOFF, M.D., Professor and First Assistant in the Pathological Institute of the University of Göttingen. With an Introductory Note by WILLIAM H. WELCH, M.D., Professor of Pathology in the Medical School of the Johns Hopkins University, Baltimore, M.D. Illustrated with 81 Engravings in the Text and 40 full-page Plates. London: Henry Kimpton. 1902. Pp. 359. Price 5s. 6d.

THIS work is intended to supplement the regular courses in pathological histology and to lead the student to the application of such knowledge in practice. The arrangements now made in all medical schools for the preparation of all microscopical specimens of various morbid conditions enable every student to obtain for himself an excellent collection of this nature. This, however, is not sufficient; he must be able to interpret the appearance of actual objects seen through the microscope. A book to confer this ability must present the histology of the various diseases as faithfully as the microscope itself. This has been one of the chief aims of the authors of this volume. Evidently no effort or expense has been spared in illustrating it and a most excellent publication is the result. We are informed that special apparatus was devised for the optical and photo-micrographic work and the negatives thus secured have been reproduced by the heliotype process. The plates are some of the best that we have seen in a text-book of this nature. The tricolour photo-micrographs are particularly successful.

The book is divided into three parts. In Part I. are fou the most trustworthy methods for preparing tissues for mic scopical examination. It is so arranged as to be equally us to the student and to the practitioner. This part o work is not overcrowded with descriptions of numerou cesses which have been from time to time introduce only those have been selected which are comparatively s and which yield the best results.

Attention is called to the "simplicity" of the techni the freezing microtome as contrasted with the "difficu of the paraffin or celloidin method. We cannot alto agree with the authors in this respect. It is true such an excellent, although expensive, instru "Becker freezing microtome" be employed results may be obtained, but if the ordin microtome is used the student will find difficulty in obtaining satisfactory sections f morbid specimens, whereas with tissues embed paraffin or celloidin, although the time required for pre ing the tissues is considerably longer, there will b larger proportion of successful results.

The student will have no difficulty in following the dir tions given for staining the preparations. The description the "special methods" will be found to be especially useful these include the processes for staining sections of th central nervous system. Great advances have been made i this direction during recent years and the methods o Weigert and Mallory have proved of immense value i differentiating the tissue elements of the brain and the spina cord.

Part II. includes the principal portion of the work an deals with the Pathological Histology of Organs.

The sections describing the morbid changes which ma occur are arranged on a uniform plan. A brief definition i first given of the condition about to be described. The directions are given as to how the tissues of the organ unde that of an achondroplasic dwarf and the figure of Bes that of a myxœdematous dwarf. Achondroplasic workers in metal are represented on the Egyptian monuments, a circumstance which is interesting in connexion with the lameness and deformity of Hephaistos or Vulcan in classical mythology.

THE FOURTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE present rate of exchange makes it worth while for all those who propose to attend the Madrid meeting of the International Medical Congress to pay their subscriptions at once as the value of the peseta varies from time to time and it is now low. The necessary forms of application for membership can be obtained from the honorary secretaries of the National Committee for Great Britain and Ireland—viz., Mr. D'Arcy Power, 10A, Chandos-street, Cavendish-square, London, W. and Dr. P. Horton-Smith, 15, Upper Brook-street, Grosvenor-square, W., who are prepared to transmit the subscriptions to Madrid and to supply receipts and cards of membership as soon as they are issued, in return for a postal order of £1 from each member. Ladies if they accompany a member will pay 6*s.* 8*d.* for their tickets, which sum is said to entitle them to reductions of fare on the Spanish railways (probably a useless concession for English travellers who take through tickets) and will give them admission to the various fêtes held during the congress.

THE TOPOGRAPHY OF THE CORTICAL DEGENERATIONS IN GENERAL PARALYSIS OF THE INSANE, WITH SPECIAL REFERENCE TO FLECHSIG'S ASSOCIATION-CENTRES.

AN important research by Professor Karl Schaffer of Budapest on the topography of the cortical degenerations in general paralysis of the insane in relation to Flechsig's association-centres of the brain is recorded in a recent issue of the *Neurologisches Centralblatt* (No. 2, 1902). A detailed microscopical investigation was made of the entire brains of three patients who had died from general paralysis, tabetic symptoms having been also present in one of the three cases. Serial sections of the entire brain (cerebral hemispheres, brain-stem, and cerebellum) were made in the sagittal and horizontal planes and were stained with Wolter's modification of Weigert's method to determine the situation of degenerated medullated nerves. All three patients were typical examples of general paralysis with the characteristic symptoms of early dementia, grandiose delusions (megalomania), impairment of speech (dysarthria), and paralysis of pupillary and of facial movements, and they terminated in paralysis, coma, and death. Sagittal sections taken close to the mesial aspect of the cerebral hemisphere showed degenerations of medullated nerves, chiefly in the pre-frontal area (pre-genual and sub-rostral regions)—i.e., Flechsig's antero-mesial and supra-orbital association-centres, slightly around the lips of the calcarine fissure and moderately in the supra-callosal convolutions (gyrus fornicatus). Sections made in other planes showed various areas of degeneration. The degenerations are classed as "slight" and "marked" and their distributions are summarised as follows. (*a*) Slight degenerations: these were observed in the Rolandic convolutions and adjacent parts of the frontal gyri (kinæsthetic area) in the cuneo-lingual gyri which border the calcarine fissure (visual region) and in the lower temporal gyrus (*b*) Marked degenerations. These were observed in the pre-frontal lobe (polar and orbital regions), in the parietal lobe (superior and inferior gyri), in the ascending parietal convolution, in the insular and in the temporal convolutions. (*c*) An intermediate degree of degeneration was present in the occipital lobe. A special examination of the brain of the patient whose symptoms were complicated with tabes showed that slight degeneration was present in the ascending frontal convolution and adjacent parts of the frontal gyri, in the cuneus, in the first and last temporal convolutions, and in the nerve-tracks or bundles of the cornu Ammonis. Marked degeneration was present in the pre-frontal lobe, in the entire parietal lobe (including the ascending parietal convolution), in the insula, gyrus fornicatus, and second and third temporal convolutions. A comparison of these regions with the areas delineated by Flechsig in his classical work[1] as "association-centres" of the brain will show the close correspondence that exists between the two. Professor Schaffer concludes that his observations tend to support Flechsig's localisation of the association-centres of the brain, and that the morbid process (degeneration of medullated nerve-fibres) affects chiefly Flechsig's centres—viz., those in the pre-frontal, parietal, insular, and supra-callosal regions of the hemisphere. "The cortical degeneration in general paralysis is not an irregular, diffuse process, but, on the contrary, a regular, localised, selective morbid affection of the cortex." The research is of great importance and must naturally form the starting-point for further observations of similar nature to be made on other forms of insanity.

VACCINATION DIFFICULTIES.

IN THE LANCET of March 29th, p. 906, we referred to certain difficulties which had arisen between the Board of Guardians of Great Yarmouth and Dr. Henry Blake, the public vaccinator. Shortly the story was as follows. About the middle of March Dr Blake, in view of the approaching Easter holidays and the Yarmouth fair, thought that it would be well to have power to employ assistants as the work of vaccination and revaccination was growing very heavy. He therefore wrote to the Local Government Board and this body wrote to the guardians and recommended them to confer with Dr. Blake. However, at a meeting of the guardians held on March 18th the guardians refused to confer. A special meeting was then called on March 25th when it came out that Dr. Blake had asked the clerk to the board of guardians what he should do to get assistance. The clerk advised him to write to the Local Government Board. Only the clerk forgot to mention this to the guardians. Hence the talk about discourtesy to the board on the part of Dr. Blake which made the guardians refu confer with that gentleman after the meeting on the 1 Peace, however, now reigns and at the next meeting of guardians Mr. Cass is going to move that the board fi early date for consultation with Dr. Blake. This is all orthodox and ceremonious, no doubt, but epidemics will wait for ceremony and we should like to see some rapid method by which a public vaccinator could assistance in time of need than that which Dr. Blake to employ. Dr. Blake was invited to attend the meetin March 25th. Why could not the conference have been then and there? The whole matter could have been so in five minutes.

COEXISTENCE OF INFANTILE CEREBRAL PA PLEGIA AND INFANTILE SPINAL PARALYSIS

AT the meeting of the Société Médicale des Hôpitau Paris on March 7th M. Pierre Marie showed an interes case in which infantile cerebral paraplegia and infa spinal paralysis coexisted. The patient was a man, 34 years. At the age of six months he had convulsions from this time his paraplegia probably dated. The r lower limb was semi-flexed and adducted and c not be completely extended; the foot was in position of equinus. The knee-jerk was increased; plantar reflex was of the extensor type. All the symp consideration may be most advantageously treated and prepared for examination both in fresh and hardened specimens, and then the microscopical changes are fully described.

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[1] Gehirn und Seele, 1895.

It is by no means easy to give a written account of histological appearances, but in this work the authors express themselves in terms which are easy to comprehend and they are assisted by an excellent series of reproductions of photo-micrographs. These have been carefully selected and the student will find the acquisition of a knowledge of morbid anatomy much facilitated by comparing these plates and the description that accompanies them with the specimens which he has himself prepared in the laboratories. We strongly disapprove of the substitution of plates and diagrams for actual specimens but a comprehension of what is seen through the microscope is much aided by reference to good illustrations, and in the work now before us both the letterpress and the engravings are all that can be desired. The above remarks are especially applicable to those organs of the body of which it is difficult to procure good microscopical specimens. For instance, sections of the digestive tract are not easily prepared; but the photographs reproduced on Plates XVI. and XVII. show admirably the microscopical changes associated with tuberculous ulcers in the intestine, "typhoid swelling of the intestine," aphthæ of the œsophagus, colitis cystica, and dysentery. The sections of bone, too, are instructive; they include rachitic rib, syphilis of the femur, and the normal ossification of a rib. The coloured plates are also beautifully reproduced. The colours in some instances appear rather too vivid but this is by no means a serious fault.

Part III. of the book contains a simple exposition of the optical problems with which the student should be familiar, and also some technical directions for those who wish to make attempts at photo-micrography.

The Foraminifera: an Introduction to the Study of the Protozoa. By FREDERICK CHAPMAN, A.L.S., F.R.M.S. London: Longmans, Green, and Co. 1902. Pp. 354, with 14 Plates and 42 Illustrations in the text. Price 9s. net.

THE title of Mr. Chapman's book is quite accurate but the sub-title which he has selected is by no means so. The book is not at all an "Introduction to the Study of the Protozoa," except, indeed, on the principle that in studying a particular group a beginning must be made somewhere. No general protozoan problems are discussed or even mentioned and the structure of the unicellular [illegible], as a whole, is barely treated. By an "intro[illegible]," we are led to expect something more than [illegible]ges which naturally deal with the protozoa as a [illegible] in the briefest fashion. Considered as a manual of [illegible]aminifera there is much to be said in favour of Mr. Chapman's volume and also something on the other side. It is chiefly with the illustrations that we find fault; they are numerous, it is true, but mostly coarse in execution. It would have been better if the numbers had been reduced and the excellence of those selected had been assured. We distinctly prefer few and well-executed drawings to the rude plenty with which this volume is provided.

As regards the book itself, the letterpress that is, Mr. Chapman is entitled to commendation. In the first place, the volume is not in any proper sense of the word a compilation. The author is one who has mainly devoted his scientific work to the elucidation of the foraminifera and we think it a wholesome state of affairs when a student writes upon the objects of his own particular study; it means enthusiasm and, in consequence, good work. Though dependent largely upon his own first-hand knowledge of this group of protozoa, Mr. Chapman by no means ignores his fellow-workers and forerunners in this branch of inquiry. Nearly 20 pages of bibliography are occupied with an enumeration of the titles of works upon these creatures, arranged in a way which has its uses; the list is partly chronological and partly divided into such heads as "Technical Preparation," "Biology," and so forth. These shelled protozoa are favourite objects of study to the mere microscropist, to him who merely wishes to examine beautiful forms without special interest in their structure, life-history, and range in time and space. Occurring in great abundance and variety, in the most diverse situations, it is natural that they should thus have been selected as objects of microscopical interest. Mr. Chapman, however, in no way panders to this, the more ignoble, side of microscopy. He forces upon the reader who needs taking in hand in this way a mass of valuable information. For the serious student he provides mainly an admirable *résumé* of the structural characters of the several families, genera, and even, at times, species. The vastness of the numbers renders any attempt at completeness in the enumeration of species clearly out of the question in a handbook of limited extent and large—perhaps rather too large—type. A judicious handling of "minion" might have allowed the author to be a little more comprehensive. However, we do not quarrel with him for any serious omissions. The matter treated seems to us to embrace all that there is to be said of importance respecting these foraminifera. They furnish many and very varied problems for our consideration, with some of which the author duly deals. The celebrated voyage of H.M.S. *Challenger*, concerning which Mr. Chapman often finds himself compelled to remark, and previous deep-sea exploring voyages, had led some naturalists to the idea that the "globigerina ooze" now falling in an impalpable rain on to the ocean bottom through tracts of thousands of miles was exactly comparable to the chalk of Dover and of Gris Nez. The obvious conclusion was therefore that the chalk, instead of being a deposit in shallow water, was in fact a deep-sea deposit. This clearly led to a reconsideration of a view which has oscillated greatly in the last few years. If an abyssal deposit of a previous period of the earth's history now forms a part of the solid ground upon which we walk it is plain that no belief can be held in the "permanence of the great oceans." Continents now divided by miles of water thousands of fathoms in depth might have been united in the closest embrace. It is true that the forms of foraminifera found in globigerina ooze on the one hand and in cretaceous chalk on the other are often identical, and that imbedded in this foraminiferal mass are the remains of such creatures as sea urchins which also present a great similarity in the two cases. But one fatal objection is the presence in the chalk and the absence from true deep-sea ooze of organisms which are in all probability creatures limited in their range to shallow waters and which are unfitted, or at least are not known, to live in abyssal deposits of more than 500 fathoms, a line at which some persons draw the distinction between deep-sea and shallow-water faunas. This particular subject, however, is not treated by the author, which disappointed us, as we should have liked to read some account of the newest arguments on this problem.

Another remarkable fact about these animals, but characteristic also of some other groups, is the long persistence of individual species. Mr. Chapman points out that globigerina bulloides "is found in every sea, and certain deep-sea deposits are often chiefly composed of the shells of this type-form." Furthermore, "undoubted examples are recorded from strata of lower cretaceous age, and it is well distributed throughout almost all tertiary deposits up to the present time." This is a most striking fact; as an instance of dogged conservatism it is unparalleled in the animal world. When we add to this that according to the table given by Mr. Chapman (on page 277) there is no family of the order which has become extinct in the long course of time from the Cambrian (when these organisms first appear) up to the moment at which we are writing these lines the wonder becomes intensified. Of these organisms it may be written with literal truth, "Age could not wither ...... their infinite variety." In most groups of animals the past was richer than is the present. The mammal, the reptile, and the fish are all withered and shrunken by the passing of time, but not the foraminifera, which, in spite of their fragile bodies, are, like Rome, built for eternity. In the case of most animals which the naturalist requires for study the proverb, "First catch your hare" is of meaning. The foraminifera, however, lie ready to hand and it is only the "cooking" which presents difficulties, much smoothed by Mr. Chapman's final chapter on Collecting and Preparing. Seeing that according to Plancus (not he who flourished in Horace's younger days ! but more correctly to be called Giovanni Bianchi) an ounce of sand from the Adriatic contains no less than 6000 of these minute creatures, the bag of the collector is not likely to be often empty. At any rate it will not be after reading Mr. Chapman's explanatory pages. It would appear from what the author tells us that these organisms were first noted by the geographer and historian Strabo. His attention was called to the very obvious nummulites of the Egyptian limestones. The first correct notion, however, of the place of these animals in the system is due to Dujardin who demonstrated so recently as in 1835 that they are to be looked upon as protozoa and not as diminutive cephalopoda, a view urged by his predecessors. From that period to the present many illustrious names in zoology appear in connexion with these microscopical animalcules, and Mr. Chapman has put the finishing touch to this gradually growing edifice by presenting us with a plain *résumé* of what is known concerning these small shell-bearing protozoa.

The Treatment of Neurasthenia. By A. PROUST and GILBERT BALLET. Translated by PETER CAMPBELL SMITH, L.R.C.P. & S. Edin. London: Henry Kimpton. 1902. Pp. 213. Price 5*s*.

THIS little book is a really excellent translation of a work by Professor A. Proust and Professor Gilbert Ballet, both of the Faculty of Medicine in Paris and both observers of the very greatest experience in the special department of neurology which is comprised in the title of the book. Neurasthenia is regarded by the authors as a disturbance of the highests and most differentiated functions and a disease which is essentially due to an irritable weakness of the nervous elements. The fundamental symptoms of the affection are persistent headache, insomnia, muscular asthenia, rachialgia, a peculiar mental state, and lastly, dyspepsia due to gastro-intestinal atony. The view that certain visceral derangements, genito-urinary troubles, and anæmia are the primary and fundamental causes of the nervous exhaustion is dismissed as contradictory to the evidence of well-ascertained facts. Indeed, all the functional disturbances observed in neurasthenic patients may be interpreted as etiologically dependent on the primordial alteration of the essential nerve elements, although the exact nature of this pathological alteration is unknown. Among the most important of the exciting causes must be included the cares and troubles of business, reverses in fortune, and the constant wear and tear of living at high pressure. The exhaustion of the lower nerve centres by muscular over-work, sexual excesses, and the toxic influence of alcohol, tobacco, morphia, cocaine, and other poisons, exercise a pernicious influence on the nerve elements, both in the case of the higher and of the lower nerve centres. All the causes above enumerated do not operate with the same frequency or with the same force in different individuals. The offspring of parents who have not been exposed to these exciting causes of neurasthenia will not, as a rule, show any marked susceptibility to similar exciting causes, unless exposed to them to an unusual degree. The accumulated sins or misfortunes of the parents are visited in varying degrees on the children in the form of hereditary predisposition or susceptibility to the diverse stimuli which engender neurasthenia. The more pronounced the hereditary predisposition the weaker the stimuli required to call the disease into being.

The treatment which is recommended in the pages of this little book is essentially common-sense in character and may be summed up in the following words: good moral and physical hygiene, a well-considered dietary, and encouragement by suggestion. Without altogether condemning treatment by medicine the authors believe that, on the whole, more harm than good has been done by drugs to the victims of neurasthenia, and therefore their advice is to rely solely on the principles of natural hygiene—advice with which we are inclined to agree.

LIBRARY TABLE.

The Standard Medical Directory of North America, 1902: including a Directory of Practising Physicians in the United States of America, Canada, Cuba, Mexico, and Central America. Chicago: G. P. Engelhard and Co. Pp 800, large quarto.—We are inclined to agree with the statement of the editors in their preface that the publication of this first edition of their work (which is to be issued annually in the future) has been an "immense task." Although it is obviously difficult for us to express an opinion as to the degree of accuracy attained by the appointment of some 30,000 (!) correspondents to tabulate the lists of those included in the generic term "physicians," it is not difficult to concede that thoroughness has, at any rate, been aimed at, seeing that the total number of physicians tabulated in the directory is given at 122,937, which would work out at one correspondent for under every five names included in the list. (By the way, we may notice that the pagination of the volume jumps from 600 to 701, thus omitting 100 pages.) The contents of the directory include, in addition to its main object, much material information concerning the medical colleges, the medical services, and the medical societies; a digest of medical legislation, including the texts of the Medical Practice Acts of the various States; lists of the State boards of health and of the boards of medical examiners; a very lengthy recital of medical books and periodicals (of which latter there are over 250), and an equally lengthy list of hospitals and sanatoriums. An interesting table at the commencement of the work gives the population of the United States of America at 84,332,610 and the number of physicians at 115,222, equalling 13 666 physicians to each 10,000 of the population; whilst a like comparison for the Dominion of Canada works out at 9 725 physicians per 10,000. Mexico would appear to be the El Dorado of the medical man, so far, at any rate, as the ratio of the profession to the population is concerned—viz, 1·266 to 10,000. The ratio for Great Britain, based on the more or less incomplete 1901 census returns, is 7·2211 to 10,000, and that for Germany is stated to be 5 per 10,000. We not infrequently hear of the overcrowding of the profession in this country, but we appear to be considerably better off than our professional brothers in America. The "Standard Medical Directory" will doubtless prove a very useful work and is a distinct advance on anything we have yet seen claiming to cover similar ground.

The Road to Rome. By H. BELLOC. London: George Allen. 1902. Pp. 448. Price 7*s*. 6*d*.—This is a vagabond book of the best type—of the type, namely, to which belong

Waterton's "Wanderings," "Travels with a Donkey in the Cevennes," "The Golden Ass," and Samuel Butler's "Sanctuaries and Shrines of Northern Italy." We all love wandering, although most of us cannot afford the time wherein to wander. But the next best thing to wandering oneself is to read an account of a journey by a wanderer who can write in the manner of Mr. Belloc. Take the passage about the author's first view of the distant Alps: "Up there in the sky, to which only clouds belong and birds, and the last trembling colours of pure light, they stood fast and hard; not moving as do things of the sky. They were distant as the little clouds of summer, as fine and tenuous; but in their reflection and in their quality as it were of weapons (like spears and shields of an unknown array) they occupied the sky with a sublime invasion: and the things proper to the sky were forgotten by me in their presence as I gazed. To what emotion shall I compare this astonishment? So in first love one finds that *this* can belong to *me*." The Alps are indeed an exceeding great army but yet we think that the solemnity of a solitary mountain like Ararat is even more awe-inspiring. Anyone who has seen those twin peaks rising from the desolate plain will know the sensation to which we refer. The book is full of charming little sketches and we can recommend it as most restful reading to any hard-worked man. Not that we mean by this that on reading it he will feel an "exposition of sleep" but that it will take him out of his worries.

Bird Hunting on the White Nile. By HARRY F. WITHERBY. London: *Knowledge* Office. 1902. Pp. 117. Price 2*s.* 6*d.*—This little book is a record of a trip made through the Sudan for the purpose of collecting birds. The Sudanese birds are by no means well known to English ornithologists and many of them are exceedingly rare. Mr. Witherby, of course, collected with care and discrimination but it is to be hoped that with the opening up of the country the same fate will not overtake the more remarkable birds of the Sudan as has overtaken the bustard and the hoopoe in England. Already the fauna of South Africa is greatly reduced, witness the complete disappearance of the square-mouthed white rhinoceros. Let us hope that measures will be taken to prevent useless slaughter of the avi-fauna of the Sudan.

Savage Island. By BASIL THOMSON. London: John Murray. 1902. Pp. 234. Price 7*s.* 6*d.*—Savage Island, otherwise Niue, lies about 1000 miles N.N.E. of New Zealand. Mr. Thomson went there to proclaim a protectorate at the request of the king of the island. The request was made 13 years previously, but the British Government never does things in a hurry. Mr. Thomson's book is decidedly interesting besides being amusingly written, but it gives the reader occasion to think whether the introduction of Europeans and of European ways has really benefited the natives of Polynesia. True, it has done away with cannibalism and with customs and institutions such as the Areoi but, on the other hand, the introduction of syphilis, measles, and bad whisky is a heavy sum on the debtor side of the account.

A Treatise on Pharmacy for Students and Pharmacists. By CHARLES CASPARI, jun., Ph.G., Professor of Pharmacy in the Maryland College of Pharmacy. Second edition, revised and enlarged. London: Henry Kimpton. 1902. 778 pages, illustrated with 301 woodcuts and a portrait plate. Price 19*s.* net.—As implied by the title, this work is intended chiefly for pharmacists and serves as a text-book for the student and as a handbook for the practising pharmacist. The subjects treated in the book have been grouped under three distinct headings. Part I. comprises General Pharmacy, including the study of weights and measures, specific gravity, the application and control of heat, mechanical subdivision of drugs, and methods of solution and separation, together with a classification and description of the various solvents and products of plants used in pharmacy. This part is mainly of interest to pharmacists and appeals but little to the medical practitioner or student, but those for whom it is especially useful will find no better guide to the details of these pharmaceutical operations.

Part II. treats of Practical Galenical Pharmacy and Dispensing. The subject is divided into chapters dealing severally with the various classes of galenical preparations—e.g., liquors, tinctures, extracts, ointments, and so forth. The modes of making the various modern forms of medication are described—e.g., hypodermic and other tablets, capsules, dermatological pastes, glycero-gelatins, and dermal pencils, but one notable exception may be mentioned, viz., ophthalmic eye discs, which do not appear to be even mentioned. Parts I. and II. are profusely illustrated with excellent woodcuts of apparatus suitable for use both on the small scale and for manufacturing purposes. Part II. is likely to prove of more service to the physician than is Part I. It contains many suggestions of a useful character. Thus, in the case of ointments it is pointed out that glycerin should not be used in place of oil or water to produce a smooth paste with vegetable or mineral powders owing to its tendency to separate from the fats on standing. The presence of a large quantity of glycerin in an ointment is sometimes necessary for therapeutic purposes; in such cases the substitution of a small quantity of anhydrous wool-fat for a portion of the fatty basis removes the difficulty. The occurrence in almost every paragraph of practical notes of this character shows that this part is of great service to the pharmacist.

Part III. is devoted to Pharmaceutical Chemistry and is confined to such compounds as are either officially recognised in the United States Pharmacopœia or are of special medicinal interest. This part is intended to serve as an aid to the study and use of that Pharmacopœia by the inclusion of explanatory notes on the tests and methods of assay. The intention is well realised. The inorganic substances are dealt with first and much acceptable condensation is effected by a judicious grouping of them. Thus, the halogens are considered in one chapter while other chapters are devoted to the compounds of sodium, of potassium, of lithium, and so on. This method of grouping together the various preparations of a given element is more convenient for the prescriber than an alphabetical arrangement, such as is generally met with in pharmacopœias. Here, again, we find abundant evidence of laboratory work and of considerable practical experience. Thus, under "Potassium citrate" we read that the solution should be extemporaneously prepared as it does not keep well and soon loses its refreshing taste. Under the articles on the various well-known organic substances the useful method has been adopted of pointing out their disadvantages, when such are known, and thus of explaining the particular advantages derived from the introduction of the various substitution products. Thus, under "Pyrogallol" it is stated that the poisonous nature of this compound has led to the introduction of the derivative product gallacetophenone. The work is provided with a valuable index and is well printed in bold type. It can be recommended to every pharmacist as a daily companion with confidence and to the physician interested in pharmacy it may be commended as a work of reference.

DIRECTORIES.—*The City of London Directory, 1902* (W. H. and L. Collingridge, Aldersgate-street, E.C., pp. 1222, price not stated), deals exhaustively with the liveries, public officials, and the vast commercial enterprises carried on within the city limits, and is an invaluable book of reference in all matters pertaining to the great centre of business life.—*Sell's Dictionary of the World's Press* (Henry Sell, 167, Fleet-street, E.C., pp. 930, price 7*s.* 6*d.*) and the

Advertiser's A B C (T. B. Browne, 163, Queen Victoria-street, E.C., pp. 1090, price 10*s.* 6*d.*) run on very similar lines and contain much useful information concerning the ever-increasing number of publications issuing from the press in this and other countries.

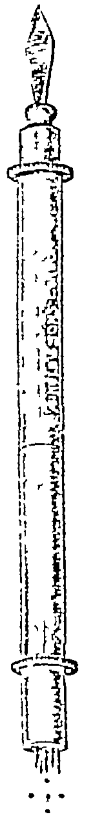
JOURNALS AND MAGAZINES.

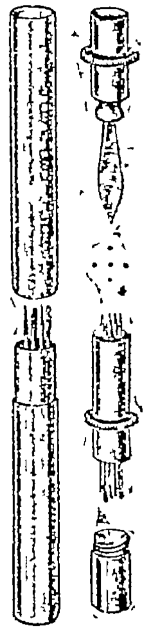
The *Practitioner* for May contains two long and carefully compiled original articles. The first, by Dr. R. W. Philip, deals chiefly with a detailed investigation of the temperature in pulmonary tuberculosis and serves well to show how important in some cases a frequent use of the thermometer may be. Dr. Philip also gives cases showing how the temperature may remain normal in the presence of other signs suggestive of disease in an active state. The second article is by Dr. R. T. Williamson on Acute Anterior Poliomyelitis and teems with references to an almost bewildering extent. Dr. Williamson favours a toxin theory of etiology for the disease. Mr. William Rose describes a successful case of Removal of the Gasserian Ganglion by Doyen's Method. The editorial remarks evince chiefly annoyance at Mr. Rhodes's will.

New Inventions.

A NEW ASEPTIC VACCINATOR.

As the Local Government Board inspectors invariably find fault with the point of the popular Cooper-Rose vaccinating instrument, on account of it not being readily cleansed, and as there is nothing better on the market, I have asked Messrs. Arnold and Sons of West Smithfield, London, E.C., to carry out my idea of one that would remedy that defect, and this they have done most satisfactorily. My vaccinating instrument shown in the illustrations is of the usual pencil shape. One end contains the spatula and the other on being pulled out and reversed reveals a small case perforated with five small holes at the end, through which five ordinary tailors needles can be inserted from the inside of the case, projecting externally two-sixteenths of an inch and kept in their position by a cap which screws on and off, thus allowing the needles to be renewed at any time, while also exposing sufficient of the points to allow effectual sterilising by the flame of a spirit lamp The needles being renewed from time to time do their work most effectually and so gently that children hardly feel the operation, thus avoiding the heavier and painful pressure that is required when immoveable needles become blunted. It is a great advantage to have the needles so easily removeable, for the size of the scarifications can be accurately regulated by using only two or three needles and they should be made as recommended by Dr. C. Renner and not by twirling as when using the Cooper-Rose instrument. Being made wholly of metal all or any part of it can be perfectly sterilised by boiling in an ordinary test-tube. Refill needles are contained inside the instrument which pulls apart in the centre. To arrange new needles in their place the small case is held up to the light and with a pair of forceps they are easily put into the holes; when they are properly placed screw on the cap and fix it on the end of the instrument. This vaccinator has received the approval of the Local Government Board and I invariably find that the use of it removes one of the great objections that mothers have to vaccination, the ordinary lancet usually being a perfect terror to them.

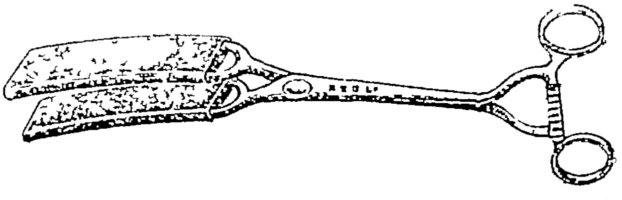




JOHN WILSON, M.D. Edin.,
Public Vaccinator, No. 4 District, Cheltenham.

A NEW CLAMP FOR ABDOMINAL OPERATIONS.

THIS clamp has for its primary object the controlling of hæmorrhage while a wedge-shaped piece of liver is being excised. The idea and the instrument are both novel—the outcome of practical experience—for hitherto the liver has been compressed by the assistant's fingers. Since both hands are necessarily occupied, an instrument which will free the assistant so as to be of use otherwise, and which is so made as to fulfil its purpose without damage to the liver, should be of advantage. The clamp is 11 inches long with a strong rachet catch and a locked joint; it is made of nickel-plated steel. Each blade consists of two slender prongs over which a wide piece of thin rubber tubing is stretched in the manner shown in the illustration; this makes each blade three-quarters of an inch wide and so a broad smooth surface is applied to the liver which will not slip Bearing in mind the thinner anterior border of the liver the blades have been so adjusted as to compress equally the area of liver which is to be removed. The clamp can also be used in gastrectomy, pylorectomy, or enterectomy, when it might be advantageous to have the blades a little narrower. In any case it is argued that hæmorrhage will be efficiently controlled and that no injury to the compressed tissue will ensue. The clamp may be obtained from Messrs Reynolds and Branson, Limited, 13, Briggate, Leeds.



BERTRAM C. STEVENS, M.D., M S Durh.,
Swinton, Rotherham. F.R.C.S. Edin.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next general meeting of this association will be held at 11, Chandos-street, Cavendish-square, London, W., on May 21st, at 4 P.M., under the presidency of Dr. Oscar T. Woods. Dr. Henry Rayner will open a discussion on Sleep in Relation to Narcotics in the Treatment of Mental Diseases. Dr. T. Claye Shaw will read a paper on the Surgical Treatment of Delusional Insanity Based upon its Physiological Study, and Dr. Robert Jones will read Notes on the Treatment of Morphinomania. It is expected that the following gentlemen will take part in the discussion: Dr. Fletcher Beach, Dr. G. F. Blandford, Dr. Harry Campbell, Dr. T. B. Hyslop, Dr. C. A. Mercier, Dr. G. H. Savage, Dr. T. Claye Shaw, Dr. R. Percy Smith, and Dr. T. Outterson Wood. Members will dine together after the meeting at the Café Royal, Regent-street, W., at 7 P.M.

THE LANCET.

LONDON: SATURDAY, MAY 17, 1902.

The Royal Army Medical Corps.

WE published in our issue of May 10th, p. 1339, the text of the new regulations for admission to the Royal Army Medical Corps which were promulgated in the monthly issue of Army Orders for May, 1902. These regulations furnish information upon a number of details which has been rendered necessary by the issue of the Royal Warrant of March last: indeed, they may be regarded as complementary of that document. The qualifications of candidates for commissions, the nature of the appointments, the subjects for entrance examinations and for promotion are all set forth, together with extracts from the recent Royal Warrant with regard to pay and advancement. We cannot spare those of our readers who are nearly interested in the matter the trouble of going through the regulations word by word, for they require to be carefully studied in order to be properly understood. The impression derived from any superficial or cursory reading of them might be that they set forth a scheme which was of too elaborate and complicated a kind, but this was probably unavoidable in the circumstances. Medical students and those of our profession who may be turning their attention to the army as offering a promising and suitable field for their future career like to have the gist of things packed in a small compass and to have the nature and terms of any proposed new undertaking stated in a very plain and simple fashion, so that the appearance of intricacy is to be regretted. We venture to think that the authorities would have better attained the end that they have in view by adhering to some such method of army medical reform as was long ago outlined in THE LANCET. But we may be a little biased in favour of our own scheme, and it must be remembered that new official regulations have to be exhaustive, for they must provide against contingencies that seem remote only until experience brings them close. With a little knowledge of the past history and present condition of the Army Medical Service and a little careful study it *is* easy to unravel the meaning of the regulations and to discover the aim and intention of the authorities in drafting them.

Looking at the new regulations for admission to the Royal Army Medical Corps as a whole, we may assume that the question of the military titles, rank, and status of army medical officers had been already settled in accordance with the wishes of the Army Medical Service and the profession generally, so that there remained for solution the problems as to how medical officers of a high professional standard could be obtained in sufficient numbers for the requirements of the service and as to how the State could have the assurance that that standard would be maintained. The official answer to those questions on the part of the War Office, as we read the matter, is to be found in the new regulations studied in connexion with the Royal Warrant. It will be seen that, according to the new regulations, it is proposed to maintain the efficiency of the whole medical service by increasing the facilities for professional and scientific study and by the institution of a new system of examination with the view of testing the practical qualifications of the individual members of it. These examinations are divided into two classes: one of a purely professional and scientific character; the other having relation more particularly to the duties of military service which military medical officers as such are called upon to perform. Considered in the abstract, there may be little or nothing to be urged against the examination system. But we confess that we have not the same opinion of examinations as a test of fitness and merit that the authorities seem to entertain, and we fear that a multiplicity of tests will have a somewhat deterrent effect on young men who have just qualified for the practice of their profession and who had hoped thereby to have emancipated themselves from further stringent professional examinations. The competitive entrance examination is no longer of a theoretical and academic kind—a mere repetition of the tests that the candidate has already undergone—but it is of a really practical and clinical character and adapted to test the knowledge of a man who is already qualified. This has to be supplemented by the results of a further examination after a course of special instruction in hygiene, in bacteriology, and in the technical duties of the corps—a two months' course of instruction in hygiene seems, by the way, too short, considering the enormous value that a practical knowledge of sanitary science will be to the officers of the Royal Army Medical Corps. The new regulations for promotion to the rank of major are very important, because the medical officer's future will greatly depend upon the result of the examination he will have to undergo at that stage of his service career. If the intentions and provisions of the regulations are properly carried out medical officers will, as it appears to us, have excellent opportunities of preparing themselves for this examination, with the design and object of which we quite approve. We assume that as a matter of course there will be established some sort of medical staff college and that it will be in London where medical officers will be surrounded with opportunities of seeing hospital practice of all kinds and of obtaining any clinical instruction which they may desire.

The new scheme *unquestionably provides for a fairly* liberal increase of pay; the door to professional merit and attainments is now also thrown open in a way which has not hitherto been the case in the army medical service. It goes without saying that these are excellent points. A medical officer of the future will to a large extent be master of his fate. Special opportunities will be afforded him for study and he can accelerate his promotion by success at examinations and can qualify for an appointment with extra pay as an expert in subjects for which he has any special knowledge, taste, and aptitude. There are other points on most of which we have touched in previous articles but to which it may be necessary to recur. Their importance is not as yet as obvious as those which we have selected for notice. We may conclude by saying that, taken as a whole, the Royal Warrant and the new regulations for admission into the Royal Army Medical Corps constitute, in our opinion, a distinct advance on anything which has yet been done to make the Army Medical Service what it should be—viz., a scientific branch of the military service.

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The Public Vaccinator's Relations to the Public and to the Profession.

EVEN as war is the opportunity for distinction or failure on the part of the soldier, so, in a certain sense if in a different degree, is small-pox the public vaccinator's opportunity. The country expects each to do his duty and it is only after the storm has passed that the bearing and action of the officer are seen in their proper proportions. With the public vaccinator there is but little scope for what in a martial sense passes for heroism, but the gauntlet which he has to run will win for him either the esteem or distrust of the public body which he serves and the appreciation or the reverse of his medical colleagues. There can, we think, be no doubt that during the stress of the small-pox epidemic the public vaccinators have, as a body, proved themselves not only public servants worthy of the highest trust but also courteous colleagues. This would, we know, be the testimony of the local authorities intrusted with the administration of the Vaccination Acts, as also that of the medical practitioners who have had to perform vaccination in somewhat trying circumstances in consequence of the extensive duties which the present Act imposes upon public vaccinators.

But at times there have unfortunately been indications that in his relations with the local administrative authority the public vaccinator, although he has kept within the letter of the law, has nevertheless pressed home somewhat unduly his claims upon the public purse. Questions such as these do not lend themselves well to discussion, and decisions in regard to them must be arrived at on a basis of good judgment and taste. Many of the narratives which have reached our ears we are unwilling and unable to credit. We are unwilling, for instance, to believe that a public vaccinator would revaccinate his wife at the public expense in his drawing-room when by passing into the surgery the operation could have been performed at a materially smaller expenditure to the ratepayer. But this serves to raise the rather delicate question as to how far a public vaccinator is well advised in vaccinating his wife and family in his official capacity. There is obviously no statutory objection against his so doing, but at the same time we cannot refrain from expressing the opinion that the public vaccinator would be consulting the best interests of the profession to which he belongs by abstaining from entering a fee in his register next to the names of intimate relations living under the same roof with himself. If he prefers the Local Government Board lymph it would be open to him to use it upon such patients, but while entering their names in his register in accordance with his instructions he should omit, as a matter of courtesy to the public, to fill in the columns relative to his fees. Public vaccinators who do not take this view of the situation should bear in mind that any action which is likely to be regarded as somewhat exacting by the guardians and the public is calculated in the long run to exert a prejudicial effect upon public vaccinators as a whole. It is well that the public vaccinator should remember that he is now paid a fee which, if it be not altogether adequate to the work performed, is nevertheless almost as much as he would feel justified in charging in a private capacity. It is this fact which should, we think, prompt the public vaccinator to meet any proposals for revaccination in an adaptable spirit. And above all, the public vaccinator should not, if he can possibly prevent it, afford ground for the suspicion that in cases of revaccination the operation is performed at the residence of the patient rather than at the surgery with the view of securing the higher fee. It may be that already the very substantial sums which are being paid to public vaccinators for revaccinations performed elsewhere than at the surgery will lead in the future to the maximum fee being allowed in connexion *only* with the first case, in houses where multiple revaccinations are performed.

So much with regard to the attitude of the public vaccinator towards the guardians and the public; a word now in reference to his attitude towards his medical colleagues. It would be affectation to assume that the working of the present Vaccination Act has been altogether without unpleasantness in certain directions. If the feeling were traced to its source there would be found faults, or rather perhaps an absence of courteous tact, on both sides. The public vaccinator has doubtless been given enormous powers and facilities and it is for this very reason that he should exercise the greatest forbearance towards his less fortunate colleagues. Unless he does so a decisive reaction possibly awaits him. He may, indeed, find that the distinction which he now enjoys may be taken from him by a stroke of the legislative pen by the simple expedient of creating all medical practitioners public vaccinators with claims upon the public purse. We are fully aware that the public vaccinator has statutory duties that he must perform and the execution of which is sometimes difficult and often very unpleasant. He can, however, effect much in a negative sense; he can refrain from publishing the fact that he alone is entitled to use the Government lymph, or if he must speak highly of the material that he is about to use he should allow in the same breath that his lymph is no better or worse than many other strains on the market. He may, too, refrain from any persuasive action as regards vaccination in the case of children whose names have not yet been placed upon the "H." Form, and of children whom he has not been specifically invited to vaccinate; and finally, he will do well to refrain from persuading those who are in a position to pay for private vaccination that they can be vaccinated equally well by him at the public expense. There is, however, one exception to this negative action, and that is in instances where the public vaccinator, at the request of the medical officer of health, visits a house where small-pox has actually occurred. In this case it is his public duty to urge immediate revaccination upon all the inmates of the house. With the exercise of mutual forbearance there should be practically no friction in the detailed administration of the Act, and seeing that the Act has resulted in an enormous increase of vaccination in the country it is the duty of all concerned to aid in promoting its smooth application.

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The Case of Mrs. Cathcart.

After a prolonged inquiry and a very exhaustive medical exposition of her mental condition Mrs. Cathcart has been found by a special jury to be insane and incapable of managing her affairs. Of the correctness of this decision there will be a general endorsement, and it may be taken for granted that whilst her property will in the future be carefully protected and administered she will herself be allowed a measure of comfort and ease in which any element of restraint will be merely nominal.

Some years ago Mrs. Cathcart was the subject of a judicial inquiry as to the state of her mind and her capacity for looking after her affairs but, owing mainly to the powerful advocacy of Sir Charles Russell (as he then was), she obtained from the jury a verdict in her favour. Experience has shown that Mrs. Cathcart was not able to carry out the hopes of her friends in the way that they expected. She has been constantly engaged in litigation of a costly and useless character and finally she was placed in Holloway Prison for contempt of court, where her conduct was carefully watched and noted for several months by the medical officers and the warders. Mrs. Cathcart has for some years suffered from delusional insanity and it seems most probable that she has become worse and that the scope of her delusions and hallucinations has extended to a degree that makes hope of recovery more than doubtful. For her own sake it is to be regretted that she did obtain the verdict in the first trial, as she would otherwise have been saved experiences that must have filled her life with discomfort and worry. At the same time she has had her opportunity and has failed to justify it and the opinions of the medical experts who gave evidence which was not in her favour at the first trial have been amply borne out by the subsequent events. Some criticism has been passed upon the length of time during which Mrs. Cathcart has been detained as a prisoner, but it must be remembered that she had been declared by a jury to be "sane" and therefore she was liable—whatever may have been the general opinion as to the verdict—to all the consequences of responsibility until it was proved that she was not answerable for her actions. A lengthy detention in the presence of her refusal to "purge *her contempt" by means* which were *readily available* was unavoidable, because it appears that the prominent symptoms of alienation were of a recurrent character and that there were times when little could be detected beyond mere eccentricity. Whilst it may seem that her *detention* as a *prisoner*, who was all along suspected of being insane, was unnecessarily long it must be remembered that it is only by a prolonged and carefully recorded examination extending over a considerable time that some of these cases of delusional insanity can be clinically elucidated. If Mrs. Cathcart was not insane she was rightly detained until she had expiated her offence; if, however, *she* was insane it became necessary to establish the proofs in the most complete manner so as not to incur a repetition of what we must call an unfortunate acquittal. There is every evidence that, conformably with the rules, she was treated in the most considerate way in the prison.

The opinion appears to have gained ground that it might be possible for Mrs. Cathcart to manage herself while not managing her estate, and that therefore justice would have been satisfied by placing her estate under the management of a committee whilst allowing personal liberty to herself. We do not agree with this hypothesis. Personality and the objective relations necessarily entailed in the management of property are so fused that it is difficult to see how a person can be mentally unsound as regards the latter and sound as regards the former. In our opinion the *protection of the court* which *is accorded to the estate* is most properly, in this instance, made to include the person. Whatever Mrs. Cathcart has had to endure during the last few months through litigation and enforced incarceration she owes to the powerful effects of advocacy. The medical evidence given on the side of the Crown at the first inquiry has been fully justified by the conduct of the lady during her subsequent career, and any doubts which may have existed in the minds of her sympathisers must now be completely and finally set at rest.

Annotations.

"Ne quid nimis."

THE VOLCANIC DISASTER IN THE WEST INDIES.

A greater and more awful disaster than that which has *befallen* the *town of* St. Pierre in the island of Martinique can scarcely be imagined. It looms larger than did the great historic eruption of Vesuvius and the destruction of Pompeii, of which Dion Cassius wrote (lib. lxvi.), according to the quotation selected by Lord Lytton on the title-page of "The Last Days of Pompeii," as follows: "Such is Vesuvius, and these things take place in it every year. But all eruptions which have happened since *would* be *trifling*, even *if* all summed into one, compared to what occurred at the period we refer to. .... Day was turned into night and light into darkness, an inexpressible quantity of dust and ashes was poured out, deluging land, sea, and air and burying two entire cities, Herculaneum and Pompeii, while the people were sitting in the theatre." Seismic history in this instance has only too fearfully and faithfully repeated itself, and it is *doubtful* whether the volcanic outburst at St. Pierre was less in intensity or involved a lesser area of destruction than that of Vesuvius over 18 centuries ago when it completely blotted out the city of Pompeii. St. Pierre, too, is no more and *the disaster* is complete. It is estimated that no less than 30,000 people were destroyed and it does not seem possible that this immense sacrifice of life could have been prevented. It is reported, however, that the Pelée mountain had exhibited signs of disturbance since April 23rd. But the mere smoking of a volcanic mountain may mean nothing and so no alarm was entertained. So long as the earth contains molten elements within its crust so long must volcanic eruption be possible. It matters little what the exact nature of these immense explosions is—a consideration of the great potentialities of the earth, *sea, and air* will *readily yield* an infinity of explanations as to their occurrence. The intense violence of a volcanic outburst probably has its origin in the sudden evolution of steam by water from the sea or rivers gaining access to intensely hot subterranean fires. With slight explosion the result may be an earthquake with perhaps no evidence of volcanic eruption at all. All depends upon the resistance which the earth's crust is able to offer. There are lines of weaknesses in various parts of the earth and these lines correspond with volcanic districts and regions where earthquakes and earth tremors are in evidence. The true earthquake makes itself felt all over the world, whereas the volcanic disturbance does not, because the force in the latter instance has found vent. Professor Milne in the Isle of Wight is thus able by means of his delicate seismological instruments to detect earth tremors occurring at any part of the earth. The terrible disaster at St. Pierre and St. Vincent has cast a painful gloom over the whole civilised world and intense sympathy has been universally expressed. It is, however, some consolation to reflect that the wholesale destruction of human life by rivers of molten lava deluging a town or by the incessant hail of hot sulphurous cinders filling the air does not necessarily imply an agonising death. On the contrary, it is probable that, in some instances at any rate, there is no struggle—the vapours of lava would quickly overpower and render the victims senseless and in this state they would probably be overcome by asphyxiation and die. There would appear, again, to be some evidence that phenomena similar to those of lightning accompany volcanic explosions. Such is reported to be the case at Martinique and Lord Lytton, in a note in "The Last Days of Pompeii," says: "The volcanic lightnings introduced in my description were evidently among the engines of ruin at Pompeii." It is not definitely established, we believe, that an electrical disturbance is necessarily associated with volcanic eruptions, but from some accounts of the Martinique disaster it would appear that many bodies presented the appearance of having been struck by lightning. The mystic forces of the earth's interior can indeed work immense destruction to life and property and yet strange is it to reflect that human life would cease to be possible on the earth's surface were these subterranean fires to be extinguished. Volcanic disturbances are an indication of the earth's vitality and when these cease the earth will be as uninhabitable and just such a cinder as is the moon. The complete sympathy of the whole human race has declared itself and it is devoutly to be hoped that this sympathy will assume a very practical shape, that speedy relief may be secured, and that that worst of all sequelæ, famine, may be averted. Human help can do no more in such a terrible disaster.

MEDICINE AND THE TEACHING OF THE GOSPEL.

THAT the medical branch of the Church Missionary Society has proved a powerful auxiliary to the parent society in its endeavour to spread the teachings of the Gospel is shown by the satisfactory report of the Medical Mission Auxiliary which was presented at a meeting presided over by the Bishop of Kensington at St. James's Hall on May 8th. During the year 1901 the number of medical men on the roll of the society has been increased to 68 and there are now a total of 1688 beds in the society's hospitals, as compared with 1613 in the previous year. The number of in-patients has increased from 11,890 to 14,470, and in the out-patient department more than 100,000 additional attendances were registered. However, it is not at all satisfactory to know that the medical work of the auxiliary is being seriously crippled in several important centres for want of suitable buildings, especially in Gaza, Ispahan, Kirman, Fuh-chow, and Kien-King. The Financial Committee earnestly appeals for gifts towards building new hospitals in these places. The total expenditure of the year under notice was £20,773, as against £17,962 in the previous year, and the balance-sheet shows a deficit of £5920. There can be no doubt that the secret of the success of the medical mission lies in the fact that medical men hold the key which can unlock the doors to hearts which would otherwise remain closed—the key of sympathy, as the Bishop of Kensington happily termed it. The great beauty of the medical mission, he added, was that the outcome of the highest human science and skill was consecrated to the service of Christ. Accounts of the work done at the various stations which the speakers represented were given respectively by Dr. E. F. Neve (Kashmir), Dr. A. R. Cook (Uganda), Dr. B. van Someren Taylor (Hing-Hwa), and Mr. H. White (Yezd).

MOSQUITOES AND MALARIA.

WE have received a copy of a lecture delivered at the Dalhousie Institute, Calcutta, on April 8th of this year by Dr. T. Frederick Pearse on Mosquitoes and Malaria. Many such lectures and addresses have, of course, been delivered during the past two years, but there is always room for a
good, clear, popular exposition of the complicated path
logical story implied by the title. And Dr. Pearse's p
was a good *résumé* of the results of the investigations
have been made as to the causal relationship of the m
to malaria, couched in the proper phraseology for a di
not intended for an entirely medical audien
information that he gave in regard to the na
of the mosquito is exactly the data that
wants, for he cannot be expected to be mu
by a theory which he cannot follow.
described the development of the mosquito
various stages of metamorphosis in an al
manner, so that even those of his audience who
about entomology must have thoroughly und
facts which he brought forward. The differen
genera culex and anopheles were carefully
their habits and customs were duly drawn a
Pearse then proceeded to relate what he term
fairy tales of science"—namely, the nature
found in the blood in cases of malaria
which they undergo when received i
stomach after the insect has been fe
of an individual suffering from malaria.
how the old observations on malaria mig
the mosquito theory and finally he indicated
which persons living in malarious districts
order to avoid contracting the disease. He
various methods for attacking the breeding g
anopheles. Dr. Pearse was successful in conden
space of a lecture a large number of interesting fa
ing one of the most valuable of modern medical
We further draw attention to a contribution by Dr.
Manson which we publish in another column, en
"The Diagnosis of Malaria from the Standpoint
Practitioner in England." He points out that malaria
too frequently assumed to be present in patients in
country when no such taint exists. He arranges
pathognomonic indications of malarial infection under th
headings: (1) the clinical; (2) the therapeutic; and (3) the
microscopical. Dr. Manson's remarks will well repay perusal. Practitioners in this country have but comparatively few opportunities of observing cases of malaria and hence are liable to fall into error. The clinical manifestations are discussed in an original and most instructive manner. Dr. Manson maintains that there is only one clinical symptom that justifies a positive diagnosis—this is periodicity. He further states that his experience has made him formulate a rule which he recommends to practitioners: "Have absolute confidence in tertian and quartan periodicity as a basis for a diagnosis of malarial infection, but distrust, or rather absolutely disregard, quotidian periodicity." The

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therapeutic test, is probably generally well known; the microscopical, as Dr. Manson admits, is of value only in the hands of the expert microscopist.

REPRINTS—SUGGESTIONS TO MEDICAL WRITERS.

DR. J. MADISON TAYLOR of Philadelphia, U.S.A., has contributed to the March number of the quarterly journal, *Medical Libraries*, published at Denver, Colorado, U.S.A., some hints for facilitating reference to medical papers and records. His suggestions in brief are:—

1. The size of sheet should be more uniform. 2. Authors should send duplicate copies of every paper to certain libraries, so that they may be filled under the heading of "Author" and under the heading of "Subject." 3. Reprints should be filed at the hospital from which clinical material has been obtained 4. The notes of hospitals, so far as they are common property, by staff or writers should be marked in some clear way with the name or initials of the author, or reference should be made to the article.

r. Taylor's ideas, so far as they apply in this country, are orthy of consideration, but his suggestions are fulfilled by own columns and those of the *British Medical Journal* way that he hardly realises, living in a country some- ppressed by the multiplicity of medical publications. mon for us to publish a paper containing a *résumé* s of a certain disease observed in a certain hospital ain dates. Future observers by consulting our where they should take up the tale. In the s of America such summaries may be hidden in 50 journals and to search for them is an arduous hich hardly repays the necessary trouble.

ONDITIONS RESULTING IN HOMICIDE.

ty of investigating homicidal conditions and homicidal tendencies in insane patients is *Journal of Mental Science* for April last Dr n, resident physician for the Asylum for tics at Dundrum, Ireland, discusses this t. The paper is based upon the study of 49 were admitted to the asylum after trial for hter and of one patient who was charged icide. Females were excluded from the ation as their cases were of a totally different vington points out that wives were the com- s, then children, and then parents and sisters attempted homicide was of special interest as the development of homicidal passion and was worked out owing to the escape of the intended o furnished many particulars. The patient was ed 38 years, married, the father of two children. as syphilitic and of intemperate habits, and feeling lf growing prematurely old while his wife remained ghtly and attractive he became suspicious of her and hed for indications of infidelity, as he imagined she was "tired of him and wanted a change." developed hallucinations of smell and taste, searched s room to ascertain their cause, and thought that vapours rose from the floor and that the flower-pots were watered with noxious chemicals These delusions alarmed his wife who consulted a medical man, with the result that the patient, now growing more suspicious than ever, thought that he tasted medicine in his food and imagined that he was being poisoned. He accused his wife of being a wanton and the frightened woman, anxious to protect herself and her children, foolishly invited a male friend to sleep in the house. He was now more than ever firmly convinced of his delusions and one night he crept into his wife's room with a hatchet and struck her a violent blow. She was badly wounded but recovered at length after her life had been despaired of. This case, says Dr. Revington, illustrated the fact that "homicide was a potentiality in almost all cases of delusion and hallucination, and that whether homicide occurred or did not occur was a matter of environment and of the length of time that elapsed before safety was sought within the walls of the asylum" Investigation of the remaining 49 patients led to the conclusion that homicidal lunatics were as a rule insane before they attempted murder, generally for some years. Five of these patients suffered from congenital mental defect and one each from epilepsy and general paralysis; in 20 of the other cases acute frenzy or visual hallucinations or "voices" prompted the patient to murder. Many of the others were alcoholic subjects, but there remained 12 cases where the cause could not be traced owing to absence of information or the demented condition of the patient. There existed, says Dr. Revington, no special homicidal mania, the ordinary motives of jealousy, misery, rage, or acute fear, combined with some mental weakness or disorder, furnishing the chief causes of homicide.

THE LIME-WASHING OF FACTORIES AND WORKSHOPS.

AN order has been issued by the Secretary of State granting special exceptions in regard to the lime-washing of factories in the case of electric generating works and lace-factories. A special exception will only be granted when in the factory a space of 2500 cubic feet space is afforded for each person employed therein. Of course, the order has not removed the obligation of keeping the factory in a cleanly state as prescribed by a subsection of the Factory and Workshop Act, 1901. Indeed, if it be shown that any part of a factory to which this exception applies is not in a cleanly state the occupier will be required to limewash the premises in accordance with the main requirement of the Act. The Act provides that the walls of factories if they have not been painted with oil or varnished once at least within seven years shall be limewashed once at least within every 14 months. The Secretary of State is apparently of the opinion that in electric generating works and in the frame dressing-rooms of lace-factories in which the number of cubic feet of space bears to the number of persons employed therein at one time a proportion of not less than 2500 to every person, cleansing by limewash is not imperative.

HONOURS TO PROFESSOR VON LEYDEN.

OUR correspondent in Berlin writes: The seventieth birthday of Professor von Leyden, the celebrated physician and clinical teacher, was celebrated here in an impressive manner The large hall of the Philharmonic Building in Berlin was the scene of the proceedings, which were organised and effectively carried out by a committee consisting of former and present assistants, as well as other professional and non-professional friends, all acting under the general direction of the president, Professor Nothnagel of Vienna. When Professor von Leyden entered the hall, which was well filled, he was welcomed by the strains of a band of music, escorted by the committee to his place on the platform, and formally congratulated by Professor Nothnagel in a remarkably appropriate address introducing an outline of his personal history and specifying some of the more important features of his work. A great many deputations were then received, all of whom either delivered addresses or brought gifts, including contributions in aid of the benevolent institutions under Professor von Leyden's patronage. The first deputation was that of the Army Medical Corps, headed by General Staff Surgeon Dr. von Leuthold, it was followed by a long succession of delegates representing foreign and German universities, medical societies, and other professional and scientific associations; the former and present assistants attended to pay their respects in person. Finally, a deputation representing the medical press was introduced, bringing copies of their respective journals issued for the occasion with dedications to Professor von Leyden. The proceedings lasted about three hours, during which the venerable object of so much enthusiasm is said to have spoken 28 times in reply to the various addresses and deputations. In the evening there was a banquet at which about 500 guests were present. The Verein für Innere Medicin, of which Professor von Leyden was the founder, held a separate celebration on its own account in Berlin a few days afterwards, with a special meeting of the society and a dinner as the principal events.

THE DISTRIBUTION OF PLAGUE.

THE distribution of plague throughout Egypt during the week ending May 4th was as follows: 3 cases and 1 death at Alexandria, 1 case and 2 deaths at Mit-Samanoud, 2 cases and 2 deaths at Deshneh, 2 cases at Tala, 1 case and 1 death at Beni-Mazar, 2 cases and 1 death at Benha, 2 cases and 2 deaths at Tookh, 1 case and 1 death at Tantah, and 8 cases and 5 deaths at Maghagha, making a total of 22 cases and 15 deaths. Cases have been reported from Syaffa in the Toukh Markaz and from Ezbet near Benha. In the neighbourhood of both these places cases had occurred previously. A telegram from the officer administering the Government of Hong-Kong which has been received at the Colonial Office states that 24 cases of bubonic plague and 19 deaths are reported for the week ending May 10th. In Cape Colony for the week ending April 19th 33 cases of plague were reported, five being Europeans and 28 belonging to the coloured and native population. There are 40 cases of plague in hospital at Sydney.

THE SIMULATION OF ABDOMINAL BY THORACIC INFLAMMATION.

AT the Clinical Society of London Mr. H. L. Barnard has recently called attention to the simulation of acute peritonitis by pleuro-pneumonic diseases,[1] a fact which seems to have escaped the notice of writers. He described cases of pleuro-pneumonia, pyo-pneumothorax, and pleurisy in which the abdomen was acutely tender, painful, and rigid, respiration was costal, and there were frequently nausea, hiccough, and vomiting. In some cases the onset was sudden with collapse like that of perforative peritonitis. The *Boston Medical and Surgical Journal* of April 17th contains an interesting paper by Dr. Maurice H. Richardson on a very similar subject—the simulation of appendicitis by acute intra-thoracic disease. He relates a series of cases in which acute abdominal pain with or without other symptoms suggested appendicitis so strongly that a surgeon was summoned. In one case even excision of the appendix was performed. A boy, aged six years, complained of pain in the right side and headache, vomited, and could retain nothing in his stomach. On the fourth day a medical man saw him and found that there was pain in the right iliac region at McBurney's point. The abdomen was tense and the temperature was 104·5° F. On the fifth day Dr. Richardson saw the patient. The pulse was 120 and the respiration was 40. The abdomen was distended and tender everywhere, the legs were drawn up, the respiration was noisy and rattling, the cheeks were flushed, and the eyes were sunken. Acute appendicitis was diagnosed and the boy was sent to hospital. The surgeon on duty accepted the diagnosis without question and removed an appendix which was thought to be the seat of "catarrhal inflammation." Later a right empyema was discovered. Recovery followed resection of a rib and drainage. Dr. Richardson points out that the temperature of 104·5° (which is unusual in appendicitis), the
wheezing, and the respiration of 40 should have aroused
suspicion of thoracic disease. But the abdominal symptom
misled him. He relates four other cases—three in youn
children and one in a man, aged 35 years—in which th
experience of the first case put him on his guard and enable
him to avoid error. Thus, a boy, aged four years, wa
taken ill with cough and restlessness. On the third da
the temperature was 103° and the respiration was rapid bu
there were no signs of pulmonary disease. Next day th
temperature was normal and he felt well, but in the evenin
the temperature rose to 101·5°. On the eighth day he com
plained of abdominal pain when he coughed. Repeate
examinations failed to explain the cause of the rapid respira
tion. The slightest touch over McBurney's point caused th
boy to complain vehemently. As the practitioner in attend
ance suspected appendicitis Dr. Richardson was sent f
on the following day. The pain seemed severe and th
boy complained of it when he moved. There had bee
vomiting. The abdomen was distended and tender a
over but especially in the right iliac fossa. There wer
abundant pulmonary râles. It seemed wise to wait. On th
following day signs of pneumonia began to appear. Th
abdominal symptoms disappeared in two days and recove
followed. In cases of thoracic disease with abdomin
symptoms the diagnosis usually is not difficult if suspicion
aroused as to the real nature of the case. But when sympton
of thoracic disease are not obtrusive and when those
abdominal disease are the unwary practitioner may easi
be dominated by the idea of abdominal disease and, not car
fully examining the thorax, may fall into error as in the fir
case related. Mr. Barnard regards as of chief importance i
pointing to the correct diagnosis the rapid respiration (
and upwards), the slow good pulse (under 100), and th
softening of the abdominal wall on inspiration. Th
pathology of such cases, as he points out, can be explaine
by "referred pain." Irritation in continuity of the low
six dorsal nerves would cause abdominal hyperæsthesia an
spasm.

SUNSHINE AND COLD.

IT is in the experience of everyone that cold in May
very uncomfortable and trying, a feeling that is possib
accentuated by the ever present suggestion of what Ma
could be according to the best tradition about th
"merrie" month. There is no evidence, however, that th
cold of spring has the same unfavourable effect in gener
upon the public health as has the cold of autumn and winte
According to the weekly vital statistics the present spell
cold weather does not seem unfavourably to have affecte
the death-rate—not even the mortality arising fro
diseases of the respiratory organs. On the contrary, th
mortality has been steadily diminishing during the past fe
weeks. Undoubtedly the sun in springtime compensates f
a good deal, although the warmth of its rays may not
felt. There is no warmth in the chemically active rays
the sun, those rays which stimulate plant and animal li
and yet which are so highly destructive to the materies morb
And it is a significant observation that in April and Ma
despite the cold winds that may prevail, the actinic pow
of the sun's rays reaches a maximum. At no other tim
of the year, not even in the hot days of July and Augus
are the health-giving rays of the sun so intense. Th
fact may probably account for the greater unfavourab
influence on health of cold in autumn and winter wh
the actinic rays of the sun are at the minimum degr
of intensity. Genial warmth is, of course, an importa
factor in the maintenance of the health standard, but the
can be little doubt that the sunlight of spring possess
a greater compensating power over influences for evil tha
does that of the winter. Besides, the days of spring a

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[1] THE LANCET, April 19th, 1902, p. 1110.

were those of typical cerebral infantile paraplegia. The left lower limb presented a very different appearance. The entire limb showed atrophied and completely flaccid muscles. The condition was that of infantile spinal paralysis. This case bears out the view advocated both by Strümpell and M. Marie that infantile cerebral paraplegia is due to a lesion of the motor area of the brain—polio-encephalitis—analogous to the spinal lesion—anterior poliomyelitis—of infantile paralysis. This analogy is borne out by some other cases. Möbius has described the case of a girl, aged 18 months, who was attacked with infantile spinal paralysis at a time when her brother was suffering from cerebral infantile hemiplegia In 1894 M. Ramy published in the *Revue Neurologique* the case of a man, aged 43 years, who had infantile spinal paralysis of the right leg At the necropsy there were found patches of meningo-encephalitis affecting various convolutions and a focal spinal lesion in the lumbar region, with atrophy of the anterior roots of the lumbar and sacral nerves on the same side. In the same year Neurath of Vienna in a necropsy on an infant, aged five months, found lesions of the internal capsule and centrum ovale with the lesions of infantile spinal paralysis. Beyer, in 1895, published the case of a woman, aged 22 years, who had had since the age of five years left spasmodic hemiplegia and who had suffered since the age of 12 years from attacks of epilepsy At the necropsy, in addition to porencephaly of the right hemisphere there was a focus of anterior poliomyelitis. M. Marie pointed out that his case was a new example of the coincidence of infantile spinal paralysis and the cerebral lesions which in the child produce almost indifferently hemiplegia, diplegia, and paraplegia, and that from the point of view of general pathology the case showed the analogy, it might almost be said the identity, between the cerebral and spinal lesion.

BALDNESS AND DISEASE IN THE BARBER'S CHAIR

FROM time to time we have called attention to the risk of contamination arising from the promiscuous use of brushes, scissors, razors and other implements, at hairdressers' establishments. Recently the New York Board of Health have confirmed such warnings by issuing an official statement, pointing out that a number of diseases can be communicated by barbers. The suggestion is even thrown out—and this is more likely to alarm the general public—that barbers are perhaps the cause of premature baldness. When this occurs a germ is supposed to attack the roots of the hair and this microbe may be conveyed from one head to the other by a brush. Many young men are bald who cannot be accused of riotous living, and it is often difficult to account for such cases of alopecia Perhaps it was the hair dresser's fault. In any case the New York Board of Health urges that greater precautions should be taken—that barbers should constantly wash their hands, in antiseptic solutions, should sterilise their razors and scissors, should protect their utensils from dust, and throw away their alum sticks. If rubbed on a cut or pimple the alum stick may convey blood, pus, and pathogenic bacteria to the next person to whom it is applied Thus loathsome diseases may be contracted from the surface of the alum ointment stick used in America. The question therefore arises whether the barbers will endeavour to meet these new exigencies Historically speaking, the barbers, whose precursors used to be barber-surgeons, should readily appreciate the advantage of antiseptic surgery and be willing to apply its principles to the minor and painless operations which they now perform. Trivial as these operations may seem they are not absolutely free from danger, and to our knowledge some barbers both in Paris and in London,[1] have already introduced antiseptic principles into their hair-dressing saloons. They sterilise their metallic combs, their scissors, and their razors by passing them through a flame each time that they are used, and it would be well if these and other precautions were more generally applied.

THE DISTRIBUTION OF PLAGUE.

A TELEGRAM from the Governor of The Mauritius, received at the Colonial Office on March 29th, states that for the week ending March 28th there were 5 cases of plague of which 4 proved fatal As regards the Punjab, assuming that there is no mistake in the figures, the news from India, as will be seen from our Indian correspondent's letter at p 993 regarding the presence of plague in the Punjab, is somewhat appalling According to the telegraphic intelligence through Reuter's Agency the number of deaths from plague in the Punjab is now averaging nearly 70,000 monthly Special measures, it is stated, have been taken to prevent the epidemic from reaching Simla As regards Egypt, during the week ending March 23rd 7 cases of plague and 2 deaths from the disease have been reported throughout all Egypt. 1 case occurred at Kom el Nour, 3 cases and 1 death at Dechnoh, and 3 cases and 1 death in 2 nomadic camps near Benha All these cases occurred among the native population.

THE HISTORY OF ATROPINE

VERY nearly a century ago it was just being realised that certain plants contained definite bases yielding definite salts when treated with acids These bases are, of course, well recognised now as the alkaloids, containing amongst their number some of the most powerfully poisonous bodies known to us. In about the twentieth year of the last century these new weapons of the poisoner were on the eve of being discovered as chemically definite principles According to THE LANCET of March 28th, 1824, as will appear from a glance at the 'Looking Back column in our issue last week, atropine had evidently been isolated in that year although probably not in a state of purity Still, a definite chemical principle was recognised, for in this column we read as follows "The property of dilating the pupil, peculiar to these plants [belladonna, datura, &c.], depends on a chemical principle, each of them containing an organic alcaline substance, which can neutralise acids, and form with them salts capable of crystallisation and possessing very powerful properties. This chemical principle has been named *koromegine*, from its power of dilating the pupil.' The existence of the active principle or alkaloid of *Atropa belladonna* was first announced in 1819 by Brandes, although apparently it was not obtained in its pure state until 1833 by Mein, a German pharmacist In the excerpt from THE LANCET of Sunday, March 28th 1824, which was printed in our columns last week it is stated that at the Royal Institute of France Dr Runges, Professor at the University of Berlin, described, amongst other things, a new method of detecting the narcotic principle of the *Atropa belladonna*, *Hyoscyamus niger*, and *Datura stramonium* in cases of poisoning by those plants. The method was simple and crude and consisted merely in boiling the stomach or intestines of the animal poisoned by these vegetable substances and evaporating the aqueous solution to the consistence of an extract and applying it with a camel hair pencil to the eye of an animal. Nowadays, of course, better and more delicate means are employed for isolating the alkaloid from complex organic mixtures. The method, shortly, is to exhaust the mixture with acidulated alcohol. After straining through muslin the longer. That the energy of the light of the sun is greater in spring is abundantly proved by the degree of its photographic effects—effects which are analogous probably to its action upon the human organism, thus favourably influencing the powers of nutrition and raising the degree of resistance of the body to disease. Certain chemical compounds prove to be more readily decomposed and at a quicker rate in April and May than in any other months of the year. Chloroform, potassium iodide, hydrogen peroxide, and a great number of chemical salts give greater evidences of the disturbing action of light in the spring than in any other season, and nature herself responds to this quickening power, for growth is greatest and most vigorous when the chemical activity of the sun's rays is highest, and that, of course, is in spring. There need therefore be no cause for despair that the health will necessarily suffer because of a cold spring, for, fortunately, the rays of the sun are richest in vital agencies at this period of the year and undoubtedly these prevent and mitigate much mischief that would otherwise ensue.

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[1] Vide THE LANCET, Feb. 8th, 1902, p. 419

CLINICAL STUDY FOR QUALIFIED MEDICAL MEN.

THE Association of Metropolitan Schools of Medicine is enlarging its boundaries. All the institutions which are recognised by the University of London as places of medical education have been invited to join in the work and we are informed that with very few exceptions they have consented—the addition being announced of such important institutions as the Royal London Ophthalmic Hospital; the Brompton Hospital for Diseases of the Chest; the Hospital for Children, Great Ormond-street; and the National Hospital for the Paralysed and Epileptic, Queen square. The special departments of the general hospitals are also to be organised for the delivery of clinical lectures and demonstrations. London should be a great centre of post graduate work and instruction and the Association of Metropolitan Schools of Medicine has a great future before it in the organisation of a scheme of clinical study for qualified medical men, forming a complement to the undergraduate teaching of the University of London. The office of the association is at the Examination Hall, Victoria Embankment, W.C., where all information concerning the working of the new departure may be obtained.

INSURANCE AGAINST SMALL-POX.

THE *Local Government Chronicle* has recently published some interesting particulars which it has obtained in reference to the extent to which persons have tried to safeguard themselves by insurance at "Lloyd's" against the effect of an attack of small-pox. The following is an extract from the particulars referred to:—

> Insurances are effected from £100 to £10,000 on individual lives but in every case revaccination within a year is insisted on. The nominal rate for a person living in a place where small-pox has not occurred is 2s 6d to insure the payment of £100 if within 12 months the person contracts small-pox, but these rates are increased according to localities. The following are the rates now prevailing in certain districts in London, but they apply to persons in business or professions of good class and not connected with docks or with institutions where small-pox is likely to prevail. The rates are: in Wandsworth, Hammersmith, Ilford, Seven Kings, Battersea, and Camberwell, 3s 4d. per £100; in Tottenham, Dalston, Hackney, Islington, Bermondsey, Lambeth, Leyton, Wanstead, Walthamstow, Gravesend, Romford, Barnet, Glasgow, Southend, and Liverpool, 5s per £100; in Edmonton, East and West Ham, Forest Gate, Rotherhithe, Mile End, Deptford, Plaistow, Poplar, Bow, Woolwich, Greenwich, Stratford, and Charlton, 10s per £100. In certain districts where the conditions are recognised as unfavourable these rates do not apply and special terms have to be arranged in the case of each applicant. Amongst the places so classified are Stepney, Shoreditch, Dartford, Crayford, Bury St. Edmunds, Orsett, and Grays.

We note that certain occupations are specially dealt with—viz., medical men, publicans, undertakers, and butchers—and that there are special rates for families and schools. Many thousands of policies are said to have been issued, the money being, of course, payable in the event of an attack, whether fatal or not. Lloyd's would seem, therefore, to have made a good thing out of the epidemic, for when all is said—and we have no wish to minimise the importance of the epidemic which has not yet really abated—the number of cases has not been very large. The *Local Government Chronicle* calls attention to the element of risk that will be present at the time of the Coronation, when the class of people amongst whom the disease has made its greatest ravages will be gathered together. The warning should stimulate persons coming to London for the ceremony to be vaccinated and revaccinated.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

A GREAT effort will be made, we understand, to raise the Metropolitan Hospital Sunday Fund this year to £100,000. A friend to the Fund has most generously promised to add one-fourth to the amount raised this year in the churches and chapels. Last year £40,000 were raised by these collections; if £80,000 can be raised this year the coveted total of £100,000 will be secured through one donor's splendid munificence. Hospital Sunday is June 15th. We beg our readers to bear the date in mind. It is not too early for them to begin to use their influence in behalf of the Fund, which has for its patron the King and should in Coronation year achieve a record.

UNUSUAL FORMS OF NERVOUS PROSTRATION FOLLOWING OPERATIONS.

THOUGH not of frequent occurrence it is nevertheless important to recognise the fact that in some patients severe nervous prostration and even serious mental disturbance may follow directly upon surgical operations—a group of affections to which the term "post-operative psychoses" has been applied and reference to which was made in these columns three years ago.[1] Dr Charles W Burr, professor of mental diseases in the University of Philadelphia, points out in a contribution to the *Philadelphia Medical Journal* of April 19th that physicians are occasionally called upon to treat severe neurasthenia supervening in women and less commonly in men upon surgical operations. These were cases where, although the visible cause of disease had been entirely removed by surgical means, the patient did not regain health but suffered from marked weakness, lack of mental power, deficient emotional control, and general neurasthenia. Dr Burr cites, for example, the case of a young man, of previous good health but of a type common in America, "over refined, over-cultivated, with nerves not wholesomely blunted but altogether too fine-edged," who was suddenly seized with appendicitis. He was accordingly operated on at once; the wound healed quickly, there was no fever, and surgically the case was quite successful. Yet he continued weak and prostrate after the operation and he remained in bed for several weeks with sheer physical weakness and nervous prostration and it was only after some months of treatment that he fully recovered. The same untoward results, says Dr Burr, followed the crushing of an arm in another patient—a [illegible] muscular man who was a highly emotional subject though he had great self-control. Dr. Burr also points out that women of nervous temperament, unable from childhood to withstand well the wear and tear of life and suffering from chronic pelvic or other disorder not progressive and not dangerous to life, are specially liable to such forms of nervous trouble and prostration after operation. Such a case, it is urged, should not be treated surgically at once when the diagnosis is made. It will be found that the patient is tired and worn out, anæmic, suffering from loss of appetite and from constipation, and that she has vague pains about the body and queer, indescribable sensations about the head accompanied by insomnia. The only organic disease to account for these symptoms is apparently some trouble in the genitalia. Such a patient should not, says Dr. Burr, be operated on until the general health and nutrition have been built up by regulated diet, rest in bed, tonics, massage, and proper mental occupation. This will take some weeks but she will regain weight and colour and become cheerful, and the shock and prostration after the operation will be less and recovery will be quicker in coming. Sometimes, adds Dr. Burr, operation will be obviated entirely.

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[1] THE LANCET, June 3rd, 1899, p. 1508, annotation on Paralyses and Psychoses following Prolonged Anaesthesia.

THE DESTRUCTOR NUISANCE AT TORQUAY.

In the issues of THE LANCET of Jan. 25th, Feb. 1st, and Feb. 8th, at pp. 262, 335, and 404 respectively, we gave an account from the pen of our Special Sanitary Commissioner of the destructor nuisance at Torquay and of the various steps which the Town Council had taken with a view to abate the nuisance. We also made some suggestions as to what might be done in the situation. We see that at the monthly meeting of the Town Council held on May 6th a report by the sub-committee of the Destructor Committee was brought up for consideration. This report contained a statement by Mr. George E. Davis of Manchester, the expert who had been employed by the Town Council to advise it. Mr. Davis commenced his inquiry in November, 1901, and as a result of his researches various alterations were made in the destructor, which began working again on Dec. 23rd, 1901. Mr. Davis made a final investigation on March 18th, 1902, and reported that matters were satisfactory. There was no organic odour left in the chimney gases and the odours of unburned paraffins, of which he had complained in his first report, had entirely disappeared. The white vapour issuing from the chimney, according to him, consisted of sulphate of potash in an extremely fine state of division. It was quite harmless. Finally, continued Mr. Davis—

> I may add that the destructor will now give you a perfect combustion, even under very adverse conditions, and if you issue an instruction, which is carried out, that no refuse of any kind be charged into the destructor after any interval of stoppage until the temperature of the main flue at the point of entry to the combustion chamber has by preliminary heating reached 700° F., I am of opinion that you will not receive any more justifiable complaints.

Fortified by this report, Mr. Alderman Cumming contended that there was now less noxious matter issuing from the chimney of the destructor than from the chimney of any cottage in the Upton Valley. So much for the Town Council, which seems quite satisfied with the present condition of things. Dr. Henry Humphreys, however, writes to us under date May 8th to say that the smells are by no means done away with. He allows that less dust is blown up the chimney but he says that when the wind is in the north he and his household suffer greatly from the noisome vapours. This was notably the case on May 5th and 6th, when the wind blew from the north. Probably, therefore, the remedies suggested by Mr. Davis, excellent as far as they go, do not meet the prime cause of the trouble, with which the position of the chimney-top has much to do. At all events, the statements made in the report, together with those made by Mr. Alderman Cumming, are directly at variance with those made to us by Dr. Humphreys, and Mr. Davis's opinion that the Town Council will receive no more justifiable complaints looks as though it required modification. If every cottage chimney in the Upton Valley district gives as many unpleasant manifestations of its presence as, according to Dr. Humphreys, the destructor does in certain circumstances, we think that the Town Council must expect to hear more of the matter. But, further, the output of coal smoke upon which Mr. Alderman Cumming lays stress is likely to be augmented by the transference of the electric-lighting station into the unfortunate Upton Valley. And hereby hangs a tale. The issue of the *Torquay Directory* containing a notice of the meeting of the Town Council to which we have just referred contains also a report of the adjourned proceedings at which the Torquay corporation appeared at the Torquay Police-court on May 5th in answer to a summons issued at the instance of Commander Milne on behalf of the Royal Torquay Yacht Club. The corporation was charged with committing a smoke nuisance at the electric-lighting station. The corporation through its legal adviser pleaded that although nothing in the nature of a legal offence had been committed yet the complainants had probably suffered inconvenience. The corporation was doing everything possible to prevent nuisance and annoyance and would continue to do so. The bench allowed the summons to be withdrawn and the corporation paid the costs. There never was a smoke prosecution yet in which the defaulters did not say that they were doing, or had done, or would do, everything to prevent a nuisance. Also it is generally pleaded that the nuisance is either the fault of old boilers and furnaces, or new boilers and furnaces, or of lack of Welsh coal. The nuisance and the filthy smoke are never any person's fault. We hear that, under the reminder of the police-court, the corporation, which had previously contented itself with the usual *non possumus*, has now become active and that the volumes of thick smoke which lately disfigured the harbour are now not visible. We hope that Commander Milne will keep an eye upon the electric-lighting works and apply for more summonses if necessary.

THE LATE R. B. ANDERSON FUND.

SIR C. C. KNOLLYS, K.C.M.G., Colonial Secretary of Trinidad, in a letter bearing date April 19th, reports the receipt by him of the sum of £258 15*s.* 6*d.* subscribed to this fund, and the expenditure of that amount in the purchase and repair of three removeable wooden houses in Port-of-Spain by his instructions on behalf of Mrs. Anderson and her twin sons. In one of these houses she will reside, while from the other two she will draw an annual total net rental of about £50. He expresses his opinion that certainly the money could not have been expended to greater advantage. Mrs. Anderson also writes to convey her sincere thanks to Lord Stamford and his committee for their sympathy shown in the trouble they have taken, and her deep sense of gratitude to the subscribers and to the proprietors of the medical journals for the great help they have given which has relieved her of intense anxiety as to the future of her sons.

SYPHILIS AS A CAUSE OF FRIEDREICH'S DISEASE AND ALLIED NERVOUS AFFECTIONS.

AN interesting contribution on the etiology and symptoms of Friedreich's disease and allied nervous affections of the class known as "family paralyses"—that is, paralyses affecting more than one child of the same family—is published by Dr. A. Bayet in the *Journal de Neurologie* of April 20th last. Dr. Bayet deals at length with the symptoms and clinical histories of five patients and points out clearly the action of inherited syphilis as a potent cause in the production of these grave nervous affections. Two of the patients were boys, aged nine and 17 years respectively, and three were girls, aged nine, 11, and 14 years respectively. The youngest girl was one of twins, her twin sister having died from some obscure nervous affection. These five patients suffered either from the well-known symptoms of Friedreich's disease with corresponding defect of mental development or from cerebellar ataxy approximating to the "hereditary" type described by Pierre Marie.

They also presented a variety of signs which were regarded as conclusive evidence of inherited syphilis—viz., cicatrices about the mouth and lips the result of rhagades, corneal opacities from interstitial keratitis, "geographical tongue," and in two cases the formation of gummatous ulcers of the tonsil and ankle respectively. These two cases of gummatous ulcer responded well to treatment with alkaline iodides. It was thus clear, says Dr. Bayet, that syphilis inherited from the parents acted deleteriously on the growing nervous systems of the offspring, producing arrest of development of the neurons or nerve-cells of the cerebellum chiefly, but also of the cerebrum, so that the ataxy was accompanied by mental defect.

WHOSE BUSINESS?

AT the meeting of the Bath Board of Guardians held on April 30th a letter was read from the medical officer of the workhouse infirmary stating that on April 9th the supervision of the infirmary wards was taken out of the hands of the superintendent nurse and transferred to the master and matron of the workhouse on the ground that such supervision was not included in the words of the General Order of the Local Government Board, August 6th, 1897—viz., "in all matters of treatment of the sick." The medical officer added that he held exactly the opposite view, that the cleanliness of the wards was embodied in matters of treatment of the sick, an opinion with which most people certainly will agree.

CHOLERA AT EL TOR.

OUR correspondent in Egypt writes: "12 different steamers have arrived at El Tor from Jeddah with cholera on board and by the last weekly return it appears that 51 cases have been found on these steamers, while of this number 38 are already dead and 13 remain under treatment in the quarantine camp hospitals. It is satisfactory to find that only one case of cholera has been reported from Jeddah during the week ending May 3rd. Those of the pilgrims who have satisfactorily purged their quarantine are now beginning to pass through the Suez Canal and the Egyptian passengers are permitted to land at Suez."

THE ITALIAN HOSPITAL BALL.

THE annual ball in aid of the Italian Hospital, which was omitted last year through respect for the memory of the late Queen, was held on May 6th in Prince's Hall, Piccadilly, and proved to be even a greater success than on any former occasion. Nearly 700 guests were present, including the Italian Ambassador (President of the hospital) and Madame Panza, the Lord Mayor and Lady Mayoress, the Austrian Ambassador and Countess Deym, the Swiss Minister (M. Bourcart), Madame Ortelli (widow of the founder of the hospital), and representatives of the German and other embassies. Amongst the members of the honorary medical staff, to whose efforts the success attained was in a large measure due, there were present Sir Dyce Duckworth, Cavaliere J. C. F. Naumann, Cavaliere Distin Maddick, Dr. J. Donelan, Dr. T. V. Dickinson, Dr. J. P. Henry, and Cavaliere J. FitzGerald.

PETROLEUM LAMP ACCIDENTS.

RECENT fires in London having their origin in accidents with petroleum lamps have once more led to some interrogation of the Home Secretary on the subject. Mr. Ritchie could not promise any decided action in the matter, pointing out that the report of a Select Committee published in 1898 threw very grave doubt upon the idea that raising the flash-point by legislation would prevent lamp accidents. We are still of the opinion, based upon our own practical inquiries on the subject, that these accidents arise from the use of grossly defective and ridiculously low-priced lamps rather than from so-called low-flash oil, and that the only remedy will be to stop the sale of such lamps. There are immense practical and scientific difficulties in the way which render any legislation with regard to the flash-point of the oil hardly possible.

THE PREVALENCE OF SMALL-POX.

ON Saturday, May 10th, 25 cases were admitted to the hospitals of the Metropolitan Asylums Board; on Sunday, the 11th, 30 cases were received; on Monday, the 12th, there were 24 admissions; on Tuesday, the 13th, 26 fresh cases; and on Wednesday, the 14th, 23 cases were notified. In the county of Essex for the week ending May 10th 46 new cases were notified.

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

THE sixth annual Medical, Surgical, and Hygienic Exhibition will be held at the Queen's Hall on May 20th, 21st, 22nd, and 23rd from 1 P.M. to 10 P.M. A concert by a select orchestra will be rendered each afternoon from 3 to 6 and in the evening from 7 to 10. We are informed by the secretary that there will be many novelties shown which are likely to interest the medical profession.

"THE DANGEROUSLY INFLAMMABLE NATURE OF CELLULOID."[1]

WE are glad to note that a question was asked in the House of Lords on Monday as to whether some restrictions could not be placed upon the sale of celluloid, but the answer was decidedly disappointing. Lord Saltoun, who asked the question, referred to our own inquiries on the subject as well as to an original contribution printed in our columns two months ago. More than four years ago we abundantly demonstrated by practical experiments the dangerously inflammable nature of celluloid, and we suggested that the manufacturers of celluloid articles should be compelled to stamp plainly upon them the words "highly inflammable." Speaking on behalf of the Government Lord Belper said that the Secretary of State did not see his way to interfere by legislation with the sale of celluloid. Lord Belper made an extraordinary statement when he said that if properly manufactured and free from impurities celluloid would not take fire. Celluloid is celluloid, and celluloid is by its nature highly inflammable, just as gunpowder is.

THE HEREDITY OF POETS.

As already noted in THE LANCET of May 10th, p. 1337, Möbius has, to the best of his belief, proved that poetic talent is in all cases traceable to the mother of the bard. The touch of sentiment in this position wins it ready acceptance. It is a feminine doctrine, the obvious inference from which is that the rougher sex is not apt to beget those gentle beings, the poets. Francis Galton, however, in "Hereditary Genius" (1869) has stated positively "in the case of poets and artists, the influence of the female line is enormously less than the male," and he supports his assertion with a "summary of relationships of 24 poets grouped into 20 families." From this it would appear that Goethe alone can trace poetic talent to his mother. "From my father," he says, "I inherit my frame and the steady guidance of my life; from dear little mother (Mütterchen) my happy disposition and love of story-telling (fabuliren)." Byron's mother is described as "strange, proud, passionate, and half-mad," and Tasso's as gifted in all respects. The other poets mentioned by Galton have some of them gifted fathers, as Milton; others gifted uncles and other relatives, mostly, alas, males. There are families in which literary and other talent is hereditary, as, for instance, the families of Coleridge and Wordsworth; but, as a rule, the sons of poets are dull dogs. The late Sir Percy Shelley should have been a paragon to judge by his ancestry, a poet father and a mother who wrote "Frankenstein." Sir Percy Shelley, however, was content to win only social popularity as an organiser of private theatricals. The son of the poetic Brownings is a meritorious painter—not a poet—and the descendants of certain other famous poetic marriages are, alas, in lunatic asylums. We have in mind three insane descendants of famous poets. It is possible that the children of poets are bored in early years by their surroundings and the mental attitude of their parents and make haste to become prosaic. Certain it is that the sons of political reformers and enthusiasts are often the most unprogressive of men, the sons of millionaires the least businesslike, and those of divines the least saintly.

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[1] THE LANCET, Feb. 22nd, 1902, p. 540.

THE annual meeting of the Association of Asylum Workers will be held on Thursday, May 22nd, 1902, at the Medical Society's House, 11, Chandos-street, Cavendish square, W., at 4 P.M., Sir James Crichton Browne in the chair. A presentation will be made of two gold and two silver medals awarded by the association for long and meritorious nursing service and all interested in asylum work and workers are cordially invited to attend. Communications should be addressed to Dr. G. E. Shuttleworth of Ancaster House, Richmond Hill, Surrey, the honorary secretary of the association.

A CONVERSAZIONE of the Medical Society of London will be held in the rooms of the Society, 11, Chandos-street, Cavendish-square, W., on Monday, May 26th. The reception by the President is fixed for 8.30 P.M., and an Oration by Dr. Stephen Mackenzie will be given at 8.45 P.M. There will also be an exhibition of drawings and etchings of London and its vicinity, and music will be rendered by the Bijou Orchestra, when smoking will be *en règle.*

THE festival dinner of the Medical Graduates' College and Polyclinic will take place at the Criterion Restaurant on Thursday, June 5th. The Right Hon. H. H. Asquith will take the chair and will be supported by many well-known men, medical and lay, as stewards. Communications should be addressed to the secretary of the Dinner Committee at the College, 22, Chenies-street, Gower-street, W.C.

THE King has sanctioned the following promotions and appointments to the Order of the Hospital of St. John of Jerusalem in England: Mr. Robert Brudenell Carter, F.R.C.S. Eng., from Knight of Grace to Knight of Justice, and Mr. Robert Fraser Calder Leith, M.B, F.R C.P. Edin., and Sir William Henry Bennett, K.C.V.O., F.R C.S Eng, to be Knights of Grace.

A DINNER of the present and past students and officials in connexion with the West London Hospital Post-Graduate College will take place on Wednesday, June 11th, 1902, at the Empire Rooms of the Trocadéro Restaurant, London, at 7.30 P.M. Mr. H. Percy Dunn will take the chair and communications should be addressed to Mr. L. A. Bidwell.

THE Glasgow University Club, London, will, on Tuesday, July 1st, give a dinner in honour of the Coronation in the Trocadero Restaurant, Piccadilly Circus. The Very Rev. Dr. Story, Principal of the University of Glasgow, has promised to preside. Particulars can be obtained from Dr. C. O. Hawthorne, 28, Weymouth-street, Portland-place, W.

THE opening lecture of the summer course at Brompton Hospital for Consumption and Diseases of the Chest will be delivered on Wednesday, May 21st, at 4 P.M., by Dr. T. Henry Green. The subject of the lecture will be Difficulties in the Recognition of Pulmonary Tuberculosis.

DR. J. ROSE BRADFORD, F.R.S., will give an address at a meeting of the University College Medical Society, on Wednesday, May 21st, on the Relation of Biology to Medicine. The chair will be taken by Mr. Victor Horsley at 8.30 P.M.

MR. THOMAS JOSEPH STAFFORD, F.R.C.S. Irel., has been appointed by the King a member of the Royal Commission on Sewage Disposal, in the room of Mr. Charles Philip Cotton, resigned.

UNIVERSITY COLLEGE, LONDON: APPEAL FOR THE EQUIPMENT AND ENDOWMENT OF ADVANCED UNIVERSITY EDUCATION AND RESEARCH.

ON May 9th in the Egyptian Hall of the Mansion House a meeting was held under the presidency of the Lord Mayor of London in support of the fund for advanced university education and research in connexion with University College, London. The following are the purposes for which funds are required:—

> (a) For extension of buildings and laboratories to provide adequate accommodation for teaching and research in such important departments as modern languages, chemistry in all its branches, geology, physiology, pathology, bacteriology, botany, engineering in all its branches, advanced medical studies, &c., £250,000; (b) for maintenance and laboratory expenses an annual endowment of £6000, or a capital sum of £200,000; (c) for endowment of professorships and lectureships an annual endowment of £20,000, or a capital sum of £700,000. The total sum required is therefore £1,150,000.

The LORD MAYOR, in opening the proceedings, said that the occasion of the meeting was unique. Never before had the City been asked for such a large sum of money for the furtherance of education and research in London. Every day the struggle for commercial supremacy became more severe and the fact could not be disguised that commercial supremacy would follow intellectual supremacy. University College was the only institution that had declared itself ready to be incorporated with the University of London and the result of this appeal would be to help the University of London itself. He earnestly urged the citizens of London to subscribe largely to the fund.

The Duke of DEVONSHIRE proposed the following motion:—

> That this meeting is of opinion that the incorporation of University College, London, in the University of London will materially promote higher education and research in London, and that, with this object, a fund should be raised to equip and endow the College adequately for such education and research.

After referring to the University Commission Bill of 189 the result of which was to give to the University of Lond teaching powers and a controlling influence over the vario schools which were then federated in the University, so th a course of instruction might be adopted fitted to the nee of the great modern metropolis, he urged that in a professions and industries success must be dependent c a knowledge of scientific principles and on the traine capacity to apply those principles. Universities, he sai were no longer a necessity for one class alone, but the welfa of the whole nation demanded that they should seek fro all classes men of high intelligence and equip them with th highest training. As a nation we could not be said to have rec gnised the necessity of corresponding changes in our highe university training. The older Universities of Oxford an Cambridge had recognised the necessity and had made grea efforts to equip themselves with the necessary machinery but they had found themselves hampered by a want c the necessary resources. Speaking for the University c Cambridge, of which he was Chancellor, he assured hi hearers that his university had no intention of abandonin its place in the front rank which it held as a centre c teaching and research Our success as a nation depende upon the number of trained brains which were produced, bu the older universities could not supply the number of traine men required for our national industries. In London th university movement had up to the present time failed to receive that support which might be expected from the wealthiest city in the world. But now there was an opportunity afforded to the citizens to repair any past neglect and to create for London a university that would be worthy of the capital of the Empire and adapted to the special needs of the metropolis of the Empire. Before the proposed incorporation could take place certain preliminary conditions were required. The first was the extinction of the debt upon University College which had been accomplished by a gift of £30,000 from the Drapers' Company. The second was the removal of the University College School, an institution of a secondary type, in order to obtain the needful accommodation for university teaching and research. The third was an arrangement by which separate provision could be made for advanced medical studies so as to place the school of medicine on a proper footing The estimated cost was £100,000 and that was the immediate object of the appeal Of this sum £30,000 had been given by an anonymous donor and other sums were promised amounting to £15,000 Two great objects would be gained by the success of the appeal. First, a fuller utilisation of the resources of the College as an establishment for the promotion of advanced studies and, secondly, the provision for the University, which had as yet done little but create administrative machinery, of the means of entering properly equipped upon a twofold mission of instruction and research.

Sir Michael Foster, M.P., who seconded the motion, said that the purse of London was big enough to help not only the University of London but the older universities as well. There ought to be in the very heart of London a real and effective university. The incorporation of University College with the University of London would benefit the people of London whatever might be their calling

Professor A. W. Rücker, in supporting the motion, said that for many years he had taken an active share in higher education in London and he firmly believed that the question as to whether the development of the University of London was to take place along simple and most useful lines or whether it was to be carried out by a number of awkward and ill-fitting compromises depended entirely upon the success of the scheme of incorporation.

The motion was then carried unanimously.

Lord Brassey moved :—

That this meeting urges on the citizens of London the importance of giving a generous response to the appeal now made for £1,000,000 to equip and endow University College, London.

Lord Avebury seconded the motion.

Mr. Lionel Phillips, in supporting the motion, said that his firm would subscribe £10,000 to the present fund and reserve a larger donation for the future when he hoped a more extensive scheme would be brought forward Much had to be done if the higher education in this country was to be put on a footing with that of America and Germany.

Mr. H. R. Beeton said that upon the progress of science and invention depended the better feeding of a people.

Captain Jessel, M P, also supported the motion, which was carried unanimously.

Sir Richard Farrant (treasurer of the Fund Committee) said that although scarcely four weeks had passed since the appeal for funds had been made subscriptions amounting to over £110,000 had already been received This sum included donations of "at least" £30,000 through Sir Michael Foster from "A Former Student" and £30,000 from the Drapers' Company.

On the motion of Lord Reay, seconded by Mr A. Prevost (Governor of the Bank of England), a vote of thanks was accorded to the Lord Mayor and the proceedings terminated.

THE METROPOLITAN WATER-SUPPLY: THE LONDON WATER BILL.

The Lancet of May 3rd, p. 1274, contained a brief account of the proceedings of the Joint Committee of the two Houses of Parliament appointed to inquire into the London Water Bill. At the sitting of April 30th the committee decided to alter entirely the constitution of the proposed Water Board by withdrawing from the metropolitan boroughs and from the urban districts the representative powers which the Government Bill proposed should be conferred upon them The immediate result of this decision has been already referred to in a leading article which appeared on May 10th, p. 1333. At the commencement of the tenth sitting of the committee Mr J. D FitzGerald made a short statement on behalf not of the Local Government Board as Lord Balfour of Burleigh interrogatively suggested, but of the Government. Counsel then mentioned the points which had led the Government to decide as to the composition of the Water Board which it proposed and asked the committee to receive evidence on the question with a view to reversing the decision to which the committee had arrived. Counsel representing the City of Westminster supported this application and the committee resolved "by a majority" to receive the evidence on behalf of the metropolitan boroughs and the urban districts outside the metropolis should they think fit to tender it. It was then pointed out by Mr FitzGerald on the part of the Government, that many of the urban districts and metropolitan boroughs had not petitioned because they were satisfied with the provisions contained in the Bill. Lord Balfour of Burleigh pointed out that as the committee had power to send for persons and papers there would be no technical difficulty in the matter of calling witnesses and that no question of *locus* need arise

Seven witnesses were heard at this sitting The first called was Mr. William John Crump, Justice of the Peace for the county of Middlesex and Mayor of Islington, who stated that when the municipal authorities of that borough heard that the Government was about to introduce a Bill creating a Water Board a resolution was almost unanimously carried requesting that a representation should be made to the Local Government Board to the effect that the borough councils should be represented on the board on the ground that they were the health authorities.

Mr. James White, mayor of the Borough of Lambeth gave evidence to the effect that a majority of the borough council which he represented had passed a resolution in favour of the Bill in the form in which it was originally introduced into Parliament.

Mr Charles Wilson, clerk to the Urban District Council of East Ham, stated that the district in which he was employed had increased enormously in population during recent years The council was, of course, the sanitary authority for the district, which was in the area of the Essex County Council. He contended that the County Council did not properly represent the local urban authorities and that the latter were always complaining about it. The Essex County Council had so many rural members that as a matter of fact the urban population of East Ham—chiefly a working-class population—strongly felt that their rights were not properly looked after. For these reasons they contended that they ought to be represented on the Water Board

Mr. Edmund Barnes, mayor of St. Pancras, stated that the borough council of that town had considered the Government Bill when it was originally deposited and had passed a resolution in favour of the measure, and he believed that the council was of the same opinion still

Colonel Clifford Probyn, mayor of the City of Westminster, said that the Bill had been considered by the Law and Parliamentary Committee of the Westminster Council, and that that council, without committing itself to the details of the Bill, strongly approved the proposal to establish a Water Board of members to be appointed by the metropolitan boroughs and by certain other public bodies. The borough councils were the sanitary authorities and were brought much more closely in touch with water consumers than was the case with the London County Council.

Mr Hamilton Benn, mayor of Greenwich, said briefly that, as representing the borough council of Greenwich, he distinctly desired that they should be represented on the Water Board and he would regret any decision which would deprive the metropolitan boroughs of such representation The Greenwich Borough Council had passed a resolution to the effect that they ought to be represented on any water trust which might be formed.

Mr T. W. Williams, the mayor of Lewisham, said that the borough council of which he was the representative had passed a resolution approving the principle of the Bill so far as representation was concerned

At the eleventh sitting of the committee no less than 27 witnesses were examined.

Sir John Aird, M.P., gave evidence on behalf of Paddington, of which borough he is mayor. He stated that for the sake of that place it was important that they should be represented on the Water Board.

Mr. **WALTER JOHNSON**, mayor of Hackney, read a resolution passed by a committee of the council of that borough. It was somewhat long, but the most important part was to the effect that the council approved the Bill but that the borough of Hackney ought to have two representatives instead of only one on the Water Board. A public meeting was held at Hackney and a resolution was passed not in accordance with the mayor's views. The meeting protested against the proposal to hand over the vast interests of London in its water-supply to "an irresponsible authority on the discredited model of the Metropolitan Board of Works."

It is impossible in the space at our disposal to give a digest of all the evidence tendered, but the committee has at any rate been the means of bringing out a good deal of information which cannot fail to convince those who heard it that the opinion of the London sanitary authorities cannot be entirely ignored.

On May 12th the committee had a prolonged private sitting to decide as to what course it should take in regard to its decision of April 30th. The result of its deliberations was announced by Lord **BALFOUR** of **BURLEIGH**. It appears in effect to be that the schedule which was "referred back" to those in charge of the Bill will remain at present as part of the Bill and the details of the schedule will be considered when the Bill is examined clause by clause. The announcement made by Lord Balfour of Burleigh was that a motion had been brought forward at the private sitting of the committee to the effect that it should adhere to its resolution of April 30th. This motion was lost. There had been an equal number for and against the motion. The rules in force in the House of Lords governed committees. The rule was that in a case of equality of votes (if in the case of a committee everybody was present) the form of the Bill would stand. In this case the form of Schedule III. would be considered by the committee when it reached that point in the Bill after going through the previous clauses. The procedure adopted by the committee was arranged according to precedent and Lord **BALFOUR** of **BURLEIGH** announced that when the schedule was reached in the way indicated it was possible that a full statement might be made of the effects of the procedure on an amendment which might be moved.

After this announcement the committee proceeded to go through the Bill by clauses and certain amendments proposed to it by the water companies. On the request of counsel for the Local Government Board an adjournment was made to enable the Board to get up its case against the water companies' amendments.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

ANNUAL GENERAL MEETING.

*DR. G. A. **HERON** took the chair at the annual general meeting of the London and Counties Medical Protection Society on May 8th, at their new offices, 31, Craven-street, Strand, London, W.C.*

The annual report stated, that the society maintained a healthy increase in numbers and usefulness. Its growth naturally had brought with it increased responsibilities and expenses, but the latter appeared to retain a just proportion to the number of members. A member had to complain to the society of a deliberate and groundless slander, maliciously put in circulation aginst him by a former patient. The offender had thought it more prudent to settle the matter by publicly apologising, and paying the sum of £10 to a charity, than to face the consequences of the legal action commenced against him. There had been a number of cases in which patients had sought to evade payment by alleging want of skill on the part of their medical advisers; and in connexion with that subject the council, in order to prevent waste of time of the society's officials, wished to remind members that it was no part of the scope of the society to collect professional debts for members, where no charge was made against them, and where no principle of great importance to the profession generally was involved. Many difficult matters had been occupying the energies of the society during the year in reference to medical aid and friendly societies, and their medical officers. Several registered dentists had been summoned before the General Medical Council for issuing objectionable advertisements, and they had been leniently dealt with on promising not to offend again. In respect to the outbreak of small-pox, the society had had, on the one hand, to defend a member, who had been prosecuted by a metropolitan borough council, for not notifying as small-pox a case he believed at the time he saw it to be chicken-pox; and, on the other hand, members from whom damages had been claimed, because they had notified as small-pox cases subsequently declared not to be suffering from that disease. The report added, that all the cases were successfully defended. The society was in a sound financial condition, the surplus funds amounting to £1794.

Dr. **HERON** moved the adoption of the report, and said that a certain well-known utterance of Mr. Joseph Chamberlain in the House of Commons, would not have been delivered if the medical profession were not politically impotent. Concerning the prosecution of quacks he said, that unless the society were prepared to spend enormous sums of money in legal proceedings they had better let them alone. The law, for some reason which he did not understand, seemed to favour the quacks. If the medical profession were politically powerful they might hope, at some distant date, to have that altered. He was not inclined to sympathise with the public when they complained of quacks. It occurred to him when he read of the atrocious way in which people allowed themselves to be gulled that, to use a schoolboy phrase, "it served them right." The obvious advantage of belonging to a society like theirs was so clear, that he confessed it seemed to him deplorable, that at the present moment there should be in the medical press requests made for subscriptions to aid a gentleman who had been loaded with heavy legal costs, after successfully defending an action at law which ought never to have been brought into court. It was the duty of every medical man to belong to a society for medical protection. The financial position of the London and Counties Medical Protection Society was sound enough to appeal to the common sense of every reasonable man in the medical profession; and if anyone hesitated to join the society, and one day became involved in a lawsuit, then he thought he would have only himself to blame because he ought to have protected himself against such a risk.

The motion, having been duly seconded, was carried unanimously.

Dr. W. G. **DICKINSON** suggested that the annual report might be issued in a somewhat different form, and he advocated a fuller and more complete account of the cases dealt with by the society.

The meeting terminated after re-electing the council and officers.

THE ROYAL SOCIETY CONVERSAZIONE.

A VERY interesting and attractive series of experiments, illustrations, and specimens was presented to the view of the Fellows and their friends at the annual conversazione of the Royal Society which was held at Burlington House on May 14th, but it cannot be said that any particularly brilliant or epoch-making demonstration was given. Contrary to expectation, no illustrations were given of that remarkable property of certain elements, radio-activity, which has been so much discussed of late. Electrical phenomena held the first place and attention seems to have been particularly directed to the physical characteristics and properties of ultra-violet light.

Professor J. A. Fleming, for instance, showed an exceedingly interesting experiment illustrating the effect of ultra-violet light on the electric discharge. The action of the ultra-violet light emitted from the edge of the coating of a Leyden jar upon the spark of an induction coil charging it was shown. The jar is arranged between two "spark gaps" in parallel, one larger than the other and both connected with the terminals of an induction coil. The jar is placed nearest to the shorter gap; the spark then happens always at this gap. If a plate of mica or glass, which are very opague to ultra-violet rays, be interposed between the jar and the active gap a spark at once appears at the other gap. It was shown that this spark can be quenched by illuminating the first or shorter gap with ultra-violet light from burning magnesium or a naked electric arc and this can be done from considerable distances. Hence the idea arises that the effect might be utilised for telegraph purposes without wires. Dealing with a similar phenomenon Dr. Dawson Turner showed in another exhibit that the ultra-violet radiation of a condenser spark will discharge an electrified body whether positively or negatively charged.

Of the various substances which have been tried rock salt seems to be the most transparent to ultra-violet radiations. Mr. Mackenzie Davidson, besides exhibiting some most realistic x-ray photographic effects, both by transparencies and negatives shown in a Wheatstone stereoscope, also demonstrated the remarkable fact that if an ordinary photographic plate be exposed to x-rays and then to ordinary diffused active light a reversed negative is obtained on development in bright white light. Plates were thus developed at intervals during the evening Mr. A. C. Cossor exhibited a new therapeutic x-ray tube which is worthy of notice. It is so designed as to constitute an x-ray "applicator," the rays passing through a certain area which varies in different tubes according to the size of the diseased part which it is desired to submit to treatment. Mr W. R. Pidgeon exhibited a new electrical influence machine suitable for x-ray work in camp in countries where the heat makes it difficult to preserve induction coils. The sectors being imbedded in a vulcanite-like substance called "volenite" and no glass or wax being used in the machine, it is not liable to damage and its efficiency is unimpaired by rough usage. Professor W. Ramsay showed the spectra of krypton and neon, the colour of the former tube when the discharge passes being regarded by many persons as lilac and by others as green. Professor Ramsay thinks this phenomenon "is conditioned by the size of the yellow spot on the retina." The wearing of glasses changes the colour to some persons, but to others it makes no difference. The spectrum of krypton is characterised by a brilliant yellow and a brilliant green flame with some lines in the deep blue and violet. Sir Norman Lockyer lent a very interesting series of photographs of metallic spark spectra in air and water. A similar subject was illustrated by Professor A Schuster who was able to produce the spectrum of iron in the flame of the Bunsen burners. The method consisted in mixing a spray of the solution of an iron salt with the air introduced into the burner. With large dispersion a considerable number of lines appear seemingly identical with those of the arc spectrum. The process of natural colour photography based upon Young's theory of trichomatic vision was demonstrated in a beautiful series of natural colour photographs exhibited by Messrs Sanger, Shepherd, and Co. Cameras for the process were shown. Negatives or colour records of the object are taken through colour filters admitting light of the three primary sensations—red, green, and blue-violet—in accordance with the power of the respective sensations to excite the eye. From the three negatives three coloured positives are printed upon a special film which when superimposed exactly reproduce the form and colour of the object photographed. Some of the effects obtained were projected upon the screen during the evening by means of the electric lantern with strikingly beautiful results

Some of the exhibits were decidedly chemical in character Such, for example, was the series of fabrics dyed with synthetic indigo and shown by the Badische Anilin- und Soda-Fabrik, Ludwigshafen. Specimens of the raw material napthalene and the intermediate products formed were shown. It is apparently identical with natural indigo and it is curious that the last stage in the process, whether the starting point be napthalene or the indigo plant, is identical—viz., the oxidation of indoxyl into indigo. Opposite to this exhibit Mr. W. Rosenhain showed an improved form of Thompson Coal Calorimeter, The method consists in burning the coal in a stream of oxygen in a closed vessel water-jacketed The apparatus is so constructed as to be easily manipulated and to secure complete combustion and the complete transference of the heat to the water of the calorimeter The ignition is started by electric current. The process is of importance in determining the calorific value of fuel.

Professor Wyndham Dunstan exhibited a very interesting series of poisonous fodder plants and food grains and their cyano-genetic glucosides. We have already referred in our columns to the production of hydrocyanic acid from the *Lotus Arabicus*, which grows on the banks of the Nile. The young plant contains a glucoside, lotusin, from which prussic acid is formed and at this stage it is highly poisonous to cattle.

Mr. A. Vernon Harcourt, F.R S, exhibited an apparatus by means of which any desired proportion of air and chloroform could be mixed. The apparatus has already been described in THE LANCET.

Professor Silvanus P. Thompson exhibited the first folio Latin edition of *De Magnete* (London, 1600), the author of which was Dr. William Gilbert who was born in Colchester in 1540 and who died in 1603. He was President of the Royal College of Physicians and body-physician to Queen Elizabeth Other editions of the same work were also shown, the whole forming a valuable and interesting collection.

Mr. J. Gray, B.Sc., exhibited some ingenious instruments designed especially for measuring and taking contours of the living head. The method is well adapted for showing cephalograms of different races. Dr. C. A. McMunn illustrated the spectrum of zircon and he also exhibited spongioporphyrin, the colouring matter of a certain Australian sponge, which is very remarkable in giving an absorption spectrum recalling that of oxy-hæmoglobin and of turacin.

The Marine Biological Association had an exhibit illustrating the manner in which the scales of fishes are an index of age. The scales of many fishes show a series of parallel eccentric lines which indicate successive increments of growth. Annual rings may be detected which indicate the age of the fish in years Tropical medicine was represented in two exhibits by Lieutenant-Colonel D Bruce, F.R.S., and Dr. Joseph Everett Dutton, respectively. The former showed a new species of parasite (*Trypanosoma Theileri*), discovered in the blood of cattle in South Africa. It infects cattle but not horses or dogs, and is easily distinguished from the tsetse fly. Dr. Dutton showed a specimen of trypanosoma found in the blood of a man. The presence of the parasite was associated with symptoms closely resembling those occurring in animals suffering from tsetse fly disease. Mr. W E. Hoyle exhibited specimens of a Mediterranean cephalopod possessing luminous organs, the most striking feature of which is that they are concealed by the integument and are only effective by reason of its transparence in the living condition.

Looking Back.

FROM

THE LANCET, *SATURDAY, MAY 15*, 1824.

Foreign Department.

(From the Gazette de Santé, April 16.)

ANTIDOTE AGAINST CORROSIVE SUBLIMATE.

We stated some time ago that M. SADDEI had detected in gluten, the property of decomposing the deuto chlorate of mercury. An Italian Journal records a case of the efficacy of this antidote. A medical pupil swallowed seven grains of corrosive sublimate, supposing it to be calomel. The effects of the poison soon manifested themselves. The emulsive powder of gluten was administered according to the method suggested by M. SADDEI, the sublimate was decomposed, and evacuated by vomiting

M. VIREY has an article in the *Journal de Pharmacie*, on the poison called woorara. It is probable that few persons are acquainted with it in France; it is, however, much employed in America where the savages of the Guiana arm the points of their arrows with it. The monkeys, and other animals wounded by these poisoned arrows, fall into violent convulsions, which shews that the poison acts principally on the nervous system; nevertheless the savages eat it without being incommoded by it. It is not known from what vegetables the woorara is extracted; Barcroft and other travellers say that it is taken from a plant of a climbing species; M. Virey thinks it not impossible that the poisonous juice of the *cerbera* may be used in it. What is of more importance, however, is a remark which has been for some time made, namely, that the plants cultivated in gardens for the purposes of medicine, have undergone a sensible diminution in the strength of their properties. This circumstance should induce us to procure them in their wild state whenever we can do so, for they grow in soils less rich, less sheltered, and less likely to fill them with inert juices An instance of this kind has been observed in the *hyosciamus* *niger* by M. Ricken, Chemist at Wittand. This plant cultivated gives an extract almost inert; while in its wild state it gives a much stronger extract. This is a very material circumstance in the practice of medicine, and may account for a number of anomalies and discrepancies in the results obtained by different practitioners.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary meeting of the Comitia was held on May 8th, Sir WILLIAM SELBY CHURCH, Bart., the President, being in the chair.

The following Members who had been duly elected at the last meeting were admitted as Fellows:—

Dr. Frank Montague Pope, Dr. Edward Malins, Dr. William Alfred Wills, Dr. Thomas Hancock Arnold Chaplin, Dr. William Page May, Dr. Arthur George Phear, Dr. George Francis Blacker, Dr. John Fawcett, Dr. Herbert Campbell Thomson, Dr. Albert Sidney Frankau Grünbaum, Dr. James Barr, and Dr. Joseph John Perkins.

The following communications were received: 1. From the secretary of the Brussels International Conference on the Prevention of Syphilis, praying the College to reconsider its resolution not to send a delegate. It was resolved:

> That the College should accede to the request and that the choice of a delegate should be left to the President.

2. From the secretary of the Jenner Institute, stating that the annual general meeting will be held on June 30th; also that Dr. J. F. Payne retires by rotation from the Council and requesting the College to appoint a representative for the ensuing year. Dr. Payne not wishing to be re-elected the nomination was left in the hands of the President.

The REGISTRAR (Dr. E. Liveing) proposed, and the Senior Censor (Dr. T. T. Whipham) seconded, the enactment for the first time of the following by-law:

> That Dr. Henry Carr Maudsley and Dr. William Camac Wilkinson, elected Fellows on April 24th, being resident in Australia, be admitted *in absentiâ*, any by-law to the contrary notwithstanding.

This was adopted.

The PRESIDENT then dissolved the Comitia.

THE CASE OF DR. W. T. LAW.

DR. J. G. GLOVER presided at a meeting of the members of the medical profession on May 9th in the Throne Room, Holborn Restaurant, London, W.C., held for the purpose of expressing sympathy with Dr. W. T. Law in connexion with a case in the law courts recently decided in his favour but in which his expenses amounted to some £700.

Dr. GLOVER commented on the smallness of the meeting, but added that fortunately several members of the profession had already sent substantial proofs of their sympathy. They had not met, he said, to discuss the treatment of asthma or the proper attitude of medical men towards a neurotic and asthmatic patient, but to express sympathy with Dr Law. One good purpose of such a trial as that to which Dr. Law had been subjected was to give strong proof of the oneness of the medical profession; to show that when one member suffers the others sympathise. Their help, he added, should be efficient and prompt, as Dr. Law's expenses would reach the large sum of £700. It was a satisfactory proof of the sympathy and solidarity of the medical profession that promises of generous subscriptions had come in from all parts of the United Kingdom and from every class of the profession. Dr. Glover concluded by calling upon Dr. Theodore Williams who, he said, had done yeoman service in this cause, to propose the first motion.

Dr. R. PARAMORE, who had convened the meeting, having stated that he had received subscriptions amounting to over £360, Dr. THEODORE WILLIAMS moved:—

> That this meeting begs to express its sympathy with Dr. Law in reference to the recent unjust action against him in the case of Forsythe *v.* Law; and its determination to do what it can to give that sympathy a practical form.

Dr. Williams concluded a very able statement of the facts of the case by proving that Dr. Law was perfectly innocent and that it had been shown that he had conducted himself in the strictest professional manner possible. He was glad to say from inquiries which he had made that a large number of the members of the medical profession had expressed their willingness to subscribe towards the fund in aid of defraying the expenses incurred.

The motion was carried unanimously.

The following motions were also passed:—

> That this meeting expresses its thanks to Dr. Paramore for his active efforts in initiating this movement for the payment of Dr. Law's expenses and congratulates him on the measure of success already obtained.
>
> That the President of the Royal College of Physicians of London, the President of the Royal College of Surgeons of England, the Master of the Apothecaries' Society, and the editors of the metropolitan medical journals be requested to act, with Dr. Paramore, as trustees of the fund now being raised at his instance for the payment of Dr. Law's heavy expenses in respect of his defence in the case of Forsythe *v.* Law.

This last motion was proposed by Dr. GLOVER.

The meeting closed with resolutions of thanks to Dr. Glover for presiding and to the proprietors of the Holborn Restaurant for allowing the use of the Throne Room for the purposes of the meeting.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on May 8th, the President, Mr. HENRY G. HOWSE, being in the chair.

Dr. GEORGE BAGOT FERGUSON was introduced and was admitted a Fellow of the College.

The SECRETARY reported the illness of Professor Stewart, conservator of the museum, and leave of absence was granted to him.

The PRESIDENT reported that he had accepted on behalf of the Council a portrait by C. R. Leslie, R.A., of Benjamin Travers, F.R.S., Sergeant-Surgeon to Queen Victoria and President of the College in 1847 and 1856, the portrait having been offered to the College by Dr. Llewellyn Morgan, executor of the late Miss Travers.

The best thanks of the Council were voted to Dr. Morgan for the gift.

A letter was read from Surgeon-General A. F. Bradshaw, C.B., honorary secretary to the Oxford Eye Hospital, stating that it is proposed to found in the University of Oxford a Readership in Ophthalmology, to be held in conjunction with the honorary surgeoncy to the Oxford Eye Hospital, and asking the College to allow its president to be an *ex-officio* member of a standing board for future elections to the combined appointments.

The Council agreed to this request.

A letter was read from Dr. FREDERICK J. SMITH, F.R.C.P. Lond., F.R.C.S. Eng., President of the Association of Licentiates of the Royal College of Physicians of London and Members of the Royal College of Surgeons of England, calling attention to a petition which has been signed by several hundreds of Licentiates and Members, and asking leave to present the petition by deputation.

A committee of the Council was appointed to receive the deputation.

Mr. A. WILLETT moved:—

> That a committee be appointed to consider and report whether the time has not come for the two Royal Colleges by joint action to take such steps as may seem advisable for entering into combination with the University of London for a scheme of common examination for the degree of M.B. of the University and for the qualification of L.R.C.P. Lond. and M.R.C.S. Eng.

A committee was appointed for this purpose.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8602 births and 4894 deaths were registered during the week ending May 10th. The annual rate of mortality in these towns, which had been 18·3, 17·0, and 16·6 per 1000 in the three preceding weeks, rose again last week to 17·2 per 1000. In London the death-rate was 16·6 per 1000, while it averaged 17·4 in the 75 other large towns. The lowest death-rates in these towns were 7·5 in East Ham, 8·5 in Reading, 8·6 in King's Norton, 10·1 in Stockton-on-Tees, 10·3 in Handsworth, 11·0 in Hornsey and in Bournemouth, and 11·1 in Leyton; the highest rates were 21·6 in Bolton, 22·1 in Liverpool, 22·7 in Bootle, 22·9 in Middlesbrough, 23·1 in Newcastle-on-Tyne, 23·3 in Salford, 24·6 in Birkenhead, and 26·1 in Rochdale. The 4894 deaths in these towns last week included 519 which were referred to the principal zymotic diseases, against 550, 534, and 489 in the three preceding weeks; of these 519 deaths 141 resulted from whooping cough, 112 from measles, 79 from diphtheria, 62 from small pox, 46 from scarlet fever, 42 from diarrhœa, and 37 from "fever" (principally enteric). In Ipswich, Norwich, Nottingham, Newport (Mon.), Swansea, and seven other smaller towns, no death from any of these principal zymotic diseases was registered; while they caused the highest proportional mortality in Tottenham, Hanley, Birmingham, Birkenhead, Oldham, Burnley, Barrow-in-Furness, and South Shields. Measles was proportionately most fatal in Bournemouth, Oldham, Burnley, Barrow-in-Furness, Huddersfield, West Hartlepool, and Gateshead; scarlet fever in Middlesbrough; diphtheria in Tottenham, Hanley, Coventry, and Merthyr Tydfil; whooping cough in Leyton, Plymouth, Birmingham, Birkenhead, Barrow-in-Furness, and South Shields; and "fever" in Birkenhead. Of the 62 fatal cases of small pox registered last week 44 belonged to London, eight to West Ham, four to Tottenham, two to East Ham, and one each to Willesden, Leyton, Walthamstow, and Burnley. The Metropolitan Asylums hospitals contained 1419 small pox patients on Saturday last, May 10th, against 1431, 1515, and 1442 on the three preceding Saturdays; 248 new cases were admitted during the week, again 328, 367, and 250 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2155, 2188, and 2222 at the end of the three preceding weeks, had declined again to 2212 at the end of last week; 256 new cases were admitted during the week, against 269, 283, and 258 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 316, 315, and 240 in the three preceding weeks, further fell to 231 last week, and were 39 below the corrected average number. The causes of 57, or 1·2 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Salford, Bradford, Leeds, Hull, and in 46 other smaller towns; the largest proportions of uncertified deaths were registered in Leicester, Liverpool, St. Helens, Rochdale, Blackburn, Sheffield, Sunderland, and Swansea.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 24·6, 21·1, and 18·9 per 1000 in the three preceding weeks, further declined to 18·1 per 1000 during the week ending May 10th, but was 0·9 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 9·9 in Leith and 16·9 in Edinburgh to 20·3 in Perth and 21·1 in Paisley. The 586 deaths in these towns included 16 which were referred to whooping cough, 13 to diarrhœa, nine to measles, four to scarlet fever, three to diphtheria, and one to "fever." In all 46 deaths resulted from these principal zymotic diseases last week, against 63, 70, and 78 in the three preceding weeks. These 46 deaths were equal to an annual rate of 1·4 per 1000, which was 0·4 per 1000 below the zymotic death rate last week in the 76 large English towns. The fatal cases of whooping-cough, which had been 29 and 28 in the two preceding weeks, declined last week to 16, of which eight were registered in Glasgow, five in Aberdeen, and two in Edinburgh. The deaths from diarrhœa, which had increased from eight to 23 in the four preceding weeks, declined again to 13 last week, and included six in Glasgow, four in Edinburgh, and two in Aberdeen. The fatal cases of measles, which had been 13 and 15 in the two preceding weeks, declined again last week to nine, of which three occurred in Glasgow, two in Dundee, and two in Paisley. The deaths from scarlet fever, which had been five and two in the two preceding weeks, rose again to four last week, and included two in Glasgow, where the three fatal cases of diphtheria also were registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 199, 161, and 138 in the three preceding weeks, further declined last week to 113, and were slightly below the number in the corresponding period of last year. The causes of 20, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death rate in Dublin, which had been 28·8 and 24·9 per 1000 in the two preceding weeks, further declined to 22·6 per 1000 during the week ending May 10th. During the past four weeks the death-rate has averaged 24·3 per 1000, the rates during the same period being 17·0 in London and 18·5 in Edinburgh. The 164 deaths of persons belonging to Dublin registered during the week under notice were 17 below the number in the preceding week, and included 12 which were referred to the principal zymotic diseases, against 10 and nine in the two preceding weeks; of these, six resulted from measles, two from whooping-cough, two from "fever," and two from diarrhœa. These 12 deaths were equal to an annual rate of 1·7 per 1000, the zymotic death-rate during the same period being 2·3 in London and 1·3 in Edinburgh. The fatal cases of measles, which had been two, two, and three in the three preceding weeks, further increased last week to six. The deaths referred to different forms of "fever," which had been four and three in the two preceding weeks, declined to two last week. The mortality from both whooping cough and diarrhœa was in excess of that recorded in the preceding week. The 164 deaths in Dublin last week included 34 of children under one year of age and 39 of persons aged upwards of 60 years; the deaths of infants were 13 above, and those of elderly persons 13 below, the respective numbers recorded in the preceding week. Seven inquest cases and four deaths from violence were registered; and 64, or more than a third, of the deaths occurred in public institutions. The causes of 10, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING APRIL, 1902.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the cities and boroughs in the county of London. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 10·5 per 1000 of the population, estimated at 4,579,107 persons in the middle of the year. In the three preceding months the rates had been 11·4, 11·4, and 11·9 per 1000 respectively. The rates were considerably below the average in Hammersmith, Fulham, Chelsea, the City of Westminster, Hampstead, and Stoke Newington, while they showed the largest excess in St. Pancras, Hackney, Bethnal Green, Stepney, Poplar, and Southwark. The prevalence of small pox last month showed a considerable decline from that recorded in the preceding month; the greatest proportional prevalence of this disease was recorded in Hackney, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Woolwich. The Metropolitan Asylums hospitals contained 1442 small pox patients at the end of last month, against 1135, 1309, and 1526 at the end of the three preceding months; the weekly admissions averaged 319, against 390 and 461 in the two preceding months. The prevalence of scarlet fever during the month under notice was very slightly in excess of that recorded in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in St. Pancras, Southwark, Battersea, Wandsworth, Camberwell, Deptford, and Lewisham. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 2501, 2250, and 2113 at the end of the three preceding months, had risen again to 2176 at the end of last month; the weekly admissions averaged 253, against 266, 234, and 258 in the three preceding months. Diphtheria also, was slightly less prevalent during April than in the previous months of this year; the greatest proportional prevalence of this disease occurred in St. Pancras, Islington, Hackney, Poplar, Camberwell, and Lewisham. There were 1035 diphtheria patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 1231, 1164, and 1123 respectively at the end of the three preceding months; the weekly admissions averaged 140, against 167, 164, and 156 in the three preceding months. The prevalence of enteric fever showed no variation from that recorded in the preceding month; among the various metropolitan boroughs "fever" was proportionally most

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING APRIL, 1902.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1902.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,579,107	1394	1542	1027	1	169	1	26	432	—	4592	10·5	254	294	50	112	225	—	16	—	60	1011	2·3	7374	16·8	126
West Districts.																										
Paddington	145,107	27	36	21	—	4	—	2	8	—	98	7·0	6	6	—	3	1	—	1	—	—	17	1·2	197	14·2	100
Kensington	177,605	19	43	28	—	3	—	1	15	—	109	6·4	2	11	2	2	2	—	—	—	3	22	1·3	237	13·9	106
Hammersmith	114,210	9	15	14	—	1	—	—	10	—	49	4·5	—	15	—	5	2	—	1	—	—	23	2·1	173	15·8	138
Fulham	143,102	11	29	30	—	3	—	1	13	—	87	6·3	1	31	—	4	7	—	—	—	2	45	3·3	230	16·8	131
Chelsea	74,018	8	13	11	—	1	—	2	5	—	40	5·6	2	10	2	—	1	—	—	—	—	15	2·1	122	17·2	124
City of Westminster	180,800	18	46	21	—	2	—	1	13	—	101	5·3	3	2	—	1	2	—	—	—	3	11	0·6	244	14·1	119
North Districts.																										
St. Marylebone	132,069	15	24	19	—	5	—	1	24	—	88	6·9	4	16	3	1	1	—	—	—	3	28	2·2	189	14·9	100
Hampstead	83,743	5	20	10	—	3	—	—	4	—	42	5·2	1	2	2	1	1	—	—	—	2	9	1·1	93	11·6	82
St. Pancras	235,596	52	122	93	—	8	—	3	23	—	301	13·3	10	6	6	6	16	—	1	—	4	49	2·2	407	18·0	145
Islington	337,268	68	108	103	—	5	1	3	31	—	319	9·9	10	16	4	16	8	—	—	—	2	56	1·7	524	16·2	111
Stoke Newington	51,700	7	13	4	—	2	—	—	4	—	30	6·1	1	2	1	—	—	—	—	—	—	4	0·8	69	13·9	103
Hackney	221,926	127	59	69	—	16	—	—	25	—	296	13·9	24	19	—	5	12	—	2	—	1	63	3·0	316	14·8	116
Central Districts.																										
Holborn	58,535	15	16	15	—	4	—	1	6	—	57	10·2	1	11	—	1	6	—	—	—	—	19	3·4	129	23·0	241
Finsbury	100,487	15	29	24	—	—	—	—	7	—	75	7·8	1	10	1	5	10	—	—	—	1	28	2·9	215	22·3	135
City of London	25,598	8	4	5	—	—	—	—	6	—	23	9·4	3	1	—	—	—	—	—	—	1	5	2·0	53	21·6	125
East Districts.																										
Shoreditch	117,980	66	22	21	—	7	—	2	8	—	126	11·1	7	10	—	4	12	—	—	—	6	39	3·4	229	20·2	152
Bethnal Green	129,889	70	45	24	—	7	—	—	17	—	163	13·1	16	13	1	4	11	—	1	—	1	47	3·8	276	22·2	172
Stepney	300,551	224	116	71	—	5	—	1	23	—	440	15·3	48	23	3	9	32	—	—	—	3	118	4·1	612	21·2	121
Poplar	169,214	133	59	57	—	10	—	1	24	—	284	17·5	16	9	1	8	5	—	—	—	3	42	2·6	344	21·2	155
South Districts.																										
Southwark	206,825	96	88	47	—	22	—	1	25	—	279	14·1	12	18	3	4	9	—	2	—	8	56	2·8	422	21·3	140
Bermondsey	130,218	47	43	26	1	7	—	—	13	—	137	11·1	11	7	2	3	16	—	1	—	3	43	3·5	239	19·3	133
Lambeth	305,102	63	91	51	—	11	—	1	35	—	257	8·8	11	9	2	4	13	—	2	—	4	45	1·5	431	14·7	115
Battersea	171,401	23	97	17	—	8	—	1	14	—	160	9·7	6	23	4	1	12	—	—	—	4	50	3·0	237	14·4	106
Wandsworth	241,810	37	101	61	—	8	—	—	13	—	220	9·5	6	7	3	8	9	—	—	—	1	34	1·6	312	13·5	151
Camberwell	262,775	82	127	85	—	5	—	1	20	—	320	12·7	17	1	5	10	12	—	2	—	2	49	1·9	386	15·3	104
Deptford	111,577	27	56	23	—	8	—	—	13	—	127	11·9	8	—	1	2	6	—	1	—	—	18	1·7	169	15·8	125
Greenwich	98,013	24	38	22	—	3	—	1	12	—	100	10·6	12	5	—	—	2	—	—	—	1	20	2·1	172	18·3	93
Lewisham	132,432	16	55	39	—	4	—	—	11	—	125	9·8	3	—	3	4	11	—	2	—	1	24	1·9	173	13·6	98
Woolwich...	119,556	74	25	15	—	4	—	2	10	—	130	11·3	12	11	1	1	6	—	—	—	1	32	2·8	174	15·2	111
Port of London	—	3	2	1	—	3	—	—	—	—	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

liquid is treated with ether to remove fat and other extraneous bodies. Finally, the residual liquid is made alkaline with potassium carbonate or hydrate and treated with chloroform which dissolves the liberated alkaloid. The chloroform is separated and poured off and on allowing it to evaporate atropine in a fair state of purity will remain which can be tested both chemically and physiologically. This excerpt from an early number of THE LANCET is interesting in relation to the history of alkaloids.

THERE will be a general meeting of the Medico-Legal Society on Thursday next, April 10th, at 5.30 P.M., at 20, Hanover-square, London, for the purpose of adopting rules and appointing officers. All who are interested in the work of the society are invited to attend. Particulars may be obtained from the secretaries, Dr. McCallin or Mr. R. Henslowe Wellington, 20, Hanover-square, W.

IT has been decided to inaugurate a post-graduate course of clinical demonstrations at Westminster Hospital during the coming summer session. The demonstrations will be held on Tuesdays at 4.30 P.M., commencing on May 13th.

SOME ACCOUNT WITH ILLUSTRATIONS OF "CHRONIC GLAUCOMA."

BY ONE WHO HAS IT.

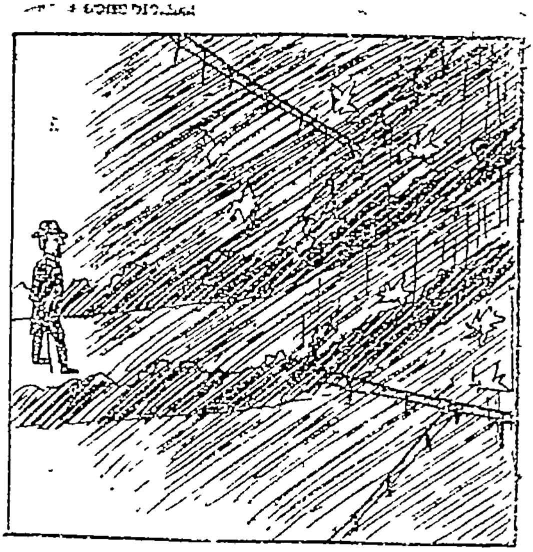
THE records of men who in the cause of humanity and medical science carry a fierce enthusiasm *usque ad mortem* are happily ever being brought up to date. The idea that a man should wilfully contract a disease in order that he may fully grasp its most minute symptoms and be more competent to relieve others who suffer from it is no longer considered a vain phantasy. There are, however, some diseases too malignant or exclusive to be assumed at will and among them must rank specific ocular diseases such as chronic glaucoma which seems to be also known under the title of "grey atrophy."

Pending the time when a medical expert shall contract this disease and lucidly and scientifically describe its most minute details a poor layman, whose only merit is that he suffers from it, gives here his personal knowledge of an undesirable malady in the hope that some reader may see here and there some further light to guide him in his work; and also with the idea that the strange vagaries of the eye alluded to may give some slight further inkling to the cause and seat of dreams, which vagaries may be likened to the probable productions of an automatic photo-camera out of gear.

Physical condition and appearance.—The patient's height is six feet and his weight has never exceeded 11 stones and two pounds. He is active in habits, is somewhat restless, and is nervous and slightly irritable. He has a wiry appearance and a very meagre flesh covering, is a great walker, and is able to get over 30 miles in a day without distress. An advertisement writer, his sight has for many years been taxed to its utmost, but the eyes had never given very serious trouble until about five or six years ago, when his work caused him to live in Manchester, which, on account of its ceaseless clatter and humidity, is a stronghold of nerve shatter and rheumatism. After about 18 months' residence there the patient was attacked by what was at first called muscular rheumatism but which eventually developed into general neuralgia, appearing at gradually lessening intervals. Two years ago the nasal nerves were specially affected, and as a result twice or three times a week there was a copious watery discharge from the eyes and nose. This usually came on at night suddenly and was preceded by a sharp stinging sensation in either nostril. This prevented sleep and in the daytime made work very difficult, necessarily causing considerable worry. Slight failure of the eye then occurred, of which, unfortunately, little notice was taken. Rather more than a year ago reading became difficult, the letters appearing to flow into one another, fancy-pointed type being most easily discernible. This appears to bear out what a writer in a recent issue of THE LANCET stated, as to a man suffering from partial blindness being better able to read Greek than any other language. On consulting Dr. O. E. Glascott he diagnosed the disease as chronic glaucoma, a hopeless complaint, always going from bad to worse and liable through influenza or a bad cold to end in darkness. No treatment was likely to be of any avail, and the only vestige of consolation lay in the fact that a kind of record had been established by the disease being contracted at the age of 40 years instead of at 60 years, as usual. The general outlook at this period presented the appearance of a continuous summer haze.

Rapid development of the disease.—In two months' time a slight mist had grown into a thick fog of a dark grey aspect. Further medical assistance was sought, Mr. E. L. Luckmann of Altrincham Eye Infirmary taking the case in hand and giving tonics to which iodide of potassium was added. This treatment had a decidedly beneficial effect and appeared at least to arrest the progress of the complaint and even at times to improve the vision. Unfortunately, however, owing to a very bad chill, caught when making a sea trip to Glasgow, the small hopes of amelioration were dispelled, and with the exception of a slight appreciation of the light a state nearly approaching to blindness ensued and the patient had to be led about. The following illustration represents the patient's view of part of the country through which he walked on his first visit to Altrincham. It looks as if the peaceful fields were being shelled by an enemy. The phenomena only occurred after much physical exertion and the bursts of light were accompanied by a very slight cracking noise. (Fig. 1.)

FIG. 1.



This shows the patient going along a country road, fields on either hand. The lighter spots locate the apparent position of the bursts of light referred to.

It should be mentioned that this ocular peculiarity occurred after considerable physical exertion only. This next sketch represents a very crowded Manchester thoroughfare on a clear day as it appears at the time of writing. Nothing is visible except an occasional dark shadow. The one shown in the sketch represents a man who has passed near enough to tread on the patient's toes. None of the road traffic can be seen at all. (Fig. 2.)

During the past few weeks, in addition to a chronic stickiness of the eyelids, a kind of paralysis of the nose, the lips, and the chin has set in, making speech occasionally quivering. There has also been periodical numbness of the forehead. It may be mentioned that when in Glasgow the patient attended the Ophthalmic Institute and was seen by Professor A. Maitland Ramsay who confirmed all that Dr. Glascott had said, calling the disease, however, by a different name—"grey atrophy."

Permanent optical illusion.—In the advanced state of the disease the only thing capable of being visually appreciated with anything like correctness was a large blot of ink on white paper held close to the eye. The patient finds it a great relief to keep the lids closed as much as possible, but prevalent in Hackney, Holborn, Shoreditch, Poplar, Southwark, and Deptford. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 128, 142, and 121 at the end of the three preceding months, had further declined to 115 at the end of last month; the weekly admissions averaged 17, and corresponded with the number in the preceding month. Erysipelas was proportionally most prevalent in St. Marylebone, Bethnal Green, Poplar, Southwark, Deptford, and Greenwich. The 26 cases of puerperal fever notified during the month included three in St. Pancras, three in Islington, and two each in Paddington, Chelsea, Shoreditch, and Woolwich.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, *the deaths occurring in public institutions* having been distributed among the various boroughs in which the deceased persons had previously resided. During the five weeks ending May 3rd the deaths of 7374 persons belonging to London were registered, equal to an annual rate of 16·8 per 1000, against 18·3, 25·9, and 20·4 in the three preceding months. The lowest death-rates last month in the various metropolitan boroughs were 11·6 in Hampstead, 13·5 in Wandsworth, 13·6 in Lewisham, 13·9 in Kensington and in Stoke Newington, and 14·1 in the City of Westminster; the highest rates were 21·2 in Stepney and in Poplar, 21·3 in Southwark, 21·6 in the City of London, 22·2 in Bethnal Green, 22·3 in Finsbury, and 23·0 in Holborn. The 7374 deaths from all causes included 254 from small-pox, 294 from measles, 50 from scarlet fever, 112 from diphtheria, 225 from whooping-cough, 16 from enteric fever, and 60 from diarrhœa; in all, 1011 deaths were referred to these principal zymotic diseases, equal to an annual rate of 2·3 per 1000. The lowest death-rates last month from these diseases among the various boroughs were 0·6 in the City of Westminster, 0·8 in Stoke Newington, 1·1 in Hampstead, 1·2 in Paddington, 1·3 in Kensington, and 1·5 in Lambeth and in Wandsworth; the highest rates were 3·3 in Fulham, 3·4 in Holborn and in Shoreditch, 3·5 in Bermondsey, 3·8 in Bethnal Green, and 4·1 in Stepney. The 254 fatal cases of small-pox showed a slight decline from the numbers recorded in the two preceding months; the greatest proportional mortality from this disease occurred in Hackney, the City of London, Bethnal Green, Stepney, Poplar, Greenwich, and Woolwich. The 294 deaths from measles were 95 below the average number in the corresponding periods of the 10 preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Hammersmith, Fulham, Chelsea, St. Marylebone, Holborn, Finsbury, Bethnal Green, and Battersea. The 50 fatal cases of scarlet fever showed a decline of 20 from the corrected average number; the greatest proportional mortality from this disease was recorded in Chelsea, St. Marylebone, Hampstead, St. Pancras, Battersea, and Lewisham. The 112 deaths from diphtheria were 60 below the average number in the corresponding periods of the 10 preceding years. Among the various metropolitan boroughs this disease was proportionally most fatal in Hammersmith, Islington, Finsbury, Poplar, and Camberwell. The 225 fatal cases of whooping-cough showed a decline of 85 from the corrected average number; the greatest proportional mortality from this disease occurred in Holborn, Finsbury, Shoreditch, Bethnal Green, Stepney, and Bermondsey. The 16 deaths referred to enteric fever were also less than one-half of the corrected average number in the corresponding periods of the 10 preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Hackney, Southwark, Lambeth, Camberwell, and Lewisham. The 60 fatal cases of diarrhœa also showed a slight decline from the corrected average number; the highest death-rates from this disease were recorded in St. Marylebone, Hampstead, Shoreditch, Southwark, Bermondsey, and Battersea. In conclusion, it may be stated that the aggregate mortality in London last month from the principal zymotic diseases was more than 2 per cent. below the average.

Infant mortality in London during April, measured by the proportion of deaths among children under one year of age to registered births, was equal to 128 per 1000. The lowest rates of infant mortality were recorded in Paddington, St. Marylebone, Hampstead, Stoke Newington, Greenwich, and Lewisham; and the highest rates in St. Pancras, Holborn, Shoreditch, Bethnal Green, Poplar, and Wandsworth.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: J. H. Lightfoot to the *Formidable* and A. R. Thomas to the *Hearty*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel T. M. Corker proceeds to Woolwich and Lieutenant T. Biggam joins at Hounslow for duty.

Lieutenant Howard Ensor, D.S.O., is seconded for service with the Egyptian Army. Dated May 2nd, 1902.

Major S. C. Philson, from the Seconded List, to be Major, vice R. E. Kelly, placed on half-pay. Dated April 16th, 1902.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant C. F. Spinks having resigned his Volunteer appointment, ceases to belong to the Army Medical Reserve of Officers. Dated May 10th, 1902.

IMPERIAL YEOMANRY.

36th Battalion: Richard Ahern to be Medical Officer, with the temporary rank of Captain.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers).—1st Newcastle-on-Tyne: Lieutenant George Nicol Wilson resigns his commission and is appointed Surgeon-Lieutenant. 1st Norfolk: William Oliver Beddard to be Surgeon-Lieutenant.

Rifle: 1st Volunteer Battalion the Royal Scots Fusiliers: *Brigade-Surgeon-Lieutenant-Colonel* W. Wilson *reverts to* the rank of Surgeon-Lieutenant-Colonel on relinquishing the appointment of Senior Medical Officer to the late Clyde Volunteer Infantry Brigade on reorganisation. 2nd (Earl of Chester's) Volunteer Battalion the Cheshire Regiment: Brigade-Surgeon-Lieutenant-Colonel H. W. King is seconded whilst holding the appointment of Senior Medical Officer to the Cheshire Volunteer Infantry Brigade. 1st (Ross Highland) Volunteer Battalion Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's): Surgeon-Lieutenant J. Cameron to be Surgeon-Captain. 3rd (Morayshire) Volunteer Battalion, Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's): Surgeon-Captain G. C. Milligan resigns his commission. 1st (Inverness-shire Highland) Volunteer Battalion the Queen's Own Cameron Highlanders: Lieutenant-Colonel Thomas Ranken Macdonald, late Indian Medical Service, to be Surgeon-Lieutenant-Colonel. 3rd (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Charles Whish to be Surgeon-Lieutenant.

BEARER COMPANY.

Harwich: William Alexander Gibb to be Surgeon-Lieutenant.

SOUTH AFRICAN WAR NOTES.

Lieutenant Beatty, R.A.M.C., was reported "not so well" on May 10th, having previously been reported "improving."

Captain A. E. Smithson, R.A.M.C., and Civil Surgeon Burch are returning from South Africa to England in the s.s. *Canada*, which left Cape Town on May 7th.

THE VICTORIA CROSS.

The King has signified his intention to confer the decoration of the Victoria Cross on Surgeon-Captain A. Martin-Leake, South African Constabulary, for his conspicuous bravery in South Africa. "During the action at Vlakfontein on Feb. 8th, 1892, Surgeon-Captain Martin-Leake went up to a wounded man and attended to him under a heavy fire from about 40 Boers at 100 yards range. He then went to the assistance of a wounded officer, and whilst trying to place him in a comfortable position was shot three times, but would not give in till he rolled over thoroughly exhausted. All the eight men at this point were wounded, and while they were lying on the veldt Surgeon-Captain Martin-Leake refused water till every one else had been served."

"MENTIONED IN DESPATCHES."

This is the title of a useful publication which has just been issued by the *Army and Navy Gazette* (York-street, Covent-garden, W.C.) at the price of 1s. net. It contains in a handy form lists of all the officers and men of the Royal Navy and the Army who have been mentioned in despatches and have received honours and promotions for their services in South Africa from the beginning of the war in 1899 to May 6th, 1902. The lists have been compiled from official gazettes and have been thoroughly revised and corrected in accordance with later *London Gazettes*. Inasmuch as some of the issues of the *London Gazette* containing the South African war despatches are now out of print the book is of great value as a work of reference. Among the list of those who have gained the Victoria Cross are the names of Lieutenant-Colonel Babtie, C.M.G., R.A.M.C.; Surgeon-Captain Crean, Imperial Light Horse; Lieutenant Douglas, R.A.M.C.; Captain Howse, New South Wales Medical Staff Corps; Captain Inkson, R.A.M.C.; and Captain Nickerson, R.A.M.C (It will be seen from another paragraph on page 1425 that the name of Surgeon-Captain A. Martin-Leake, South African Constabulary, must now be added to this list.) One K.C.B was conferred upon a member of the medical profession for services in connexion with the war—namely, on the late Sir William MacCormac, Bart., K.C.V.O., and 20 C.B.'s, two K.C.M.G.'s, 47 C.M.G.'s, and 37 D.S.O.'s have been received by members of the medical profession. Non-commissioned officers and men of the Royal Army Medical Corps have had 38 Distinguished Conduct medals, and a sergeant-major a bar for the medal he already possessed.

Two D.S.O.'s have been conferred upon medical officers of the Royal Navy.

Upon nursing sisters and other ladies 48 Royal Red Crosses have been bestowed.

AUGMENTATION OF THE GERMAN NAVY.

It is well known that Germany intends to become a first-class naval power in the near future. This is clearly shown in the scheme for increasing the *personnel* of the navy which has been elaborated by the authorities. According to this document the strength of the German navy in 1920 will be as follows: executive officers, 2088; engineers, 427; paymasters, 234; and petty officers, bluejackets, stokers, and torpedo hands, 54,920. The strength of the medical department has been more than doubled, as shown below:—

Medical officers of the	Strength, 1900.	Strength, 1920.	Increase.
First class	1	1	—
Second ,, ...	2	4	2
Third ,, ..., ...	26	83	57
Fourth ,, ...	56	115	59
Fifth ,, ...	68	138	70
Totals	153	341	188

Of the above upwards of half are designated for sea service as follows: second-class medical officer, 1; third-class, 55; fourth-class, 61; fifth-class, 69; total, 186. One-fifteenth of the officers belonging to the last two classes are to be detached annually from general service for instruction in the various scientific institutions at Berlin. The number of medical officers of all grades for duty at the different stations has been established in the following manner: (1) Service afloat. North Sea Fleet (active list), 56. Ditto (reserve), 35. Vessels absent from home waters, 40. Ditto (for relief), 20 Training ships, 16. Special service ships, 5. (2) Service on land. Berlin, 22; Kiel, 70; Dantzig, 2; Friedrichson, 3; Wilhelmshaven, 66; Lehe, 2; Cuxhaven, 2; Heligoland, 1; Yokohama, 1; total, 341. The names of a few medical officers at Kiel and Wilhelmshaven are on the sea-going list.

THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

The eleventh annual meeting of this association will be held at Washington, D.C., on June 5th, 6th, and 7th, 1902, under the presidency of Lieutenant-Colonel John Van R. Hoff, Deputy-Surgeon-General of the United States Army. Some important papers dealing with medical military subjects will be read during the meeting and there will be an exhibition of medico-military materials Major James Evelyn Pilcher, Brigade-Surgeon, U.S.V., whose address is Carlisle, Pennsylvania, will act as secretary to the meeting.

ISOLATION ACCOMMODATION.—Dr. F. St. George Mivart, of the Local Government Board, conducted an inquiry on April 16th at Stroud in reference to the application of the local joint hospital board for permission to borrow £12,500 for the purpose of erecting an infectious diseases hospital upon a site already acquired at Carles Green, Stroud.

Correspondence.

"Audi alteram partem."

THE BATTLE OF THE CLUBS: THE COVENTRY PUBLIC MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—As this organisation has now been in existence for 10 years we are in a position to lay before the profession the result of our work in the interest of reform in medical contract work. As a result of this strong combination in the profession we may pride ourselves on the fact that Coventry has taken the foremost position in this pioneer work. Built upon the ashes of medical aid associations it may now be regarded as the largest existing organisation under professional control. The recent decision of the General Medical Council on the question of medical aid associations appears to render some agency of this kind a necessity to medical men. Each city or town should absorb in a service under its own control the bulk of these patients or those suitable for club or dispensary treatment. Many problems affecting the profession may under these conditions attain a certain measure of solution. In our experience there is no necessity to admit the lay element on the committee of management. Coöperative societies, trade unions, or other kindred combinations have attained an extraordinary measure of success under the management of working-men so-called. Why should not medical men possess the necessary business talent to develop a working scheme capable of protecting their own interests? Our service has now enrolled 10,000 members under a wage-limit and our gross receipts for the year amounted to £1986 17*s.* 6*d.* We paid to our chemists £456 4*s.* 2*d.* and the medical officers, after deducting all working expenses, were paid £1238 15*s.* 6*d.* We have some slight expense in organising our scientific branch, some of our work being thus carried on in the interest of medical progress. We have had during the year 10 meetings at which there were addresses and discussions of great value to the profession. Amongst those taking part were Dr. E. Malins, Dr. E. Rickards, Mr. G. Heaton, and Mr. J. F. Hall-Edwards of Birmingham, Dr. J. H. Sequeira, Dr. L. Hemington Pegler of London, and Mr. J. E. Swindlehurst, city engineer of Coventry. We thus combine together in our service the scientific and the commercial interests of the profession. During the year 2684 new members joined, mostly of the labouring class, and our collections over the previous year showed an increase of £150 19*s.* 8*d.*—I am, Sirs, yours faithfully,

W. RICHARDSON RICE, M.D., Honorary Secretary.

May 11th, 1902.

INHALATION.

To the Editors of THE LANCET.

SIRS,—In the Baillie lecture delivered by Dr. W. H. Dickinson at St. George's Hospital and published in THE LANCET of May 10th, p. 1297, there are some remarks on inhalation which deserve attention. They are as follows: "Whether we shall ever find a way of killing the visitor without doing serious damage to the host is a question for the future—we have not done so yet." May I observe on this remark that we are not likely to do so while such opinions prevail. In an old number of St. George's Hospital Reports a short paper was published on Some Remarks on Inhalation. There was a quotation in it from Dr. Paris on inhalation to this effect: "Unfortunately the injudicious and empirical spirit with which these inquiries have hitherto been conducted has thrown such discredit upon the subject that the practitioner who would resume the investigation must be prepared to hear his understanding or his integrity questioned."

In THE LANCET of May 21st, 1892 (p. 1130), just 10 years ago almost to a day, you were good enough to publish a paper on the Scientific Principles of Inhalation. It was written with the intention of relieving the subject of inhalation to some extent from the "discredit" that Dr. Paris remarked upon. How the vapores of our old Pharmacopœia with their totally inefficacious directions for administration could be tolerated by the profession was a mystery to me only to be accounted for by complete ignorance of the subject, and I think one of the most laudable changes made was their extermination. We all should take an active interest in the subject of inhalation, and it seems wiser and better to try to improve than to sit still and wait for a future that patience will not help

I am, Sirs, yours faithfully,
May 13th, 1902. ROBERT J. LEE.

DOES PUERPERAL ECLAMPSIA TEND TO RECUR?

To the Editors of THE LANCET

SIRS,—A question of considerable medical interest has arisen in the course of my practice. A patient of mine had during her first confinement a most serious attack of puerperal eclampsia from which, after long and anxious watching, she recovered. Her husband, who is naturally anxious, has now appealed to me as to the risk she would run of again incurring this formidable complaint in the event of her becoming pregnant a second time. Not wishing to take the responsibility of answering this grave question on my own limited experience I at once consulted all the leading authorities, from the time of Churchill up to the present day, on the subject, without gaining the slightest assistance in my dilemma. Such being most unsatisfactory, I at once bethought me of your valuable journal and decided to write you in the hope that some among your readers and contributors might have it in their power to help me in this most awkward predicament. Thanking you in anticipation,

I remain, Sirs, yours faithfully,
D. F. MACGILLICUDDY, M.B., B.S. Melb.
Richmond, Victoria, Australia, March 24th, 1902.

LARGE DOSES OF STRYCHNINE IN SURGICAL SHOCK.

To the Editors of THE LANCET.

SIRS,—If Mr. C. Hamilton Whiteford thinks that I have failed to appreciate the difference between strychnine in one large dose administered to a non-collapsed patient and graduated doses of the same drug given to a patient suffering from shock I may at once disabuse his mind of the fallacy which he labours under. My strictures referred to the ideal system so ably championed by Mr. Whiteford, and the questions which I asked the advocates of this new form of drugging were framed, not in the study, but were prompted by bedside observation. If my theory of the terrific spasms is perfect, as Mr. Whiteford says it is, I am glad to hear it, for, unlike many theories, it was made to fit facts observed. If I might be allowed an opinion in the matter I should say it is fact without any theory. Now for the case.

A man, 70 years of age, suffered from intestinal obstruction and had colotomy performed under ether. The operation itself was perfect. Before operation he was given one-tenth of a grain of strychnine hypodermically and soon after the operation was completed another one tenth of a grain was administered in the same manner. Later at intervals he had one-twentieth of a grain on three separate occasions as was considered necessary to make the pulse "buck up." From first to last he had seven-twentieths of a grain of strychnine hydrochloride, or equal to 35 minims of the pharmacopœial solution. When the effects of the ether had quite passed off then little by little began the train of symptoms which I enumerated in my last letter. First there was twitching, then great irritability of the reflexes, next clonic and tonic spasms of the vital reflexes, till when toxicity was fully developed the nurse told me, without any prompting, that she was afraid to walk across the room for fear of starting the spasm of the respiratory muscles. For hours before the patient died it was impossible to get him to swallow anything, the least attempt in that direction being enough to induce a series of clonic spasms followed by a long tonic spasm, and I had to give large doses of chloral by the rectum to combat the strychnine action.

Potent drugs can be given in much larger amount than the authorised dose, but if we go right up to the maximum of safety, as is now being done with strychnine, here and there disasters will occur. I write in no mood of carping criticism, for with every honest endeavour to fight death I am in hearty accord, but where I believe the bounds of safety have been transgressed I feel it my duty to protest, and I think that my experience as given above justifies the stand I now take.

I am, Sirs, yours faithfully,
Leeds, May 10th, 1902. GORDON SHARP.

To the Editors of THE LANCET.

SIRS,—As house surgeon in a large provincial hospital where a great number of severe operations are performed I have had many opportunities of watching the after-effects of large doses of strychnine administered on the operating table. Varying amounts from 10 to 60 minims are frequently injected hypodermically when the patient has much shock. In most cases no ill effects are to be detected but in a considerable number I have noticed involuntary painful muscular spasms a few hours afterwards which have been relieved by the hypodermic injection of morphia. The largest dose given without any after symptoms was 30 minims during an operation for perforated gastric ulcer, the patient recovering. The largest dose given that produced slight spasms was 60 minims, also in a case of gastric perforation. The patient died five days later. The smallest dose given with spasms following was 26 minims to a girl 16 years of age with general peritonitis from a sloughing appendix who died the day following the operation. I am inclined to think that toxic symptoms are more likely to follow when ether has been the anæsthetic than when chloroform has been given.

I am, Sirs, yours faithfully,
F. BOLTON CARTER, F.R.C.S. Eng.
The Infirmary, Leicester, May 12th, 1902.

To the Editors of THE LANCET.

SIRS,—I should like to add my testimony to that of Dr. J. Gordon Sharp that in an operative case where strychnine had been injected hypodermically the tonic and clonic spasms of the muscles of the extremities remained after the effects of the anæsthetic had passed off, and, indeed, until the death of the patient nearly a week after, and caused a great deal of suffering. I am, Sirs, yours faithfully,
Leeds. JOHN J. PICKLES, M.R.C.S. Eng., &c.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.

(FROM OUR BERLIN CORRESPONDENT.)

THE twentieth German Congress of Internal Medicine met this year at Wiesbaden, Professor NAUNYN of Strassburg being in the chair. The members on their arrival were, as usual, welcomed by the local authorities and by representatives of the medical profession. Professor von Leyden, the founder of the Congress, whose seventieth birthday has just been celebrated in Berlin with much enthusiasm, was then elected an honorary member of the Congress and the chairman took the opportunity of paying a tribute to his great merits as a clinical observer, a man of science, and a practical physician. In his reply Professor VON LEYDEN said that he, together with several other physicians, founded the Congress because it seemed as if internal medicine was falling behind other branches of medicine, especially in view of the surprising progress made by surgery and gynæcology. The Congress of Internal Medicine, the Berlin Society of Internal Medicine, and the *Journal of Internal Medicine* were intended to uphold and to maintain the position of this department of medical science. It was then announced by the mayor of Wiesbaden that the municipal authorities had conferred the freedom of the city upon Professor von Leyden, who was thereupon formally presented with the document certifying his election.

Gastric Ulcer.

Professor EWALD (Berlin) said that gastric ulcer was more frequent in women than in men and was usually met with in persons between 20 and 30 years of age. Cancer originating in a gastric ulcer has been known to occur in a youth, 16 years of age, but such cases were rare. In gastric ulcer some authorities objected to the employment of tubes for the purpose of obtaining samples of ingested food in order that they might be submitted to examination, but tubes might be employed if hæmorrhage had not occurred recently. As to the amount of hydrochloric acid, Professor Ewald said that it might be either normal or increased or diminished and an excess of hydrochloric acid was therefore by no means characteristic of gastric ulcer, whilst lactic acid was often absent. It followed from this that the chemical examination of the contents of the stomach did not contribute much to the diagnosis of the disease. Hæmatemesis occurred in 54 per cent. of the cases; this symptom was, however, present in other diseases also, such as uræmia, cirrhosis of the liver, septic diseases, and in so-called vicarious menstruation. It was not possible to localise an ulcer of the stomach although the pylorus was known to be affected in the majority of cases. Speaking of the complications of gastric ulcer he said that hour-glass contraction of the stomach might be ascertained by direct inspection with the gastroscope, but no satisfactory form of this instrument had yet been made. Perforation of the ulcer into the abdominal cavity was attended by symptoms so characteristic that the diagnosis was very easy, but perigastric adhesions were difficult to recognise. In a good many cases the diagnosis was uncertain. Patients suffering from chlorosis, the early stage of tuberculosis, gall-stones, cancer of the gall-bladder, and gastric troubles connected with tabes were often supposed to be the subjects of gastric ulcer.

Professor **FLEINER** (Heidelberg) gave some account of what had been done by early observers of gastric ulcer, stating that it was known to Hippocrates whose dietetic prescriptions were judicious. He further mentioned the researches of Cruveilhier, Trousseau, Brinton, Leube, and Kussmaul. Treatment, he said, aimed at obtaining cicatrisation of the ulcer, and this might be accomplished by means of rest, adequate food, and appropriate medicines, especially salts of bismuth. The patient should eat as little as possible and in the beginning of the treatment should have only ice to suck, whilst milk was to be given by the rectum. No other food than milk should be allowed for four weeks; meat and vegetables might then be given, but fruits, acids, meat extracts, and other gastric irritants were to be prohibited. For convalescents a visit to the country was preferable to a course of treatment at a mineral spa. Relapses sometimes happened, especially when the patient had not been confined to bed for a sufficient time. In these cases irrigation of the stomach with a solution containing bismuth was the best treatment, for the bismuth often adhered to the floor of the ulcer and had been found there after the lapse of several days. The compound of bismuth protected the ulcer against irritation; it was also a disinfecting agent and promoted healthy granulation. Professor Fleiner had treated 500 cases of gastric ulcer without any death. Surgical aid was advisable, especially in stricture of the pylorus, and should be resorted to at an early period before cachexia developed Gastro enterostomy was the operation which gave the best results. In profuse hæmorrhage operations were, as a rule, useless.

In the discussion Professor **LEO** (Bonn) said that he was opposed to the use of tubes because they irritated the ulcer.

Dr. **PARISER** (Homburg) drew attention to erosions of the stomach, a condition which ought to be distinguished from gastric ulcer proper.

Professor **SAHLI** (Berne) expressed the opinion that in gastric ulcer operative interference should be avoided as much as possible, for the great majority of these ulcers healed under internal treatment

Dr. **ADOLPH SCHMIDT** (Bonn) discussed the genesis of gastric ulcers. He had discovered by experiments on animals that in lesions of the mucosa the contractility of the muscular coat was increased so that the edges of the wound were brought together, but in chlorosis the contractility of the muscular coat was diminished so that the lesion was left open and was liable to be attacked by the gastric juice.

Dr. **HIRSCHFELD** (Berlin) said that the development of cancer in a cicatrised gastric ulcer was less frequent than was generally believed.

The Parasites of Cancer.

Professor **VON LEYDEN** (Berlin) said that the increase of cancer in Germany and England had induced a great many observers to study its etiology. He then discussed the various themes of Cohnheim, Hausemann, and Ribbert. Cancer from an anatomical point of view consisted in a proliferation of epithelial cells together with a destruction of all the other cells. The exciting cause of this proliferation had not yet been discovered. Various parasites had been credited with possessing this power, but none of these hypotheses had stood the test of further investigation, so that any new discovery in that direction was received with some distrust. Very likely the parasites of cancer lived within the cells. Ribbert had asserted that a parasite living in a cell would destroy it but would not produce proliferation. Thi view, however, could be disproved by botanical analogies. There was sometimes in cabbage a growth very similar t cancer and known as "kohlhernie," in which plasmodia had been discovered by Dr. Woronin, a Russian *savant*. Thes plasmodia grew within the cells and produced first proliferation and then a destruction of them. The anæmia and the alterations of the urine which occurred in cance must be taken as symptoms of a general infection. Moreover, cancer had been communicated experimentally from one animal to another, of course of the same species. Professo von Leyden also mentioned a case where by accident student had drunk a fluid consisting of the gastric juice of patient suffering from cancer of the stomach, the resul being his death from cancer within two years. He the described plasmodia which were found within the proliferated cells in cancer, especially in fresh specimens, and wer very like those discovered by Dr. Woronin; the plasma o the cells appeared as if destroyed by the parasites. Professo von Leyden recently discovered masses of these corpuscle in capsules which were supposed to be sporangia. Simila masses had also been met with in a case of cancer of th lungs.

(*To be continued.*)

THE NICE HOSPITALS AND THE VICTORIA MEMORIAL.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

A Proposed Cottage Hospital for English-speaking Patien at Nice.—The Difficulty of Dealing with Infectious Ca in Hotels.—The War Department and the Municipa Hospital.

THE prevalence of small-pox on the Riviera has greatl stimulated the efforts of all who had already endeavoured t improve the hospital accommodation. At Nice especial there has been quite an agitation among the American an British visitors and residents in favour of building a cottag hospital. Some time ago the newly appointed British Consu at Nice, Mr. Alec McMillan, proposed that a memori should be established at Nice in honour of the late Quee Victoria. Of course there was a clergyman who suggested tha the memorial should take the form of a stained-glass windo for the beautification of his church. The British resident and their American friends displayed, however, a mor practical turn of mind. They warmly supported the propos of Dr. A. W. Gilchrist who argued that a cottage hospit would be of far greater service than a stained-glass windo particularly as there is no hospital with modern requisites i the town. A public meeting of American and Britis residents and visitors was held on March 16th last. In t course of a lengthy and interesting speech delivered on th occasion Dr. Gilchrist related the pathetic case of an Englis lady who was seized with a serious illness last year. S had been refused admittance to the Asile Evangéliq and was removed to the Hôpital de la Croix. "Y know," said Dr. Gilchrist, "the pitiful circumstances her death In the middle of the night, amidst the gloo and desolation which befit the antiquated institution th gave her refuge, she drew her last breath, not only depriv of those subtle influences which can rob even death of som of its terrors, but without the possibility of expressing h last wishes to anyone of her own tongue." Then anoth case was described of a lady who was eligible for admissio into the Asile Evangélique, but this patient required the ca of an experienced surgeon not available at the Asile, whe the insanitary surroundings and restricted space render unwise to attempt major surgical operations. Her end w hastened because there was no suitable hospital where s would have received the constant attendance and skill nursing which she needed. In many such cases Englis speaking medical men and trained nurses are absolute necessary. Another instance given was that of a young la of French parents but born and bred in England. Thou endowed with an exceptionally fine physique she had undergo an operation rendered necessary through insufficie care during childbirth. There was nothing particularly seri or dangerous about this case; but being a Roman Catho she could not enter the Asile Evangélique, and theref she went to the General Hospital, where she died fro blood-poisoning. There are many other such accidents on record, and the French as well as the practitioners have often complained about the unsuitable and insanitary conditions of the General Hospital.

The Asile Evangélique is more suited for a convalescent home. There are no proper provisions for serious surgical operations, no lying-in ward, no isolation pavilion for infectious cases, and it is only available for Protestants and members of the Orthodox Greek Church; Roman Catholics and Jews are not admitted. It therefore in no wise meets the most urgent requirements. What is wanted is a cottage hospital, or rather several cottage hospitals, where English-speaking patients, without any distinction of creed, can be treated under the best and most modern sanitary conditions by English-speaking medical attendants and fully-trained nurses. There should be a well-equipped operating-room, a surgical ward, a medical ward, a lying-in ward, and an isolated pavilion for infectious cases. Some of the beds, and these would constitute the Victoria Memorial, should be gratuitous; the others should be for paying patients attended by their own physicians. Of the latter there would be a considerable number, for in any serious case of illness it is obvious that many persons would prefer such a hospital to remaining in an hotel. They would also have a better chance of recovery. In regard to infectious diseases the need of such an institution is still more obvious, for there can be no doubt that the infectious fever cases and small-pox should not be treated at an hotel. The hotel-keepers are in considerable perplexity when such cases occur. If they compel the patient to leave they may be accused of inhumanity and may become unpopular among their customers. If they keep the patient the customers may take fright and leave the hotel. Under these circumstances many hotel keepers are willing to subscribe to the proposed cottage hospital. Cases have occurred where well-to-do patients have died in an outhouse, a shanty, or an abandoned workshop because there was no room to isolate them in their hotel. Of the six cases of small-pox which occurred this season among the British and American visitors one of the patients lived in a large tenement house. He was nursed by his brother and sister who were to be seen daily riding in the trams. Other tenants dwelling in the same house wanted to get away but having hired apartments for the season could not do so. It may be said that this patient could have been removed to the hospital of La Croix where infectious cases are taken in and where private rooms can be hired. But it is an antiquated institution devoid of modern requirements and there are only untrained Italian sisters who sometimes render themselves objectionable to Protestants.

Considering that the welfare of Nice depends largely on its foreign visitors and that the fear of small-pox has kept many of them away during the recent winter season the question naturally arises why the municipality has not taken active steps to provide proper accommodation, at least for the isolation of cases of infectious fever or small-pox. The better to answer this obvious question I called on the Mayor of Nice. The present Mayor, M Sauvan, has not been very long in office, but from gossip in medical circles I had already ascertained that he had manifested more than usual interest in all matters relating to the public health, and hopes are entertained that under his administration more rapid progress will be achieved. In any case M. Sauvan received me most courteously and was ready to supply the information I made bold to demand. He insisted that the grievance in regard to the condition of the hospitals had been a subject of anxiety to the municipality for a long time and many efforts at reform had been made. Unfortunately until recently the municipality was not master of the situation. It had a partner, and a very obstructive partner, in the person of the Minister of War. This is a difficulty which certainly would never occur to the mind of a British or American visitor when tempted to criticise the municipal deficiencies of Nice. We cannot conceive a British or American municipality being debarred from providing proper hospital accommodation by the action of the War Office, and this, too, in the piping times of peace. But the fact is that the General Hospital of Nice is a military as well as a civil hospital. Now the War Department is not in the least concerned about the welfare of Nice as a fashionable winter resort. The military authorities were satisfied with the hospital as it stood and were not going to trouble themselves about alterations. Negotiations were opened by the municipality with the War Office, plans were proposed and schemes devised, but the military authorities invariably put spokes in the wheels whenever the civil authorities tried to move in the matter and this caused endless delay. A solution of the difficulty has, however, at last been found. A contract has been signed by which the municipality takes over the entire management of the hospital. It will be able to select a new site and to build a new hospital without having to consult and to obtain the approbation of the War Office. On the other hand, the municipality undertakes to receive in its hospital all soldiers who are ill in exchange for a fixed payment per head per day from the War Office. Already it has been decided to abandon the present hospital and to build according to modern principles and on the pavilion system a large hospital some four or five miles away from the centre of the town. There will be no financial difficulty in the accomplishment of this much-needed reform. Nice is the most prosperous of the large towns of France. Its population now numbers 127,000 inhabitants and has increased to the extent of 20,000 during the last five years. The mayor thinks that the new hospital will take some two or three years to build and therefore he insisted that the solution of the difficulty which I had exposed was now in sight. In regard to infectious cases there will, of course, be one or more pavilions separated from the rest of the hospital and reserved exclusively for isolation purposes. In response to this explanation I ventured to suggest that as the land had not yet been bought it would be preferable to secure two different sites well apart from each other. There was no advantage—there might be some danger—in having both hospitals in the same grounds; they could not be kept too far apart. The mayor graciously promised that good note would be taken of this observation.

Of course, it is still too soon to say how far the building of this new municipal hospital will lessen the need of a cottage hospital for English-speaking patients. For the latter purpose £1500 have been collected. Hopes are entertained that £10,000 will be obtained and it is proposed to make a start as soon as £4000 are in hand. If these hopes are confirmed something may be done long before the new municipal hospital will be built. Also the new general hospital, however perfect it may be, will not meet the requirements of the British and American residents who want the attendance of fully trained English nurses and English-speaking medical practitioners. There might, however, be some arrangement made for an English ward at the general hospital and this might cost less than a separate hospital for English speaking patients.

In the meantime, and whatever may be the value of these suggestions, it is most urgently necessary that better means for treating and isolating cases of small-pox and infectious fevers should be provided. Even if such accommodation be of but a provisional character, it should be forthcoming before the opening of the next winter season.

Nice, April

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Opening of the New Hartley Botanical Laboratories at University College.

THE magnificently-equipped botanical laboratories presented to University College, Liverpool, by Mr. W. P. Hartley were opened on May 10th, when Mr. Hartley formally presented the buildings to the college authorities. In place of the customary ceremonial opening there was a presentation to Mr. Hartley of a gold key, and a similar memento was presented to Sir William Thiselton-Dyer, K.C.M.G., the director of Kew Gardens, in recognition of the address on the Study of Botany with which he favoured the large audience who assembled in the arts theatre of the college to witness the proceedings. The gathering was presided over by Mr. E. K. Muspratt and included Professor Marshall Ward (Cambridge University), Professor B. Farmer (Royal College of Science), Professor Weiss (Owens College, Manchester), Professor Potter (Durham University), Professor Bottomley and Professor Millar Thomson (King's College), Professor Smith (Yorkshire College), Sir John T Brunner, Principal Dale (University College, Liverpool), and a number of the college staff. Mr Hartley, on making the presentation, said that his object in providing the laboratories was to help in the discovery of truth and in the encouragement of science in its pure as well as in its applied branches—knowledge which not simply made their wealth more and their comfort greater, but which improved the mind and developed higher faculties and functions. Sir William Thiselton-Dyer, prefacing his address on botany, said that his feeling in coming to Liverpool from London was one of envy. He found a great commercial city full of busy life, possessing buildings and equipments for the pursuit of knowledge marked by a sumptuousness and magnificence the like of which was not possessed by them in London and there was no early probability of their possessing them. As had been indicated, the new laboratories were not intended to teach that which would lead to any direct profit or which would be utilitarian in effect. Botany was calculated to foster the faculties of carefulness and observation in the highest stage; the direct appeal to nature went down to the very simplest needs of ourselves. Bluntness of observation was a terrible thing, for the inability to see a thing at the moment it was there might mean the loss of a great and unique opportunity. The great Darwinian theory, one of the most startling ever sprung upon the the scientific world, sprang from Darwin's observation of the difference between the plants on two neighbouring small islands. The cultivation of the powers of observation was a valuable occupation, and botanists who had been trained in that way would always find the seeing eye of use. Sir William Thiselton-Dyer spoke of the great industries which had their origin in botanical discoveries and also of the value of the science to medicine, concluding with the remark that after the first 36 hours of our existence we were dependent on plant life until our death, and then it facilitated our decay. Professor Harvey Gibson, the lecturer in botany at University College, Liverpool, in seconding the vote of thanks which was proposed by Sir John Brunner, described the new laboratories as some of the greatest in the kingdom. They were designed to unite in the study of botany the scientific and commercial and economical aspects. Great problems were connected with the production of rubber, the preservation of fruits, and the treating of grain, and why should not these be solved in the Hartley laboratories?

May 13th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Physicians of Edinburgh.

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on May 6th, Dr. T. R. Fraser, the President, being in the chair. Mr. Dugald Christie of Moukden, Manchuria, was admitted by ballot to the Fellowship of the College. On a ballot Dr. Charles Mowbray Pearson was admitted to the Membership of the College after examination. The Registrar reported that since the last quarterly meeting 50 candidates had obtained the Licence of the College by examination. The Hill-Pattison Bursary, which is in the gift of the College, was awarded after a competitive examination in anatomy and physiology to Mr. James Grieve Cormac. Dr. William Fordyce was recognised as a Lecturer in Midwifery and Dr. Charles J. Lewis as a Lecturer in Public Health. Sir John Batty Tuke was unanimously re-elected Representative of the College on the General Medical Council for a period of five years from May 4th. The Secretary announced the re-election by the Council of Sir John Sibbald as Representative on the Conjoint Committee of Management of the Triple Qualification. On a motion by the Secretary it was resolved—

> That Law 2 of Chapter VI. be altered so as to read as follows: "The fee to be paid by a Member shall be 35 guineas."
>
> That Law 3 of Chapter VI. be altered so as to read as follows: "When a Licentiate shall be raised to the rank of Member he shall pay 25 guineas."
>
> That Law 4 of Chapter VI. be altered so as to read as follows: "When a Member shall be raised to the rank of Fellow he shall pay 38 guineas, exclusive of Stamp Duty."

Prevention of Spitting in Edinburgh.

At a meeting of the Edinburgh Public Health Committee on May 6th the committee agreed to recommend to the town council that 250 metal plates bearing notices asking the citizens not to spit on the pavement should be affixed to the electric lamp-posts throughout the city.

Edinburgh New Fever Hospital.

The Public Health Committee of the Edinburgh Town Council has recently approved of plans and provisional estimates submitted by the head city gardener and the city road surveyor for laying out the grounds and forming roads in connexion with the new fever hospital at Colinton Mains. The grounds are to be laid out so as to provide sufficient recreation space together with efficient isolation for each pavilion and at the same time to enhance the appearance of the group of buildings as seen from a distance. The cost is estimated at £4750, while the roads will cost an additional £4800. The Public Health Committee agreed to recommend to the town council that the roads should be proceeded with at once.

The Investigation of Cancer.

Mr. J. K. Caird, who three years ago provided, at a cost of over £8000, the Dundee Royal Infirmary with the wards and nurses' home in connexion with its gynæcological and maternity departments, last week offered to build an addition to the hospital to be devoted specially to the treatment of patients suffering from cancer, and also to defray the expense of a five years' research in the subject. The proposed building is intentionally very large, as it is Mr. Caird's desire that part should be used for general purposes if the whole is not required for cancer cases. The number of beds shown on the plans is 114 and the estimated cost is £18,500. The sum to be given for research purposes is £5000.

May 13th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Notification of Infectious Diseases in County Dublin.

IT is now more than a month since the Commissioners Blackrock adopted the provisions of the Notification of Infectious Diseases Act, and now, with the exception of Kingstown, every local body between Dublin and Waterford has followed the same course. At the last meeting of the Dublin Sanitary Association held on May 8th the following motion was unanimously adopted:—

> That the council of the Dublin Sanitary Association observe with disappointment and dismay that the Urban District Council of Kingstown has postponed the question of the adoption of the Infectious Diseases (Notification) Act, 1899, for the long period of 12 months. The council consider that in taking so grave a step the urban district council has lost sight of the interests of the important health resort intrusted to its care and has incurred a serious responsibility. Should epidemic disease break out in Kingstown it will probably spread far and wide before its presence is brought under public notice, tourist traffic will be interfered with, while Dublin and the other adjoining districts, which have now, without exception, adopted the Act will be endangered. The council trust that an effort will yet be made to rescind so unfortunate a decision at the earliest opportunity and that Kingstown will fall into line with the neighbouring districts.

The Royal City of Dublin Hospital.

The "Gigas" bazaar and fête in connexion with the Royal City of Dublin Hospital was opened on May 13th by His Excellency the Lord Lieutenant of Ireland and the Countess Cadogan. They were received by the Earl of Pembroke as representing the committee. The Lord Mayor of Dublin was present and proposed a vote of thanks to His Excellency, who in his reply spoke of the pleasure he felt in meeting the Lord Mayor on a platform where all could unite in the caus of charity.

Royal University of Ireland.

A meeting of Convocation of the Royal University o Ireland was held in Dublin on May 9th to elect six member to represent Convocation on the Senate, and such was th interest taken in the contest that 573 voting papers wer handed in. There were nine candidates and the followin six were elected:—His Honour Judge Shaw, LL.D., 39 votes; Mr. A. Anderson, M.A., President of Queen's College Galway, 366 votes; Mr. J. Walton Browne, M.D., 360 votes Professor T. Sinclair, M.D., 360 votes; the Rev. Professo Leitch, D.Lit., 334 votes; and Mr. E. Cuming, M.A., K.C. 322 votes. The issue upon which this election was fought wa the question of the employment of extern examiners in th University. The six senators elected were in favour of exter examiners in the various faculties of the University, bu especially in the faculty of medicine, and the Royal University Graduates' Association supported and recommende their candidature. The highest on the poll of the rejecte candidates, Sir W. Thomson, C.B., has long been an activ member not only of the Senate of the Royal University, bu also of its Standing Committee. In his election address h defined an extern examiner as one not officially connecte with any of the three Queen's Colleges (Cork, Galway, and Belfast) or with the Catholic School of Medicine, and no doubt he had the authority of a resolution of the Senat in support of this view. But, as was pointed out in the press by the secretary of the Graduates' Association, such a definition would not prevent persons engaged in teaching students of the Royal University in the Dublin hospitals from applying for examinerships, or hinder them if they got such posts from examining their pupils on the subjects that they had taught them. This state of things would not meet the requirements of the Graduates' Association, the members of which believed that in the interests of justice and of fairplay to provincial students the extern examiner, properly so called, should not "be connected in any capacity with any school, college, or university in Ireland." Sir W. Thomson regarded such a demand as a betrayal of Irish interests and an insult to Irishmen, and he protested in his address "against the implication that in order to obtain competent, honest, and impartial examiners we must go to England or Scotland and thus offensively exclude our own countrymen." This was an admirable card to play in an election address, but it failed, and the graduates have by their course of action in this election shown that what is wanted is not a multiplication of examiners but an addition of extern examiners not "connected with any school, college, or university in Ireland." The Royal University Graduates' Association is simply following the precedent set by other universities.

The Weather in the North of Ireland.

There has not been for many years such severe weather as that which has prevailed in the North of Ireland during the present month, which has been cold with a keen, withering north wind accompanied with hail.

May 13th

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Precautions against Accidental Poisoning in Hospitals

IT will be remembered[1] that last year a deplorable accident occurred at the Hôpital Lariboisière owing to the mistake of a nurse who gave several patients a poisonous substance in place of what had been ordered for them. With a view to guard against the recurrence of such dangers M Mourier, director of the Assistance Publique, has decided that henceforth all poisonous substances employed in the hospitals shall be kept in special receptacles impossible to be mistaken for the ordinary receptacles containing non-poisonous substances. The new receptacles are going to be tried at the hospital where the accident occurred. For amounts of from 15 grammes to one litre (from half an ounce to 35 ounces) the receptacles are glass bottles and for amounts of more than one litre they are earthenware jars Both the bottles and the jars are triangular, a shape which can be distinguished at the first glance from the ordinary cylindrical form. The triangular bottles will be made of yellow glass roughened on two surfaces in a manner perceptible to the touch, so that by their shape, *their colour*, and their roughness the bottles will appeal alike to the sense of sight and the sense of touch and mistakes will be absolutely impossible either in the light or in darkness. When the success of the new system is proved it can be extended to other hospitals and adopted generally.

Examinations in Medicine and Pharmacy.

Until recently, when a candidate had failed to pass an examination in medicine or pharmacy he had the right of again presenting himself in three months, and in the event of a second failure again in three months, and so on continually This system was, however, altered by a decree promulgated on July 24th, 1899. From that date, if a young man failed to pass the first time that he presented himself he had the right of presenting himself again in three months, but in the event of a second failure he would have to wait not for three months but for six months before again coming forward, and in the event of a third failure he would have to wait for 12 months This is evidently a serious hindrance to the completion of medical studies, for with this prospect of possible failures it becomes difficult to foresee at what date a student might hope to be able to finish his curriculum. Students have therefore commenced an agitation which they are actively carrying on in defence of their interests, and at the end of last February they protested in large numbers against the application of this decree, which could only have for its object the elimination of idle or incompetent students.

Motor Ambulance Vehicles.

Complaints have several times been made with respect to the slowness of the ambulance vehicles belonging to the city, for they are drawn by only one horse which is not always a very fast goer. The question of the speedy arrival of the vehicle at the scene of an accident being of the first importance it would at least be desirable for it to have two horses. Another thing is that the harnessing of the horses takes time. It would be very much quicker and more practical to use motor vehicles now that they are sufficiently speedy and trustworthy. For the daily removals of military patients special tramcars are used but even these are far from being perfect. The idea of letting them run on the tramway lines is an excellent one, for it makes the journeys both easier and quicker, but it is a mistake to use old vehicles and it would be a good thing if the military tramcars which are no longer serviceable were sent back to the car-builders, for those which are at present running in Paris have a deplorable appearance and this service is in several respects open to improvements.

May 13th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Proposed Increase of the Medical Corps of the United States Navy.

SURGEON-GENERAL RIXEY, the head of the Medical Service of the United States Navy, who has recently been appointed to that position, has recommended, as one of his first official acts, that the medical corps of the navy should be increased by 40 medical officers, this increase to be made by the addition of 15 surgeons and 25 assistant surgeons. Owing to the increase in the size of the navy, the larger number of ships in commission, and the great amount of time lost by medical officers in changing station between the United States and the Philippines and other outlying stations, Surgeon-General Rixey finds considerable difficulty in furnishing proper medical attendance to the ships. He is of opinion that the addition should affect the higher as well as the lower grades, and points out that the senior passed assistant surgeon has been in the service for 12 years. The surgeon-general's recommendation has been approved by the Secretary of the Navy and forwarded by him to Congress, with the suggestion that the necessary legislation should be enacted.

Tuberculosis in Cattle.

A series of experiments extending over more than a year has just been completed at the Storrs State Agricultural College, Connecticut, by Professor H. W Conn, having as their object an inquiry into the accuracy of the statements made by Professor Koch in regard to the relation of bovine tuberculosis to that of man and its effect on the dairy herd. His investigations go to prove that the danger of the spread of tuberculosis among human beings through the milk of diseased animals has been exaggerated and that in the earlier stages of the disease when the udder is unaffected the risk from the use of the milk appears to be limited. He, however, points out that it is impossible for the farmer to tell accurately when the udder has become affected, so that, as the only method of freeing herds of cows from the great danger which menaces them is by the segregation of every animal upon which tuberculin reacts, this precautionary measure should be invariably followed.

Modified Quarantine and Yellow Fever.

Dr Alvah H. Doty, health officer of the Port of New York, is about to discuss with Federal officials the subject of quarantine regulations, especially as they bear upon yellow fever coming into New York. He will advise that the Government shall do all in its power to bring about a conference of leading sanitarians who have had experience of yellow fever, and he looks forward to a modification of the existing quarantine regulations Dr Doty holds that as the mosquito is the only known medium of infection the present quarantine regulations in force in New York Harbour are both troublesome and unnecessary, and he maintains that when a ship upon which yellow fever has manifested itself is more than five days from the port of departure removal of those infected removes the fever from the ship, provided there are no yellow-fever-bearing mosquitoes aboard. Dr. Doty made the following remarks in an address before the American Public Health Association dealing with this matter:—"Dr.

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[1] THE LANCET, April 20th (p. 1174) and Dec. 14th (p. 1704), 1901.

Reed's experiments have not conclusively shown that there may not be some other means than the mosquito by which yellow fever is transmitted. But when these experiments are considered in connexion with the results of our practical experience it is clearly evident that this disease is not contracted by personal contagion or through the medium of clothing, bedding, cargoes of vessels, &c. Therefore I believe we are justified in changing our quarantine regulations to conform to these views, and that such a proceeding is safe and reasonable, particularly as we now have at hand a method which if properly and scientifically carried out, can be depended upon to limit the extension of yellow fever. If the future shows that there are other means of infection it will then be time enough to add whatever restrictions are necessary for the protection of the public health."

Mosquitoes and Dengue.

The *New York Medical Record* of Feb. 8th contained an article on Dengue by Dr. Harris Graham, professor of pathology in the American College, Beyrout, Syria. This article was referred to in THE LANCET of March 22nd at page 855. Dr. Graham made a careful study of, and investigations into, the mode of propagation and the pathology of the disease, and as a result of these researches he claimed that it was caused by a protozoal parasite, and stated that his experiments had convinced him that dengue was conveyed to man by means of a mosquito, apparently of the culex species, which, as in malaria, acted as the intermediary host. The Bureau of the United States Marine Hospital Service having had its attention drawn to Dr. Graham's article has determined to make investigations with the object of testing the value of his conclusions, and has requested that health officers in all parts of the United States will furnish the Surgeon-General of the Marine Hospital Service with early information as to the appearance of dengue in epidemic form in their respective localities, in order that investigators may be early dispatched to the seats of such epidemics.

May 6th, 1902.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Plague.

THE bubonic plague has recurred in Australia, with a varying virulence in the different States. In Sydney it has been very severe, over 80 cases having occurred, with about the average mortality of the previous epidemic—viz., one in three. Two popular actresses were among those who died, and this fact led to Her Majesty's Theatre being closed for a time and quarantined. In Melbourne only one case, non-fatal, has occurred so far. In Brisbane several cases have been notified. A supposed case was isolated at Adelaide but the diagnosis proved to be erroneous. No cases have been reported from West Australia. As regards Sydney the fresh outbreak began gradually. For 15 months the disease was quiescent and it reappeared on Nov. 14th, 1901. Up to Feb. 20th, 1902, 22 cases occurred at varying intervals, from 36 days to one day, and in six different areas. In some areas the nature and source of infection could not be traced; in others a definite local infection from rats was fairly clear. Four produce stores were implicated in the outbreak. The cases afterwards increased in number with few and short intervals. One infected area was largely occupied by Chinese and was highly insanitary. The destruction of rats and cleansing operations are being vigorously prosecuted in all the States. It is difficult to conceive, however, how indifferent the various municipal authorities are to sanitary matters. In Melbourne, for instance, the garbage and refuse are still disposed of in "tips" which are most obnoxious. The corporation imported a destructor which could deal with only about one-fifth of the refuse, but it is not used, it is said, because of the cost. In Sydney recent inspections showed that parts of the city which had been demolished during the first outbreak of plague had been rebuilt in exactly the same insanitary manner and under the very eyes of the municipal authorities.

The Health of Sydney.

The medical adviser to the Metropolitan Board of Water-supply and Sewerage, Sydney (Mr. T. M. Kendall), has furnished his annual report. It stated that the board supplied water to 511,382 persons, of whom only 364,775 were accommodated with a sewerage system. The mor-

mortality from diarrhœa and typhoid fever was lower and that from diphtheria and phthisis was higher. An investigation of 874 cases of typhoid fever reported showed that 31·2 per cent. came from districts unprovided with sewerage, 28·6 per cent. from dwellings unconnected with sewers, 24·3 per cent. from dwellings in which the sanitary fittings were defective, and 15 per cent. from dwellings in which the board's regulations had been complied with. The installation of the sewerage system had undoubtedly diminished the prevalence of typhoid fever. The mortality from this disease before and after the laying down of the sewers had been as follows in the districts named: city of Sydney, before 5·07, after 1·07; Glebe, before 2·5, after 1·8; Darlington, before 4·0, after 0·3; Newtown, before 6·6, after 1·8; Redfern, before 3·6, after 1·0; Waterloo, before 1·2, after 0·9; Paddington, before 2·7, after 0·9; Woollahra, before 2·1, after 0·8.

Hospital Affairs.

The difficulty at the Women's Hospital, Melbourne, to which reference has been previously made, remains unsettled. The resident staff was dismissed and when applications for the positions were invited the two late residents were the only applicants. The committee refused to re-appoint them and Dr. Andrew Shields, formerly Government medical officer, offered his services temporarily and was appointed. The committee now invites applications from men who have been three years at least in practice and offers a salary of £250 per annum.—The report read at the annual meeting of the supporters of the Sydney Women's Hospital showed that 299 in-patients and 1493 out-door patients had been treated. The financial position was satisfactory. The directors intimated that as soon as the new maternity hospital in course of erection was completed the Women's Hospital would be amalgamated with it.—The twenty-second annual report of the Sydney Hospital for Sick Children stated that 536 in-patients had been treated. Of this number 314 were discharged cured, 72 were relieved, 46 were discharged unrelieved, 60 died, and on Dec. 31st there were 44 remaining in the hospital. In the diphtheria cottage there had been admitted 197, making, with five remaining from the previous year, a total of 202 patients under treatment. Of these 155 were discharged cured, 36 died, and on Dec. 31st there were 11 remaining in the wards. In moving the adoption of the report the Premier drew attention to the very large amount of money spent by the State in assisting hospitals. Last year the Government grant to various hospitals amounted to £227,000, and he deemed that the community did more than any other country in the world in supporting charitable institutions. The Government had also granted a very fine site for a new children's hospital and had undertaken to drain it. It overlooked Centennial Park, Moore Park, and Botany Bay and could not be built out.—The annual report of the Prince Alfred Hospital, Sydney, stated that the statistics of the first year's work were as follows:—Remaining in hospital on Dec. 31st, 1900, 223; admitted during the year 1901, 3216; total under treatment, 3439. Of these 1848 patients were cured, 725 were relieved, 268 were unrelieved, 360 died, and 238 remained in hospital on Dec. 31st, 1901. The rate of mortality per cent. (deducting 61 deaths which occurred within 24 hours of admission) was 9·29.—The annual report of the Sydney Hospital showed that the patients remaining in hospital on Dec. 31st, 1900, numbered 286; patients admitted during 1901, 3951. Total under treatment, 4237. Discharged cured, 2467; relieved, 873; unrelieved, 165; died, 428; remaining in hospital on Dec. 31st, 1901, 304; percentage of mortality on admissions, 10·9. Improvements had been effected in the buildings by the erection of the Nightingale wing and operating theatre—now equal to anything in the southern hemisphere. The Government had voted an additional sum of £2500 for further improvements, including the furnishing of the Nightingale ward and a new casualty room. Reference was made to the danger of admitting phthisical patients to the general wards and the efforts made to establish a separate institution for their treatment. The pathological department of the hospital had proved of great use as a help to the diagnosis of cases in the wards. The laboratory of pathological chemistry was now equipped with apparatus which rendered it possible to make use of the more modern discoveries in physiological and pathological chemistry in their application to the improvement of diagnosis, prognosis, and treatment in many cases of disease which were before surrounded by almost impregnable difficulties and fallacies. It that to it belonged the honour of being the pioneer hospital of Australia, perhaps of the southern hemisphere, in introducing modern chemical methods in diseases of the stomach and metabolism generally. In the skiagraphic department a large number of cases had been treated, 263 cases having been submitted to the Roentgen rays.—A new hospital has been established in Sydney called the King Edward Hospital. It is situated at Miller's Point and is specially for seamen. It has been started very quietly and many doubt the need for it seeing that the Prince Alfred Hospital and other hospitals are being enlarged.—The committee of the Melbourne Hospital has appointed delegates to confer with delegates from other hospitals to fix a standard of efficiency for trained nurses and if possible to appoint a conjoint board of examiners and to decide on a recognised system of examination. The committee also decided in future to import all the drugs required direct.

The Profession and the Friendly Societies in New South Wales

As has been previously mentioned, friction has existed for some time between the friendly societies in New South Wales and their medical officers, or more strictly the New South Wales Branch of the British Medical Association. Matters are rapidly reaching a crisis. At the annual meeting of the Friendly Societies' Association held on March 12th the matter was referred to. The annual report stated :—

> During the year under review the attention of this association has been directed by an affiliated society to the action of the British Medical Association in practically boycotting the society referred to. The majority of societies for several years past have enjoyed an uninterrupted career of mutual understanding between the members and the surgeon, but if this new issue, the wage-limit question, is pressed it cannot conduce to the maintenance of the harmony that has hitherto existed. The following notice of motion was referred to a committee to report: "That it is desirable to place before all candidates for State election the question if they favoured the introduction of a measure whereby medical practitioners would be compelled to meet in consultation any duly qualified medical man and regulate fees for attendance and consultations." The committee met and took a quantity of evidence but the State elections being then in full swing it was too late to make any recommendations dealing with the above notice of motion.

The President said further :—

> Unless they could make some compromise with the British Medical Association he could not help saying that he foresaw trouble looming in the distance. The question of the wage-earning limit was a serious matter and could not be regarded too lightly by this association. The action of the doctors in his opinion would be to destroy a cosmopolitan character of our societies. They considered no man's financial position any barrier to their membership. That a man with his income of thousands was equally entitled to membership in their orders as a man whose earnings amounts to £200 or less, that being the limit fixed by our worthy friends "the doctors" to admit as financial members of a society. The medical fraternity were doing their utmost to keep out an element which was conducive to the well being of the society. Very many of the moneyed members, while paying their contributions had not joined for any benefits that they may be entitled to, and the same will apply to the doctors. Very few of such members have enlisted the services of the lodge doctor and he challenged the profession to say otherwise. Their societies were not open to distinction or class. The admission of the rich and the poor was essential to their success, both financially and intellectually. Roughly estimated there were about 70,000 or 80,000 members of various orders in New South Wales and if a central medical board was formed sufficient funds could be raised annually to pay salaries to doctors and distribute them in all parts of the State. Other difficulties such as meeting in consultation could easily be overcome by legislation, but he should be very loth to interfere in the harmony now existing, but would be forced to do so if this wage-earning limit were persisted in.

The matter was discussed by the meeting and it was agreed that the action of the British Medical Association in boycotting the Australian Natives' Association was inimical to the interests of friendly societies and that this resolution should be forwarded to the secretary of the British Medical Association. It was also decided that a special meeting should be held this month to consider the question raised by the doctors. The New South Wales Branch of the British Medical Association also discussed the subject at its last meeting and carried a motion—

> That the resolution of August 31st, 1900, declaring the Australian Natives' Association to be a society inimical to the interests of the medical profession, be adhered to.

The Australian Natives' Association is determined to make the question a public one and, according to its secretary, "will fight it to a finish." He observes that at the inception of the Australian Natives' Association the British Medical Association demanded that a wage-limit of £200 per annum should be fixed. After some consideration the wage-limit was conceded and still the British Medical Association boycotted the Australian Natives' Association. At its inception the Australian Natives' Association had only one branch with 32 members; now it had 35 branches and 2700 members. Out of nearly 1200 medical practitioners registered in the State of New South Wales only 300 are members of the British Medical Association.

Obituary.

Dr. George Goode of Camden, New South Wales, died recently. He was born in Ireland in 1843 and took his M.A. and M.D. degrees at Dublin University. He was for some years in the New Zealand Investigation Service and went to Camden in 1875. After residing there for 10 years he removed to Orange, but after a few years resumed practice at Camden. He was a brother of Dr. J. Goode, of Macquarie-street, Sydney, and was well known and popular with the profession.

April 7th.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following medical and surgical degrees were conferred on May 8th :—

Bachelor of Medicine.—H. P. Bradley and B. L. Thurlow, Gonville and Caius; and J. M. Brydone, Jesus.

Bachelor of Surgery.—J. P. Hedley, King's; G. R. Wilson, Trinity; A. S. Bradley, G. L. Crimp, G. P. D. Hawker, J. E. B. Snell, and B. L. Thurlow, Gonville and Caius; J. M. Brydone, Jesus; F. E. Shipway, Christ's; H. C. Brown, A. F. Elliott, and H. J. Shone, Emmanuel; and C. H. Sedgwick, Sidney Sussex.

The Registrary calls the attention of candidates for medical and surgical degrees to the new regulations for the Third Examination for the degree of M.B. which will come into force next term and points out that all such candidates, with the following exceptions, are now subject to those regulations :—

1. Students who have already passed one part of the Third Examination. Students who have passed in surgery and midwifery (old III. M.B., Part I.) are required to satisfy the examiners in section (3) only of the new Part II. (physic). Students who have passed in physic (old III. M.B., Part II.) are required to satisfy the examiners in sections (1) and (2) only of the new Part II. (surgery and midwifery).
2. Students who shall have passed both parts of the Second Examination before October next. These students are still permitted to present the same certificates on admission to Part I. of the Third Examination as would have been required from them on admission to Part I. under the old regulations, and to present the same certificates on admission to any section or sections of Part II. as would have been required from them on admission to Part II. under the old regulations.

Students who have been admitted to, but have not passed, either part of the Third Examination must, either before, after, or together with Part II., pass the new Part I. (pharmacology and general pathology), but they require no new certificates for admission either to this part or to the section or sections of the new Part II. corresponding to the part of the old Third Examination to which they have already been admitted. A special examination in pharmacology and general pathology will be held on June 9th, 1902, the ordinary examination for Part I. will be held in December, 1902, and in June and December of future years.

UNIVERSITY OF DURHAM.—At the convocation held on April 26th, the following degrees and diploma were *conferred* :—

Doctor in Medicine.—Laurence James Blandford, M.B., B.S. Durh.; Leopold Stanley Davison, M.B., B.S. Durh.; Richard Henry Dix, M.B., B.S. Durh.; Henry Adamson Fielden, M.D., B.S. Durh.; John Reginald Fuller, M.B., B.S. Durh.; Edward Walter Joscelyne, M.B. Durh.; Eliot Swainston, M.B., B.S. Durh.; and David Henderson Weir, M.B., B.S. Durh.

Doctor in Medicine for Practitioners of 15 years' standing.—Edward Harris Armitage, M.R.C.S., L.R.C.P., D.P.H.; Charles William Josceline Bell, M.R.C.S., L.R.C.P.; Albert Bothay, M.R.C.S., L.R.C.P., L.S.A., D.P.H.; Edward Joseph Day, M.R.C.S., L.S.A.; Ambrose William Fairles, M.R.C.S.; Thomas Frederick Gardner, M.R.C.S., M.R.C.P., L.S.A.; Frederick Charles Goodwin, M.R.C.S., L.R.C.P., D.P.H.; William Gosse, M.R.C.S., L.R.C.P.; Robert Rankin Hunter, M.B., M.S. Glasg., M.R.C.S.; Richard John Morris, M.R.C.S., L.R.C.P., L.S.A.; John Latimer Parke, L.K.Q.C.P. Irel., L.F.P.S. Glasg., L.S.A., D.P.H.; James Williamson Patrick, L.R.C.P. & S., George Frederick Pollard, M.R.C.S., L.S.A.; Alfred Tom Rimell, M.R.C.S., L.R.C.P.; and John Rogerson, L.R.C.P. & S. Edin., L.F.P.S. Glasg.

Master in Surgery.—Joseph William Leech, M.D., B.S., F.R.C.S., and William Hunter Richards, M.B., B.S.

Bachelor in Medicine (M.B.).—Ernest Bertram Appleby, William Robert Davidson Daglish, Mary Evelyn De Rusett, Henry Wallace Furnivall, James Alfred Giles, and James Herries Graham, College of Medicine, Newcastle-upon-Tyne; Ivon Henry Skipwith Hawes, St. George's Hospital; Konrad Manson, College of Medicine, Newcastle-upon-Tyne; Lucy Selina Molony, London School of Medicine for Women; Robert William Nevin, Henry Reah, Ralph Stuart Renton, Hermann Heinrich Ruffmann, and Alfred Henry Proctor, College of Medicine, Newcastle-upon-Tyne; Godfrey De Bec Turtle, King's College; Ralph Thomas Vaux, College of Medicine, Newcastle upon Tyne; Marmaduke Conleux Wetherell, Guy's Hospital; and Hugh [illegible] and Thomas Wilson, College of Medicine, Newcastle-upon-Tyne.

Bachelor in Surgery (B.S.).—Ernest Bertram Appleby, William Robert Davidson Daglish, Mary Evelyn De Rusett, Henry Wallace Furnivall, James Alfred Giles, and James Herries Graham, College of Medicine, Newcastle-upon-Tyne; Ivon Henry Skipworth Hawes, St. George's Hospital; Konrad Manson, College of Medicine, Newcastle-upon-Tyne; Lucy Selina Molony, London School of Medicine for Women; Robert William Nevin, Alfred Henry Proctor, Henry Reah, Ralph Stuart Renton, and Hermann Heinrich Ruffmann, College of Medicine, Newcastle-upon-Tyne; Godfrey De Bec Turtle, King's College; Ralph Thomas Vaux, College of Medicine, Newcastle-upon-Tyne; Marmaduke Cordeux Wetherell, Guy's Hospital; and Hugh Widdas and Thomas Wilson, College of Medicine, Newcastle-upon-Tyne.

Diploma in Public Health (D.P.H.).—Charles Vincent Dingle, M.D., B.S., B.Hy. Durh.; Robert Ayton Dunn, M.D., B.S., D.Hy. Durh., M.R.C.S., L.R.C.P.; Alfred Reid, M.R.C.S., L.R.C.P.; and Robert Walker, M.B., B.S. Durh., M.R.C.S., L.R.C.P.

Conjoint Examinations in Ireland by the Royal College of Physicians and Royal College of Surgeons.—At the examination for the Diploma in Public Health the following candidates were successful:—

William E. Burton, M.R.C.S. Eng., L.R.C.P. Lond.; Frederick I. de Lisle, L.R.C.P., L.M. Edin.; Edward G. Gibbs-Smith, L.R.C.P. Irel., L.S.A. Lond.; L. R. More O'Ferrall, F.R.C.S. Irel.; Rowan M'Combe, L.R.C.P. & S. Irel.; Michael M'Grath, L.R.C.P. & S. Irel., Alex. G. Robb, M.B., B.Ch. R.U.I.; and Arthur Williams, L.R.C.P. & S. Edin.

Oysters and Typhoid Fever.—The Sanitary Committee of the Cornwall County Council has decided to recommend that the county council shall petition the Local Government Board and the Board of Trade to allow an addition to the by-laws of the county council to prevent the laying of any oyster or any other shell-fish on grounds within the council's area that may be, in the opinion of the council, contaminated with sewage or other objectionable matter.

The late Dr. R. T. Pearse.—Dr. Reginald Thomas Pearse died at his residence in Dawlish on May 5th in his 69th year. He was born at Bradninch, Devon, and received his medical education at the Bristol Medical School, taking the qualification of M.R.C.S. Eng. and L.R.C.P. Edin. in 1856 and 1859 respectively. He graduated as M.D. of St. Andrews University in 1889. Dr. Pearse practised for many years in Cathedral-road, Cardiff, and held several appointments in that town. He had recently resided at Dawlish for the benefit of his health.

A Novel Patent.—An American inventor has patented a "burial vault" which appears to consist of a kind of outer coffin having a groove or channel all round the upper margin of the main portion or body to contain a sealing material, while the lid has a flange which dips into the sealing material. A coffin of the ordinary shape stands inside. An engraving and the specification will be found in the *Official Gazette* of the United States Patent Office issued on April 29th, 1902. It is not stated whether this contrivance is intended for the temporary custody of a corpse or for permanent sepulture; in the latter case it would, of course, be at variance with accepted hygienic principles.

Freemasonry.—*The Rahere Lodge.*—A meeting of the Rahere Lodge, No. 2546, was held at Frascati's Restaurant, Oxford-street, W., on May 13th, W. Bro. P. S. Abraham, M.D. Dub., W.M., being in the chair. Bros. Harke, Yetts, and Dunn were admitted to the third degree; Messrs. Thomas B. A. Haggard and Charles J. Ogle, M.R.C.S. Eng., L.S.A., were initiated into Freemasonry; while W. Bro. T. F. Vaisey, M.R.C.S. Eng., L.S.A., was elected a joining member of the Lodge. W. Bro. G. H. R. Holden, M.D. Cantab., was unanimously elected W.M. for the ensuing year, while W. Bro. Clement Godson, M.D. Aberd., was re-elected treasurer. A number of brethren afterwards dined together.

The Royal Institution.—Exploration and Climbing in the Canadian Rocky Mountains formed the subject of the Friday evening discourse delivered at the Royal Institution on May 9th by Professor J. Norman Collie. His address, which was illustrated by a very large number of lantern slides, included a remarkable account of a member of his party being very little the worse after falling some 60 feet down a crevasse and becoming wedged in a most difficult position between two perpendicular walls of ice. Professor Collie claims to have corrected some misdescriptions in the geography of previous explorers, especially as regards the situation, and even the existence, of two peaks to which some 80 or more years ago David Douglas assigned the names of Mount Brown and Mount Hooker, after his friends the botanists Robert Brown and Sir William Jackson Hooker respectively. Professor Collie also described a mountain from which there descend rivers that flow into three oceans—namely (1), the Columbia river which falls into the Pacific Ocean; (2) the Athabasca river which empties itself into the Great Slave Lake and is continued as the Mackenzie river, falling into the Arctic Ocean; and (3) the Saskatchewan river which empties itself into Lake Winnipeg and, continued under the name of the Nelson river, ultimately falls into Hudson's Bay, an offshoot of the Atlantic Ocean.

Cruelty to Frogs.—At Clerkenwell Police-court on May 9th a fish and reptile dealer of Rosebery-avenue, Clerkenwell, was charged with causing unnecessary suffering to certain reptiles—namely, frogs. The evidence showed that a large number of frogs were massed together in a fish-bowl in the defendant's shop window. An inspector of the Society for the Prevention of Cruelty to Animals said that there were only two inches of water in the bowl; he had the frogs counted and found that there were 109, of which 20 were dead and others were in a dying condition. The defendant admitted to him that the frogs were overcrowded. The magistrate ordered the defendant to pay a fine of £2 and £2 2*s.* costs.

Medical Golf Tournament.—The fifth annual tournament will be held on May 29th at Northwood, by kind permission of the Northwood Golf Club. The regulations are the same as those of last year—viz., 18 holes match play *v.* Bogey, competitors being divided into two classes: (1) handicaps of 12 and under and (2) over 12. Members of the Northwood Club deduct two from their handicap. First and second prizes and a prize for best last nine holes *v.* Bogey in each class. Foursome sweepstakes *v.* Bogey will be played during the afternoon. No match may be started later than 3.15 P.M.; no previous play allowed on the day. Entries, stating lowest handicap and inclosing 5*s.* entrance fee, should be made before May 29th to the honorary secretary, Mr. Rolf Creasy, Windlesham, Surrey.

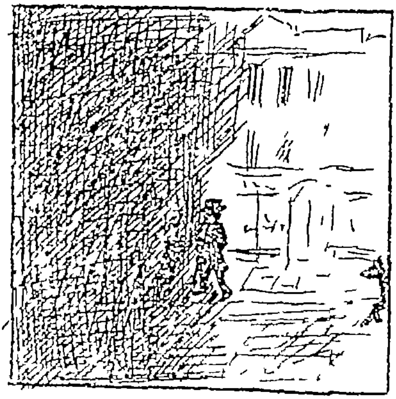
Surgical Splints as a Placebo.—At the Exeter Police-court on April 28th a woman appeared with her arm in splints and charged a lad, aged 10 years, with attacking her with a hatchet. The assistant house surgeon stated that the woman came to the Devon and Exeter Hospital for treatment. They could find nothing the matter with the arm but placed it in splints, as persons in similar cases would often say that they had been refused treatment if something of the sort were not done. The magistrates dismissed the case and the mayor said that the surgeons had no doubt acted in a manner which they thought for the best, but he suggested that it would be wiser not to pacify people by putting on splints when there was no necessity, because in this case the patient had used the splints for the purpose of getting a warrant against the boy, the magistrates believing that the case was more serious than it actually was.

A Notable Record of a Country Practitioner.—Mr. Charles W. Izod, M.R.C.S. Eng. (1846), L.S.A. (1847), L.M. Dub., of Esher, Surrey, after 55 years' practice will retire in June next. This gentleman went to Esher in 1847 as surgeon to the Household at Claremont, near Esher, of the King of the Belgians, Leopold I., and subsequently retained the post under his niece, the late Queen Victoria, till her death on Jan. 22nd, 1901. He now holds a similar position under the Duchess of Albany. He was present at the death at Claremont on August 26th, 1850, of the abdicated King of the French, Louis Philippe, and later at the death of his wife (the daughter of Ferdinand IV., King of Naples) and at the death of the Duchesse de Nemours, their daughter-in-law, besides attending other members of the French Royal Family.

Miss Weston's Work in the Royal Navy.—A meeting was held in Exeter Hall, London, on May 6th to hear from Miss Agnes E. Weston the annual account of her work in the Royal Navy. Miss Weston stated that the number of sleepers at the Royal Sailors' Rests at Portsmouth and Devonport during the past year had been 246,696, an increase on the preceding year of 671. The receipts had been £21,626, an increase of £671. At Devonport building extensions had been begun to be dedicated to the memory of "Victoria the Good." 9048 temperance pledges had been taken, an increase of 585, and 142,668 parcels of literature weighing 37 tons had been distributed among the fleets. The circulation of *Ashore and Afloat*, edited by Miss Wintz, had reached 599,825 copies, an increase of 15,825; and, together with the *Blue Backs*—Miss Weston's monthly letter—the number reached was 1,266,505 copies, the military edition being distributed amongst the army, notably in South Africa.

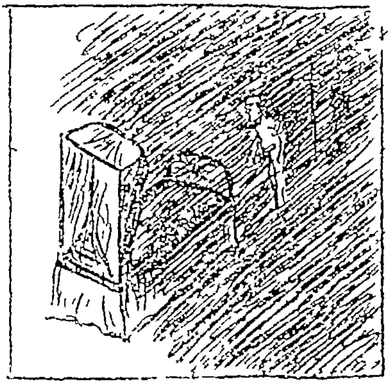
he finds that when opening them suddenly at times when his mind is not specially occupied all kinds of fantastic designs in black and white appear before the eye, as if he was looking through a kaleidoscope, and remain for a few seconds and gradually fade away. The figures shown are often of familiar animals, fleur-de-lis, black battlements, &c., and are always mixed up with a section of a "chess board." A wall-paper designer might get some profit from glaucoma. On waking from sleep objects appear visible about which the patient has not recently thought or dreamt though they were once much in his mind. A woman's costume fixed on a wire stand has more than once appeared in this way and has only very gradually vanished. A most peculiar instance, however, is illustrated below. The patient being awakened by his wife bringing up a cup of tea is conscious before receiving the cup that the space between the door and the bed is occupied by the apparition of himself as he looked 20 years ago—dressed in cricketing flannels, necktie flying in the wind, the face being flushed and indicating the joy of life. This apparition continued visible some time after he had received the cup of tea and had informed his wife of what he saw (Fig. 3.)

FIG 2.



Market-street, Manchester is here shown. The patient's son, who leads him, remarks that the street is more than usually crowded So far as his (the patient's) eyes tell him, however, it presents a deserted appearance, as in this sketch

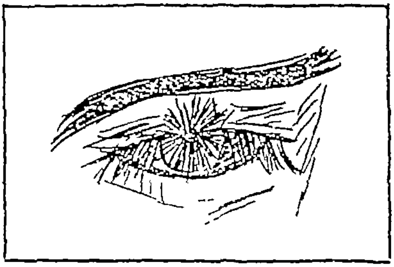
FIG 3.



The patient is lying in the bed shown The figure standing at the foot is a sudden apparition of himself when 20 years younger

The gummy feeling of the eyelids to which reference has been made may be slightly relieved by bathing with warm water and is an annoyance worth bearing patiently But a trick played by the eye, as shown in the following sketch (Fig 4), seems to go a little too far towards the region of insult. The patient's eyelashes now and then seem to form themselves into a kind of wheel which will revolve with considerable speed for several seconds, the lashes being magnified to about three times their right size.

FIG 4



Wheel appearance caused by the eyelashes.

The medical dictionaries and handbooks on eye diseases give very scanty accounts of glaucoma, but it seems to be looked upon as incurable by oculists of great experience. Again and again, always in kind and sympathetic tones, comes the same best possible advice "Your case is hopeless, keep up your spirits and general health." He who has done all things well does for the asking give a man power to see the cheerful and even humorous side of blindness. Still, the particular joys of glaucoma are not always apparent and the sympathetic paralysis with which it is accompanied is sympathy not easily appreciated.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

ANNUAL GENERAL MEETING

SIR WILLIAM H BROADBENT, Bart., presided on March 25th over the third annual general meeting of the members and subscribers of the Medical Graduates' College and Polyclinic at 22, Chenies-street, London

The third annual report of the council began by pointing out that the fact that new names were added almost daily to the register showed that the Polyclinic filled a long felt want. Many of the members had frequently availed themselves of the opportunity afforded them for obtaining an expert opinion upon cases of unusual rarity or of peculiar interest The recommendations of members who had attended practical classes had resulted in the attendances being considerably augmented The number of members and subscribers for 1901 was 825. Most interesting discussions had taken place at meetings of the special committees dealing with leprosy, yaws, climatology, and tuberculosis and much useful information had been brought forward. It was announced that there were in course of constitution two new special committees for the investigation of cancer and vaccination. In October, 1900, short courses of lectures on special subjects were *inaugurated and* the arrangement worked *so well that for the year 1901* the number had been doubled. The scale of charges for the practical classes had been revised and the change had been much appreciated by the members. The vacation session of three weeks held in September proved a great success. The determination had therefore been arrived at to hold a similar course again Arrangements had been completed whereby members could obtain instruction in operative surgery The council felt assured that in the course of time the consultation department would constitute a very special and much-utilised feature of the college work. The report contained a table showing the nature of the investigations which had been conducted in the laboratory during the past year and

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Poor-law Nursing.

The departmental committee appointed by the President of the Local Government Board to inquire into the question of the nursing provision in Poor-law infirmaries in England has been engaged during the last three months taking evidence and carrying on investigations. It is expected that the report of the committee will be ready early in June. The chairman of the committee is Mr. J. Grant Lawson, M.P., Parliamentary Secretary to the Local Government Board, and the secretary is Mr. H. R. Duff of the same Department.

HOUSE OF LORDS.

Monday, May 12th.

The Shop Hours Question.

Lord Avebury moved the second reading of the Shops Early Closing (No. 2) Bill and explained that the measure contained certain safeguards upon the absence of which from the Bill introduced earlier in the session and rejected on second reading the Prime Minister had commented. According to the present Bill two-thirds of the shopkeepers must memorialise the local authority before the latter passed a regulation for the closing of shops and this regulation must obtain the consent of the Home Office and be submitted to Parliament. His Lordship urged that legislation on this subject was greatly needed. In many cases shop assistants, male and female, were working from 80 to 90 hours per week, hours grievously injurious to health.—The Earl of Wemyss moved the rejection of the Bill.—The Earl of Morley and the Lord Chancellor raised the point of order that this Bill was practically the same measure as their lordships had rejected earlier in the session and therefore was not competent.—The Marquis of Salisbury, without going into the merits, supported this view of the matter.—The previous question was then moved and agreed to, the result being that no more will be heard of the Bill during the present session

Accidents with Celluloid.

Lord Saltoun asked the Government in view of the fact that celluloid was a highly inflammable and sometimes explosive substance, and that it was used freely in articles of attire, such as combs and collars, whether they would cause such modification to be used in its manufacture or place such regulations and restrictions upon its sale as would render impossible the recurrence of the many serious burning accidents which had already resulted from the unrestricted sale of this article. His lordship also quoted from an article in The Lancet dealing with some experiments on the subject.—Lord Belper, replying on behalf of the Home Office, said that he was informed that if celluloid was properly manufactured and free from impurities it would not take fire except at a very high temperature indeed—that was to say, it would only smoulder at a temperature of 440° F. and would not burst into flame until a temperature of 550° F. was reached. The accidents to which the noble lord had referred must have been due to the impurity of the materials used in the manufacture of the celluloid. The Secretary of State, having very carefully considered the matter and feeling the greatest possible sympathy with those who had suffered from the accidents, did not see his way to interfere by legislation with the sale of celluloid.

HOUSE OF COMMONS

Thursday, May 8th.

A Scottish Medical Appointment.

Mr. Harmsworth asked the Lord Advocate whether he was aware that on March 8th last the County Council of Caithness appointed a duly qualified medical practitioner to be medical officer of health of the county, and that this practitioner had not yet entered upon his duties consequent on delay on the part of the Local Government Board in intimating whether he would be allowed to have consulting practice; and whether he could state when the decision of the department would be communicated to the authorities at Caithness.—The Lord Advocate replied: On March 12th the Local Government Board was informed that the County Council of Caithness had appointed a county medical officer with permission to engage in consulting practice. The Local Government Board did not interfere with the appointment or hinder the new officer entering on his duties It was necessary, however, to consider whether the grant in aid of the cost of medical officers should be payable to the county council in respect of this appointment. The rule is that where the medical officer engages in consulting practice the grant is not given unless the Secretary for Scotland is satisfied that there are exceptional circumstances justifying this arrangement. The necessity of considering these circumstances in this case caused some delay but the county council has now been informed that the grant will not be given

The Butter Standard.

Sir Edward Strachey asked the President of the Board of Agriculture whether he would immediately after May 15th take such steps as might be necessary to test the value of the standard for butter set up by the Board of Agriculture, so that the uncertainty now existing whether after that date milk blended butter containing a higher percentage of moisture than permitted by the standard could still be sold might be determined.—Mr. Hanbury replied: It has not been the practice of the Board to anticipate the action of local authorities for the purpose of testing the effect of statutes, and in view of the full powers of local authorities I do not think that any special necessity for doing so arises in this case. The authority given by statute to the Board has been fully exercised in issuing the regulations.

Friday, May 9th.

Small-pox Hospital at Hanworth.

Sir Frederick Dixon-Hartland asked the President of the Local Government Board whether he was aware that a small-pox hospital was being erected at Hanworth, Middlesex, on land the surface water from which drained into the Thames at Hampton immediately above the intakes of the Southwark and Vauxhall Water Company, the Grand Junction Water Company, and the West Middlesex Water Company; whether he was aware that the site on which the building stood was at times under water from four to nine inches; and, seeing that it was contrary to the regulations of the Local Government Board issued in August, 1900, to build on a site where 400 persons reside within a quarter of a mile of the building, over 1000 within half a mile, and 3000 just outside that radius, whether he would take any, and if so what, steps to prevent the danger to the neighbourhood and London which was shadowed forth.—Mr. Long replied: I am aware that a temporary small-pox hospital is being erected at Hanworth for the use of the urban districts of Hampton, Teddington, and Hampton Wick and complaints have been made to me with regard to it. I can only require the observance of the regulations referred to in the third paragraph of the question in cases in which the cost of the hospital is to be defrayed out of borrowed money. In the present instance I understand this is not proposed and I have therefore no authority to interfere. Having regard, however, to the allegations made, I have thought it desirable to instruct two of the officers of the department to visit the site and to report to me fully on the subject, and I have given instructions accordingly.

Monday, May 12th.

The Butter Standard.

Mr. O'Shaughnessy asked the President of the Board of Agriculture whether, in view of the fact that the Departmental Committee appointed to inquire into the standard of water in butter reported that many witnesses declared Irish salt firkin butter would be injuriously affected by any limit applicable to all other butters, as on account of its long-keeping qualities it necessarily contained a higher percentage of moisture than was found in any other butter, and considering that several public bodies in Ireland were protesting against the new regulations as applicable to this class of butter, he would consider the matter of fixing a separate standard for it.—Mr. Hanbury said: I am not aware that salt butter will in any way be injuriously affected by the new standard, nor was any evidence, I believe, given to that effect. The brine butter, to which hot brine is added instead of salt, with the result of largely increasing the percentage of water, will, no doubt be affected, but the practice has for some time been dying out and at a meeting of the South of Ireland Butter Merchants' Association held in Limerick a day or two ago it was, I understand, resolved to recommend the use of dry salt instead. I believe such a course will do much to add to the price of the butter and in any case the Irish Department agreed with me in fixing the standard of water in butter which is the same in both countries.

Sir Edward Strachey asked the President of the Local Government Board whether his Department had decided that the substance known as milk-blended butter was an impoverished article of food as defined in Section 1, Part VII, of the Sale of Food and Drugs Acts, 1899, and whether he would take such steps as might be necessary to test the value of the standard for butter set up by the Board of Agriculture under the powers given to his Department by Section 2 of the same Act.—Mr. Long replied: Section 1 of the Act referred to imposes penalties on persons who import certain adulterated or impoverished articles, but the Local Government Board have no power to decide what is an impoverished article for the purposes of this section. As regards the second part of the question the *Board of Agriculture* have, in the exercise of their statutory powers, made regulations for determining the proportion of water in butter which raises the presumption that it is not genuine. I could not undertake to direct that samples should be procured with a view of testing the value of the standard thus set up.

Wednesday, May 14th.

The Butter Standard.

Mr. John Redmond asked the President of the Board of Agriculture whether his attention had been called to the paragraph in the interim report of the Butter Regulation Committee, in which it was stated: "The committee, moreover, understand that the vendors of this type of butter containing water in excess of the proposed official limit would be legally protected provided that a sufficient disclosure is made to the purchaser, and this consideration finally decided the committee to recommend the single limit and leave it to the vendors of Irish salt firkin butter to protect themselves in the simple manner indicated"; and whether, in view of the crisis in the butter trade, he would say whether the legal advisers of the department had been consulted upon this matter and if they agreed with the view expressed in that paragraph.—Mr. Hanbury replied: I have no power under the statute to do more than state what the standard should be. In the opinion of my legal advisers the effect of fixing a standard does not necessarily prevent the disclosure of an excess of water in butter being a sufficient defence, but, of course I cannot say what view the courts may take. In any case, the report of the committee was intended to do no more than safeguard for a reasonable period an old fashioned industry in which brine is used for preserving butter. In any steps that I have to take to prevent the fraudulent addition of water to butter in which the makers and sellers of both countries are interested, the view taken by the committee as regards the use of brine as a preservative of butter will of course be recognised

Mr. Redmond: Do I understand that in the opinion of the legal advisers disclosure will be a sufficient protection?—Mr. Hanbury: That is so.

ROYAL COMMISSION ON ARSENICAL POISONING.

Evidence by Mr. Fletcher Moulton.

The Royal Commission on Arsenical Poisoning held a meeting for the examination of witnesses on May 9th, in the Westminster Palace Hotel, Victoria-street S.W. In the absence in America of Lord Kelvin the chair was taken by Sir William Hart Dyke, M.P., the other members of the Commission present being Sir William S. Church, Professor Thorpe, Dr. B. A. Whitelegge, and Mr. Cosmo Bonsor with Dr. G. S. Buchanan of the Local Government Board, secretary.

Mr. J. **FLETCHER MOULTON**, K.C., M.P., examined by Sir W. **HART DYKE**, said that on the occurrence of what had come to be known as the Manchester scare he was consulted next after Mr. Gordon Salamon and the whole case was put before him by Mr. Groves, M.P., and when it was decided that a committee of experts should be formed he had the question of the most suitable members for the committee put before him. Almost immediately after the discussion between Mr. Gordon Salamon, Mr. Groves, and himself the members of the committee were selected and he, with the others, proceeded to Manchester to investigate matters on the spot. It became perfectly clear to them that the mischief was very widely spread. The Manchester brewers were for the most part incredulous as to the possibility of there being any serious arsenical poisoning. It was a thing so utterly without precedent that at the time when the committee arrived the brewers believed that it was something that had gone wrong with one particular brewer's product and they had no appreciation of the extent to which it was common to the whole trade. The consequence was that the first effort of the committee was to make the whole of the brewers realise that the mischief was not confined to any one brewer but that a large number of brewing houses must necessarily be implicated in it because it came from sugar which was largely used in the neighbourhood. The object of the committee at first was by means of making the brewers realise the scale of the calamity to get some measures adopted immediately which would put a stop to all future mischief. He wished to put that before the commission because in his opinion there never was vacillation or change of view on the part of the members of the committee of experts with regard to the tests used or the measures to be adopted, but the problem of defining some immediate step, some test which would be practical and which would prevent future mischief, was a different task from the deciding what should be the precautions to be used in future when the object was not to stop the possibility of the present danger but to give absolute security for the future. As to the early discussions as to the measures to be taken the members of the committee always kept in mind that these were emergency precautions. When the case had been put before the brewers the committee received every assistance from them. He did not believe that from that time any beer got out which could possibly cause any mischief except perhaps by accident. He thought that he remembered one case coming before the courts in which beer had been sold subsequently to the announcement of precautionary measures, but it was obviously an isolated case and due to confusion between two casks. But substantially from the time that the brewers became aware of the gravity of the matter and what steps ought to be taken by way of precaution all further evil, he thought, ceased. As president of the committee he desired formally to present to this Commission its final report. The committee very soon came to the conclusion that although the mischief was substantially due to the Bostock sugar there was another source of arsenic in beer, namely, the malt. He was bound to say that all other sources seemed to be capable only of producing infinitesimal quantities of arsenic in beer. But the malt was obviously a very serious question and the committee resolved that it would not give a final report until there had been a most searching examination of all the materials used in beer to discover the possibility of arsenical contamination. For the purposes of this report there had been an amount of careful analysis far beyond anything in his experience. The analyses pointed to a very large amount of arsenic in certain portions of malt in the culms and also a considerable amount in the skin of malt. He thought this came as a surprise to every one of them. He remembered Sir Edward Frankland producing at the Royal Institution some crystals of arsenic which he got in the air of London which he attributed to the burning of Midland coal in large quantities. The English method of malting differed from that used in some countries in that the direct products of combustion had access to the grain and in this way arsenic was deposited upon it. In the report there were analyses of specimens of malt which showed a quite considerable amount of arsenic. In this connexion he wished to speak of the impression made upon his mind as a mere observer and not at all as a person entitled to speak from a medical point of view by the close resemblance which all medical men found between the neuritis which characterised this epidemic and the alcoholic neuritis which had never been attributed to arsenic. The proceedings left upon his mind a suspicion that arsenic had played a considerable part in what was called the alcoholism produced by beer and that probably that was due to the fact that this contamination in malting had been very common in past years and that small as the contamination was it might have, in certain constitutions, produced morbid effects. That was the suspicion produced in his mind and he did not think that it was a suspicion which should be completely abandoned because of theoretical arguments as to the smallness of the contamination. One thing that made him cling to the suspicion was the peculiar irregularity in the connexion between the quantity of beer drunk and the arsenical poisoning. There was no doubt in his mind that people who must have drunk very large quantities of beer contaminated by arsenic did not suffer. The peculiarity of this case was that they knew accurately when and to what extent the arsenic passed into circulation. They knew to a week when the arsenically-tainted sulphuric acid was sent to Messrs. Bostock; they used nothing but that; and they knew the quantities of sugar which they produced with it. They knew the localities where the sugar was used, and they had therefore for something like nine months the certainty that fairly heavily-charged beer was sold. They knew the breweries where the beer was sold. Now he inquired as to the employés of the breweries, especially one brewery, at which the committee obtained very complete information upon every point. It was notorious that the employés of breweries consume a large amount of beer and in this particular case with one exception none of them had suffered. The impression that came upon him was that the more poorly-fed people suffered rather than the people who were most alcoholic, who took most beer. In the cases which he saw there were a great number who showed no evidence of extreme alcoholism. He did not think that want of food determined it entirely and the impression left upon his mind was that constitutional peculiarities would make a great difference in the susceptibility to poisoning by these small quantities. If, therefore, they combined the very irregular influence of constitutional peculiarity with the possibility that there had been for years a small contamination due to the difficulty of malting, he should not be surprised if the fact that the attention of the brewing public had been called to it, so that malt would no longer be allowed to be so contaminated, should make a very great difference in the presence of this alcoholic neuritis which had been so associated with it. He was only giving the view of an onlooker, not of an expert. He could not speak of his own knowledge as to whether any brewers had adopted the recommendations of the committee, but he should fancy that beyond exercising generally more care the brewers were largely awaiting the result of the present Royal Commission. He thought that the brewers were exceedingly anxious to have guidance upon the matter. He was satisfied that they were on their guard against arsenic and that there was absolutely no danger lurking on the side of brewing sugar. A scare like this made it quite impossible in an industry of this kind that such a blunder should be made again. He took a different view about the malting, because they could not test their malt as they could test their sulphuric acid, and therefore malting would be rendered safe, first by better methods—perhaps the American method, whereby the fumes did not come directly on the malt—or by better tests, or by selection of fuel. With regard to that he thought that the brewers were likely to have held their hands and waited until this Royal Commission authoritatively laid down the precautions which they ought to take. There was a recommendation in the report of the committee that brewers should require a written guarantee of freedom from arsenic in all brewing materials. He did not think that such a guarantee would indemnify the brewer: the real good of it was that it dinned the word "arsenic" into the ears of the person who was selling brewing materials. It was a sense of too much security which was the source of danger and if in connexion with the selling of brewing materials there was a guarantee pointing to arsenic, people would always be on their guard against it. Nothing was easier than to keep it out; the danger was of forgetting, and the real advantage of this guarantee would be that it would be impossible for persons producing brewing materials ever to forget the risk of arsenic. He was of opinion that the recommendations of the committee in this connexion would be greatly strengthened if official tests for brewing materials were prescribed. If the Board of Inland Revenue could get a test which was practical, easy of application, and gave a substantial security, he thought that it would be of the greatest service. He did not think that an absolute test which was difficult of application would be nearly so useful as a practically sufficient test which could be certain and easily applied. He thought that the danger of rejection was such that the existence of a practical and easily applied, and therefore frequently applied, test would make the maltsters adopt methods which would keep malt perfectly free from arsenic. They would not run the risk of the great loss, both in reputation and pocket, of rejection, and he thought that the frequency of the application and its readiness would be very much more serviceable than what they might call a scientific infallibility. There was no evidence before the committee of any beer which produced evil effects otherwise than by frequent drinking—the toxic character of the beer never rose to such a point that once drunk it produced an evil result. He thought that the proposed test should be made in connexion with the Sale of Food and Drugs Act. The most important thing would be that this Commission, by appealing to the Board of Inland Revenue or some other high authority, should state what it thought was adequate and practicable in the way of watchfulness on the part of the producers; then the ordinary powers of public analysts under the existing statutes would enable them to test beer or brewing materials. It was important that people should know what they had to live up to. In the present state of things there was much costly and difficult litigation, whereas if purity meant to live up to a certain standard decided in a particular way much of this litigation would be avoided and the results to the public would be admirable. He was aware that the committee recommended an official board of referees for this purpose. He was not very fond, if he might use the phrase, of courts *ad hoc*. It was difficult to get good courts. They had good courts in the judicial system and so far as the decision went he should prefer to leave it to the existing courts, but the definition of purity should be a practical one. He did not think that it ought to be made a statutory duty to require a warranty. He did not think that that was any good. He thought that it would be enough to say that it would be an act of great carelessness for a brewer to buy without it. If they were going to say that it was a statutory duty then there arose a great many questions as to what came within the meaning of the word "warranty," but if they put it that a man with a proper conception of his responsibilities would not, in the opinion of this Royal Commission, act otherwise it would have a far more wide-reaching effect. Supposing a man did not do it he would know that if any trouble came he had neglected to do it at his peril and that would have a really wider effect and at the same time it would be less onerous and technical than if it were embodied in legislation and made a statutory duty. He thought that the greatest kindness that this Commission could do the public, especially to the trade, was stating what it thought was the duty of a person, where were his responsibilities and stating in detail how in its opinion he could adequately discharge that duty.

By Sir **WILLIAM S. CHURCH**: With regard to the large discrepancy between the comparative numbers of cases of so-called alcoholic neuritis in the Manchester and Liverpool district and in London or in Scotland he remembered that in its investigations the committee found that the southern malts were much freer from arsenic that the northern, and that might be an important consideration.

By Dr. **WHITELEGGE**: He would have a standard for testing both the finished beer and brewing materials. This would be valuable not only for the purposes of the Inland Revenue but also for the purposes of the Sale of Food and Drugs Act. He thought that the Commission should state that samples should answer such-and-such a test and if they went beyond it they would come within the Sale of Food and Drugs Act. The test should apply to the manufacturer who sold wholesale and not to the actual consumer.

By Professor **THORPE**: The tests which he had in his mind ought to be capable of application by the maltster or the brewer. No doubt more stringent tests would require to be formulated for subsequent use but there should first be such tests as could be applied by practical men engaged in malting and brewing.

EVIDENCE BY MR. GORDON SALAMON.

Mr. **GORDON SALAMON**, chemist and member of the committee of experts, was also examined. In the course of his evidence he said that in the light of present information the line should be drawn higher than one-fiftieth of a grain of arsenic per gallon. In his opinion there was no reason why beer should contain one-hundredth of a grain per gallon. Cases had occurred where it had contained more but they were very rare. Witness discussed at great length the question of tests. In this matter he said that it was necessary to cater for the small brewer rather than for the large brewer who kept his chemist upon the premises or engaged a professional analyst. In the future the large brewer would do as he was doing at present, take *every possible precaution to prevent his product from being contaminated* with arsenic, but the small brewer who had to compete with him would be tempted by cheap material which was possibly impure. He knew that much of the bad malt which was made with gas-coke was offered to large brewers and refused by them because of its containing more arsenic than was now considered desirable and that it had been taken by smaller brewers because of its cheaper price. He suggested that the Commission ought to approve a test which would enable the small maltster or brewer to be sure that what he was sending out was free from arsenic and he thought that the proper application of the Reinsch test would enable him to do so. Witness exhibited to the Commission a specimen of this test disclosing $\frac{1}{100}$th of a grain of arsenious acid per pound of malt. It was, he said, easy of application and would suffice to put the maltster on the *qui vive* He, of course, did not suggest it as an official test but merely for the practical purposes of the manufacturer. He was strongly of opinion that the use of gas-coke as fuel in drying malt should be prohibited. His experience had convinced him that there was no necessity for its use. It was employed simply on the ground of economy, and now that it had been established as a source of danger it should be prohibited. During the past six months the presence of arsenic in malt, even in minute quantities, had become very much rarer, and this he attributed to the diminished use of gas-coke.

The Commission then adjourned.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, 156, Charing Cross-road, W.C.

The Buried Temple. By Maurice Maeterlinck. Translated by Alfred Sutro. With Portrait. 5s. net.

BAILLIÈRE, TINDALL AND COX, 8, Henrietta-street, Covent-garden' W C.

Clinical Lectures on Stricture of the Urethra and Enlargement of the Prostate. By P. J. Freyer, M.A., M.D., M.Ch. Second edition. Price 6s. net.

BLACKWOOD AND SONS, Edinburgh and London.

The Way of Escape. A Novel. By Graham Travers (Margaret Todd, M.D.) Price 6s.

COULET ET FILS, 5, Grand' Rue, Montpellier (Masson et Cie., Paris).

Maladies Nerveuses: Diagnostic, Traitement. Par J. Vires, Professeur agrégé à la Faculté de Médecine de Montpellier, Médecin de l'Hôpital Général. Préface par F. Raymond, Professeur de Clinique des Maladies Nerveuses à la Faculté de Médecine de Paris. Price 8 fr.

FANNIN AND CO, LIMITED, 41, Grafton-street, Dublin. (BAILLIÈRE, TINDALL, AND COX, London)

Transactions of the Royal Academy of Medicine in Ireland. Vol. xix. Edited by John B Story, M.B., F.R.C S., General Secretary. Price not stated.

FROST, W. D, Madison, Wis, U.S.A

A Laboratory Guide in Elementary Bacteriology. By William Dodge Frost, M.S, Instructor in Bacteriology, University of Wisconsin. Second revised edition. (Published by the author.) Price not stated.

GLAISHER, HENRY J., 57, Wigmore-street, W.

Clinical Lectures on Neurasthenia. By Thomas D. Savill, M.D., Physician to the West-end Hospital for Diseases of the Nervous System, London. Second edition. Price 6s. net.

GREEN, WILLIAM, AND SONS, Edinburgh.

Public Health and Preventive Medicine. By C. J. Lewis, M.D., D.Sc. (Public Health) Edin, and Andrew Balfour, M.D, B.Sc. (Public Health) Edin., D.P.H. Camb. Price not stated.

HIRSCHWALD, August, Unter den Linden, 68, Berlin, N.W.

Internationale *Beiträge zur Inneren Medicin.* Ernst von *Leyden*, zur Feier seines 70-jährigen Geburtstages, am April 20, 1902, gewidmet von seinen Freunden und seinen Schülern. Erster Band, Preis Marks 18, zweiter Band, Preis Marks 12.

HOEPLI, ULRICO, Milan.

La Pellagra. Storia, Eziologia, Patogenesi, Profilassi. Del Dott. G. Antonini, Direttore del Manicomio Provinciale di Pavia in Voghera. (Manuali Hoepli) Price L. 2.

Il Medico Pratico. Del Dott Carlo Muzio. Terza edizione rifatta del Nuovo Memoriale pei Medici Pratici. Price L. 6. (Manuali Hoepli.)

Manuale di Chimica Legale (Tossicologia). Prof. Cav. Nicola Valentini, Chimico Igienista. Price L. 2.50. (Manuali Hoepli.)

KING, P. S AND SON, Orchard House, Westminster, S.W.

Report on a Visit of Inspection to Colonies and Hospitals for Epileptics, the Feeble-minded, and the Insane in the United States of America. By J Milson Rhodes, M.D., and Edwin W. Marshall, C.A. Price not stated.

Municipal Affairs: A Bibliography of the World's Municipal Literature. By Robert C. Brooks. Second edition, revised and enlarged. Price 6s. net.

LIVINGSTONE, E. & S., 15, Teviot-place, Edinburgh.

Elementary Text-book of Zoology By Arthur T. Masterman, M.A. Cantab., D Sc. Lond., D.Sc St. And., F.R.S.E., Lecturer on Zoology and on Biology in the School of Medicine of the Royal Colleges, Edinburgh. Second edition Price 12s net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C.

A Manual of Surgical Treatment. By W. Watson Cheyne, C.B., M.B, F.R.C.S., F.R.S., Professor of Surgery in King's College, London, and F. F. Burghard, *M D* and *M S. Lond.*, F.R C.S., Teacher of Practical Surgery in King's College, London In Six Parts Part VI., Section I. The Treatment of the Surgical Affections of the Tongue and Floor of the Mouth, the Pharynx, Neck, Œsophagus, Stomach, and Intestines. Price 18s.

Lectures on the Use of Massage and Early Passive Movements in Recent Fractures and other Common Surgical Injuries, the Treatment of Internal Derangements of the Knee-joint and the *Management of Stiff Joints. By Sir William H. Bennett*, K C.V.O., F.R.C.S., Senior Surgeon to St. George's Hospital, Member of the Court of Examiners, Royal College of Surgeons of England, &c. Second edition. Price 6s.

The Elements of Mind. Being an Examination into the Nature of the First Division of the Elementary Substances of Life. By H. Jamyn Brooks Price 10s 6d. net.

Memoirs and Letters of Sir James Paget Edited by Stephen Paget one of his sons. New edition (seventh impression). Price 12s. 6*d*. net.

MALOINE (Libraire), 23–25, rue de l'École de Médecine, Paris.

Annuaire des Eaux Minérales, Stations Climatiques et Sanatoriums de la France et de l'Étranger. Par le Docteur G. Morice, *Rédacteur-en-chef de la Gazette des Eaux. Price* 1 fr. 50.

MURRAY, JOHN, Albemarle-street, W.

Savage Island: an Account of a Sojourn in Niué and Tonga. By Basil Thomson, Governor of Dartmoor. Price 7s 6*d*. net.

REBMAN, LIMITED, 129, Shaftesbury-avenue, W.C.

A Manual of Ophthalmoscopy for Students and General Practitioners By J. B Jennings, M.D. (Univ. Penna.), formerly Clinical Assistant Royal London Ophthalmic Hospital, London. Price 7s. 6*d*. net.

A Pocket Cyclopedia of Medicine and Surgery. Based upon "A Cyclopedia of Practical Medicine and Surgery." Edited by George M. Gould, A.M., M D., and Walter L. Pyle, A.M., M.D. Price 5s. net.

The Theory and Practice of Medicine. By Henry Walter Syers, M.A., M D Cantab., &c., Senior Physician to Out-patients to the Great Northern Central Hospital. In two volumes. Vol. II. Price 10s. net. (Vols. I. and II, 25s. net).

Clinical Hematology: A Practical Guide to the Examination of the Blood with reference to Diagnosis. By John C. Da Costa, Jun., M.D., Assistant Demonstrator of Clinical Medicine, Jefferson Medical College; Hematologist to the German Hospital, &c. *Price 22s. 6d.* net.

Agricultural Bacteriology: A Study of the Relation of Bacteria to Agriculture, with special reference to the Bacteria in the Soil, in Water, in the Dairy, in Miscellaneous Farm Products, and in Plants and Domestic Animals. By H. W. Conn, Ph.D., Professor of Biology, Wesleyan University. Price 11s. net.

A System of Physiologic Therapeutics. Edited by Solomon Solis Cohen, A.M., M.D, Professor of Medicine and Therapeutics in the Philadelphia Polyclinic. Vol. VI.: Dietotherapy and Food in Health. By Nathan S. Davis, Jun, A.M, M.D, Professor of the Principles and Practice of Medicine in North western University Medical School. Price 12s. 6*d*. net.

The Diagnosis of Nervous and Mental Diseases. By Howell T. Pershing, M Sc, M.D., Professor of Nervous and Mental Diseases in the University of Denver. Price 6s. net

Diseases of the Intestines, their Special Pathology, Diagnosis, and Treatment. By John C. Hemmeter, M.D. Philos. D., Professor in the Medical Department of the University of Maryland. In two volumes. Vol. II. Price 25s. net. (Vols I. and II., 50s. net).

Questions and Answers. Embracing the Curriculum of the Dental Student. Divided into three parts. By Ferdinand J. S. Gorgas, A M., M.D, D.D S., author of "Dental Medicine," editor of "Harris's Principles and Practice of Dentistry. Price 15s net.

SAUNDERS, W. B., AND CO., London and Philadelphia.

Saunders' Year-book of Medicine and Surgery for 1902. Under the general editorial charge of George M. Gould, M D. Price 26s. (13s. per volume).

UNIVERSITY PRESS, Dublin.

The Royal University of Ireland Examination Papers, 1901. A Supplement to the University Calendar for the Year 1902. Price not stated.

UNWIN, T. FISHER, Paternoster-square, *E.C.*

The Sons of Glory: Studies in Genius. By Adolfo Padovan. Translated and adapted from the Italian by the Duchess Litta Visconti Arese. Price 6s.

VIEWEG, FRIEDRICH UND SOHN, Brunswick

Lehrbuch der Anorganischen Chemie. Von Dr H. Erdmann, Professor an der Königl Technischen Hochschule zu Berlin. Third edition. Price, bound in cloth, M 15; in calf, M 18.

WITHERBY AND CO., 326, High Holborn, and 4, Newman's-court, Cornhill, E.C.

Lean's Royal Navy *List.* No. 93 *April*, 1902. *Founded* and edited by Lieutenant-Colonel Francis Lean, Royal Marine Light Infantry (retired). Price 7s. 6d.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BAILEY, E. C., M.B, B S Durh., has been appointed Certifying Surgeon under the Factory Act for the Crewe District of Cheshire.

BELL, K. DE B., M R C.S, L R C.P Lond, has been appointed Certifying Surgeon under the Factory Act for the Uppingham District of Rutland.

BLACK, A. L., *has been* appointed House Surgeon to the Royal Victoria Hospital, Belfast.

BOND, FRANCIS THOMAS M.D Lond, M.R C.S., has been re-appointed Medical Officer of *Health for the Lydney (Gloucestershire)* Rural District Council.

Coombs, Rowland Hill, M.D. Durh., has been appointed Medical Officer for the Rural District of Bedford.

Crowther, E. L., M.D. Aberd., has been appointed a Member of the Central Board of Health, Tasmania.

Crow, J., M.B., Ch.B. Glasg., has been appointed Medical Officer and Public Vaccinator for the Largs and Fairlie Districts Parish Council.

Daly, F. J. P., M.R.C.S., L.R.C.P., has been appointed Medical Officer to No. 10 District of the Hackney Union.

Davidson, Norman, M.B., Ch.B. Aberd., has been appointed Medical Officer of Health for the Burgh of Peterhead.

Glenny, Edmund, L.R.C.P.I., L.R.C.S.I., has been appointed Senior House Surgeon to Jervis-street, Hospital, Dublin.

Grace, A. H., L.S.A., has been appointed Certifying Surgeon under the Factory Act for the Chipping Sodbury District of Gloucestershire.

Harman, N. Bishop, M.A., M.B. Cantab., F.R.C.S. Eng., has been appointed Demonstrator of Pathology in the Middlesex Hospital Medical School, vice Dr. C. H. Reissmann.

Horrocks, H., M.D. Lond., has been appointed Assistant Gynæcologist to the Perth Public Hospital, Western Australia.

Jones, O. C., M.B. Oxon., has been appointed Certifying Surgeon under the Factory Act for the Ilfracombe District of Devon.

Kelsall, H. T., M.D. Lond., has been appointed Ophthalmic Surgeon to the Perth Public Hospital, Western Australia.

Michell, J. C., M.R.C.S., L.S.A., has been appointed Certifying Surgeon under the Factory Act for the Lynton District of Devonshire.

Milner, Ernest Arthur, M.B., C.M. Edin., has been appointed Medical Officer of Health for Lostwithiel (Cornwall).

Randle, J. M., L.R.C.P. Lond., M.R.C.S., has been appointed Deputy Medical Officer of Health for the Borough of Helston, Cornwall, during the illness of Mr. W. Wearne.

Richards, R. W., M.D. Lond., has been appointed Certifying Surgeon under the Factory Act for the Dolgelly District of the county of Merioneth.

Richardson, W. P., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory Act for the Blisworth District of Northamptonshire.

Russell-Woodford, E., M.D., M.S. Aberd., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for Ventnor Urban District Council.

Ryan, John P., L.R.C.P.I., L.R.C.S.I., has been appointed Junior House Surgeon to Jervis-street Hospital, Dublin, vice Mr. Edmund Glenny.

Shaw, Cecil E., M.D., M.Ch. R.U.I., has been appointed Consulting Ophthalmic Surgeon to the County Antrim Infirmary, Lisburn.

Shaw, James, M.D. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Aylesbury District of Bucks.

Stevenson, Howard, M.B., B.Ch., B.A.O. R.U.I., has been appointed House Surgeon to the Royal Victoria Hospital, Belfast.

Trotman, F., M.D. Lond., has been appointed Senior Surgeon to the Perth Public Hospital, Western Australia.

Trethowan, W., M.B. Aberd., has been appointed Assistant Surgeon to the Perth Public Hospital, Western Australia.

Tyndall, Francis, M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Act for the Westhoughton District of Lancashire.

Williams, Chisholm, F.R.C.S. Edin., has been appointed in charge of the Electro-Therapeutic Department, West London Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Army Medical Service, War Office, S.W.—Thirty Commissions.

Birmingham General Dispensary.—Resident Locums. Terms 4 guineas per week, with apartments.

Bradford Royal Infirmary.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and residence.

Bristol City Lunatic Asylum.—Medical Assistant, unmarried. Salary £140 per annum, increasing to £160, with apartments, board, and washing.

Cancer Hospital (Free), Fulham-road, S.W.—Junior House Surgeon for six months. Salary at rate of £70 per annum, with board and residence.

Cardiff Union Workhouse.—Assistant Medical Officer, unmarried. Salary £130 per annum, with rations, apartments, attendance, and washing.

City of London Hospital for Diseases of the Chest, Victoria-park, E.—Two House Physicians for six months, with board, washing, and residence provided, and salary at rate of £30 per annum.

Clogher Union, Fivemiletown Dispensary District.—Medical Officer. Salary £100 per annum, with fees; also Medical Officer of Health. Salary £15 a year.

Colombo, Ceylon, Municipality of.—Medical Officer of Health. Salary equivalent to £400, rising to £600, and conveyance allowance.

Cornwall Royal Infirmary.—House Surgeon, unmarried. Salary £100, increasing £10 a year, with board and apartments.

Durham County Asylum.—Third Assistant Medical Officer. Salary £150, rising to £180 a year, with apartments, board, laundry, and attendance. Also Locum Tenens. Salary 4 guineas per week.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—House Physician for six months. Board, residence, and honorarium of £25.

Glamorgan County Asylum, Bridgend.—Locum Tenens. Board and 4 guineas a week.

Glasgow Samaritan Hospital for Women.—House Surgeon.

Hereford County and City Asylum.—Senior Assistant Medical Officer. Also Junior Assistant Medical Officer. Salary £150 and £100 per annum respectively, with board, lodging, and washing.

Hospital for Sick Children, Great Ormond-street, London, W.C.—Clinical Pathologist and Bacteriologist. Honorarium 50 guineas.

Hospital for Women, Soho-square, W.—Honorary Assistant Anæsthetist.

Kent and Canterbury Hospital.—Assistant House Surgeon, unmarried. Salary £60 a year, with board and lodging.

Kent County Asylum, Barming Heath, Maidstone.—Fourth Assistant Medical Officer and Pathologist, unmarried. Salary £175 per annum, rising to £200, with quarters, attendance, &c.

Kincardine, Ross-shire, Parish Council.—Resident Medical Officer. Salary £72 10s. as Medical Officer and £5 per annum as Vaccinator, with lunacy fees in addition.

Lancashire County Asylum, Whittingham.—Junior Assistant Medical Officer, unmarried. Initial salary £150, with apartments, board, washing, and attendance.

Lancashire County Asylum, Winwick, Warrington.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with apartments, board, attendance, and washing.

London (Royal Free Hospital) School of Medicine for Women, 8, Hunter-street, Brunswick-square, W.C.—Lecturer on Forensic Medicine; Lecturer on Toxicology; and Assistant Secretary.

London Temperance Hospital, N.W.—Assistant Resident Medical Officer for six months. Honorarium at rate of 60 guineas per annum, with board and residence.

London Throat Hospital, 204, Great Portland-street, W.—Non-resident House Surgeon. Honorarium at rate of £25 per annum.

Mount Vernon Hospital for Consumption, Hampstead and Northwood. Physician; also Assistant Physician. Also two Clinical Assistants. Honorarium for the two latter £25 each.

North-West London Hospital, Kentish Town-road.—Second Honorary Anæsthetist. Also Resident Medical Officer. Also Assistant Resident Medical Officer, both for six months. Salary at rate of £50 per annum each, with board, residence, and washing.

Nottingham General Dispensary.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance light, and fuel.

Poplar Hospital for Accidents, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

Royal Albert Hospital, Devonport.—Resident Medical Officer, unmarried. Salary £110 per annum, with board and lodging.

Royal Hospital for Children and Women, Waterloo-bridge-road, S.E.—Resident Medical Officer; also Assistant Obstetric Physician.

Royal South Hants and Southampton Hospital, Southampton.—Senior and also Junior House Surgeon. Salaries £120 and £60 per annum respectively, with rooms, board, and washing. Also Dentist.

St. Nicholas's Industrial School, Manor Park, E.—Medical Officer.

St. Paul's Hospital for Skin and Genito-Urinary Diseases, Red Lion-square, W.C.—Clinical Assistant in the Out-patient Department for three months.

Seamen's Hospital Society.—Surgeon; also Honorary Anæsthetist.

Staffordshire General Infirmary, Stafford.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Suffolk General Hospital.—House Surgeon. Salary £100 a year, with board, lodging, and washing.

Torbay Hospital, Torquay.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

Victoria Hospital for Children, Queen's-road, Chelsea, S.W.—House Surgeon for six months. Honorarium of £25, with board and lodging.

Wallasey Dispensary and Victoria Central Hospital, Liscard.—House Surgeon, unmarried. Salary £100, with board, apartments, and service.

Wolverhampton and Staffordshire General Hospital.—House Physician, also House Surgeon. Salary (in each case) £100 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

Burrows.—On May 9th, at The Haven, Harrow-on-the-Hill, the wife of Harold Burrows, M.B. Lond., of a son.

Martin.—On Jan. 21st, at Wellington, N.Z., the wife of Albert Martin, M.D. Durh., of a son.

Permewan.—On May 9th, at Normanton-avenue, Liverpool, the wife of William Permewan, M.D. Lond., F.R.C.S., of a daughter.

Pembrey.—On May 5th, at Parkside, Clewer-green, Windsor, the wife of M. S. Pembrey, M.D. Oxford, of a son.

Rutherfurd.—On the 13th inst., at 12, Newton-place, Glasgow, the wife of Henry Rutherfurd, M.B., a son.

MARRIAGE.

Bryett—Leonard.—On the 29th of April, at Holy Trinity Church, Winchester, by the Rev. Allan Gunn, rector, assisted by the Rev. J. F. Matthews Duncan, M.A., William Robert Bryett, B.A., M.D., London, second son of Lewis Bryett, to Mary Elizabeth, daughter of his Honour the late Judge Leonard of Kerrfield, Winchester, and Queen's Fort, Tuam, Ireland.

DEATHS.

Bodington.—On Thursday, May 8th, at Hotel d'Jena, Paris, George Fowler Bodington, M.D. Durh., aged 73.

Freeland.—On April 15th, 1902, at Parham, Antigua, West Indies, Freeland John Freeland, M.D., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. Lond., elder son of J. B. Freeland, M.R.C.S. Eng., and brother of Douglas L. Freeland, L.R.C.P. Lond., M.R.C.S. Eng., of Snodland, Kent, aged 40 years.

Hoadley.—On March 14th, 1902, at Havelock, Marlborough, N.Z., Robert Hoadley, M.D., M.R.C.S.E., formerly of Fulham, S.W.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths

Notes, Short Comments, and Answers to Correspondents.

IS IT THE DUTY OF THE PUBLIC VACCINATOR TO VACCINATE ALL APPLICANTS?

To the Editors of The Lancet.

Sirs,—I should be obliged if you would give me your opinion and also, perhaps, elicit that of the public vaccinators as to whether *they are required to vaccinate all who ask, to vaccinate or revaccinate* them with official lymph in their public capacity—i.e. (because they are the public vaccinators), the patient believing "efficient and innocuous lymph could only be obtained by them"? This question is causing concern and unrest in the minds of medical men, controversy and heated argument on the part of the public, especially at different boards of guardians when large medical bills are presented by their clerk for payment. Such was the case at the last meeting of the Guardians of Poole Union when a bill of £169 for revaccination was produced by our clerk. The chairman of the Relief Committee proposed, "That a list of all those who had availed themselves of revaccination by the public vaccinator (not being paupers) at the expense of the ratepayers should be published." I seconded this, observing that I thought it mean and contemptible to resort to the public vaccinator as many well-to-do people had done for themselves, their families, and household, and that it was a reflection on, and insult to, their private medical man to assume, or to think for one moment that only by vaccination by the public vaccinator could they be efficiently secured from *the risk of contracting small-pox. This caused a fellow guardian who was sitting next to me at once to rise and, with some warmth, to state that* he dissented entirely from my speech, for he had availed himself of the public vaccinator because he was told, and it had been stated in Parliament, that efficient lymph could only be obtained from the public vaccinator; he had been revaccinated since infancy four times and without result until he was vaccinated recently by our public vaccinator; he deprecated the suggestion that men of means and position could do so from unworthy motives; "he offered the fee," which was refused; and he considered as a large ratepayer, and even for example' sake, he was perfectly at liberty to avail himself of a public duty which, in his opinion, could only be done efficiently by the public vaccinator. I replied that although in the case of the last speaker all who knew him as we did could not for a moment have thought that he had been vaccinated or had had his servants vaccinated to avoid the paltry fee, for we well knew his open-handed generosity and large-heartedness, still many had done so presumably for that reason, and I did protest against the statement that efficient lymph was to be obtained only by the public vaccinator, and that if it were so—that we could not be vaccinated successfully without evil consequences only by accepting of vaccination by the public vaccinator—it would indeed be sad and lamentable and must be quickly rectified, but I thought that I could prove that this was not so, that it was not necessary to receive pauper medical aid in order to be protected effectually by the great blessing of vaccination. I had myself lately revaccinated with most excellent results my two daughters, my son, one of my servants, and a friend with excellent lymph obtained from the Jenner Institute. I have also procured excellent lymph from Dr. Renner, Marylebone-road, N.W. I thought the public vaccinator should have accepted the fee offered and not have included our fellow guardian in his list for payment by the guardians, at any rate this was my custom when I was in my early years, for a short time, a public vaccinator.

Your reply, I think, will interest many readers of The Lancet and oblige,

Yours truly,

May 12th, 1892. Frederick H. Alderson, M.D. St. And.

⁂ A public vaccinator must perform his duty towards anyone who claims his official services, but a good citizen would not desire to make his neighbours pay unfairly for him. A leading article in this week's issue deals with other points in Dr. Alderson's letter.—Ed. L.

"FALSE COLOURS."

To the Editors of The Lancet.

Sirs,—My attention has been drawn to an editorial note in The Lancet of May 10th, p. 1369, having reference to myself. As I have always found that your journal is conducted with courtesy as well as ability I am the more surprised that you should not have communicated with me before *inserting it.* You would then have learnt privately the facts to which I request you to give the same publicity as the paragraph in question.

1. I have never authorised any person to represent me as a medical member of the Malthusian League. 2. I have never been aware directly or indirectly that I was so represented. 3. I do not, as you unjustly assume, receive the *Malthusian* monthly, but, on the contrary, have never even seen or heard of the paper for at least nine years. 4. I am not, and never have been, a subscribing member of the League and have no knowledge or information of having been made an honorary member, although to some extent the needs of modern civilisation compel me reluctantly to assent to its general principles. I may add *that I am no more responsible for the manner in which I am described* without my knowledge in a medical direction than I am for the fact that I receive many letters addressed me as "the Rev." because I am an M.A.—not, I am sure, for any other qualification. In conclusion, I may say it would be extremely inconsistent with my published and repeatedly expressed views regarding the training and government of the medical profession in this country to cause myself to be considered a member of that body. This I say in no personal disrespect to medical men, among whom I reckon some of my warmest friends but in honest disavowal of the suggestion that your paragraph would seem to convey.

I am, Sirs, yours faithfully,

H. S. Schultess Young.

Essex-court, Temple, E.C., May 12th, 1902.

THE TREATMENT OF STAMMERING.

To the Editors of The Lancet.

Sirs,—Can any of your readers kindly give me hints as to the best way of dealing with a case of stammering in a young lady, aged about 18 years? I imagine that it may be necessary to put the patient under the care of someone trained in the teaching of elocution and voice-production. If so I shall be grateful to any brother practitioner who can privately recommend me a teacher whom he has found to be efficient and satisfactory. I inclose my card and, venturing to trespass on your kindness, ask you to be so good as to permit me to call at your offices for any replies to my query.

I am, Sirs, yours faithfully,

Koax-Koax.

THE INSURANCE VALUE OF THE LIFE OF A MEDICAL MAN.

Dr. J. Howe Adams of Philadelphia, writing in an American contemporary on the subject of accident insurance, makes some interesting remarks with regard to medical men as "risks." He says:—

> "The two classes which are considered the cream of the accident business are the '*preferred*' and the 'select' who need pay only *$5 and $4 respectively a thousand, the difference being that the* select is allowed twice the maximum amount of the preferred for death as a rule. Accident companies regard the physician as a better risk than the surgeon and they regard the city physician better than his brother practitioner in the country. As the city physician is regarded as the best risk he is put in the best class, the select. Next comes the physician and surgeon with city practice only; he is placed in the preferred class, while the country physician and surgeon is placed down in the classification as 'ordinary,' which is the fourth from the top, for which he must pay twice as much as his city brother and be limited to half the amount of indemnity in case of accident or death by accident. This is the cold blooded view which the accident companies take of the dangers of the country doctor's life."

FOREIGN MEDICAL LITERATURE.

To the Editors of The Lancet.

Sirs,—*Concerning* foreign literature, I beg to inform "Northern Reader" (The Lancet, May 3rd, 1902, p. 1293) that the leading medical booksellers of Berlin are Messrs. Speyer and Peters, N.W., 43, Unter den Linden; Urban and Schwarzenberg, N.W., 39, Dorotheenstrasse; and A. W. Hirschwald, N.W., 68, Unter den Linden. The leading medical weekly periodicals are *Deutsche Medicinische Wochenschrift*, *Berliner Klinische Wochenschrift*, and *Münchener Medicinische Wochenschrift.*

I am, Sirs, yours faithfully,

Berlin, May 7th, 1902. Dr. Eugen Cohn.

"POISONOUS PROPRIETARY MEDICINES."

To the Editors of The Lancet.

Sirs,—I have just noticed your remarks in reference to the sale of "Bromidia," in your paper of May 3rd, by "a Fleet-street Druggist." Being the "Fleet-street Druggist" referred to, I beg the favour of the insertion in your next issue of the following. Quoting your own motto, *Audi alteram partem*, you say I have been in the habit of selling "Bromidia" to anyone who might ask for it. That is not correct. I have been in the habit of dispensing it, but not otherwise selling it. That particular bottle was *the first sold* entire over the counter. And further on you state that I was in the habit of selling it without labeling it "Poison." (Though that would be true if we were in the habit of selling it.) We only label dispensed medicine according to the instructions of the doctor. As regards labelling the bottle "Poison," let me remind you that that is not our duty. It is the duty of the maker and first vendor. We are not supposed to know the composition of a "patent medicine," and it would be the height of impertinence to put "Poison" upon another's preparation which the maker does not acknowledge as a "poison" and moreover calls it by some innocent name.

You make the following remarks to the jury's rider: "How long are such representations by juries to be made and to go unheeded? How often are lives to be sacrificed before the law regulating the sale of poisonous proprietary remedies is amended?" In this particular instance, and in some others, the medical profession are alone to blame, if blame exists. If medical men would but trust "druggists" to dispense their prescriptions very little would be heard of such sad accidents. The fact is, many medical men when they leave *the hospital* are not able to write a prescription. Hence they have recourse to these quack compounds. The patient soon discerns the preparation and purchases for himself. "Druggists are not trusted to dispense a simple pill of quinine or iron, and many other single remedies and compounds, too, but the doctor must go to America, France, or Germany for the preparation he wishes to administer to his British patients.

If all intended for the medical profession were compelled to work for nine months behind a "druggist's" counter, where a good dispensing business is done, they would not only know how to write a prescription but be able to dispense it. As things are, with their insufficient knowledge of pharmacy they find it easier to prescribe a nostrum. The bottles of "Bromidia" are not labeled "poison" and do not state the use or the composition. Who would suppose that under the name of "Bromidia" it was a preparation of Indian hemp and in addition every dose of it contains a poisonous quantity of chloral? After the fatal accident I found a formula in "Harwood Lescher's Recent Materia Medica" and one in Martindale's, also one in a trade journal, all three differing from one another. These I gave to the coroner who read two of them to the jury. He evidently thought it quite natural that one might not know the contents till after an accident.

I am, Sirs, yours faithfully,
Fleet-street, E.C., May 13th, 1902. GEO. P. POND.

⁂ We do not understand every word of this letter. Mr. Pond will acknowledge that it is unfortunate that the only bottle of "Bromidia" ever "sold entire over the counter" should have brought about a tragedy. We endorse his regrets that medical men nowadays should be too often inexpert pharmacists.—ED. L.

THE "Y" FUND.

SURGEON-GENERAL H. S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from Lieutenant-Colonel Sir John G. Rogers, K.C.M.G., D.S.O., A.M.S. (retired); Surgeon-Lieutenant-Colonel Sir J. R. A. and Lady Clark; Lieutenant-Colonel J. J. Lamprey, I.M.S. (retired); Professor D. J. Cunningham; Dr. Murison; Dr. J. R. S. Robertson (Southsea); Dr. E. L. Fenn; Dr. Blandford; Dr. Frazer; Mrs. Snape; Mr. and Mrs. H. Gilbert Barling; Surgeon-General and Mrs. I. O'Farrell; and the following officers and ladies of the Royal Army Medical Corps:—Colonel and Mrs. W. J. Charlton, Colonel and Mrs. W. F. Stevenson, Lieutenant-Colonel and Mrs. W. L. Chester, Lieutenant-Colonel and Mrs. W. E. Webb, Lieutenant-Colonel and Mrs. H. K. Allport, Lieutenant-Colonel and Mrs. T. B. A. Tuckey, Lieutenant-Colonel and Mrs. C. B. Hill, Lieutenant-Colonel and Mrs. L. W. Swabey, Lieutenant-Colonel and Mrs. Dick, Major and Mrs. H. Lynden Bell, Major and Mrs. F. H. Treherne, Major and Mrs. D. V. O'Connell, Major and Mrs. A. Kennedy, Major and Mrs. T. H. F. Clarkson, and Major and Mrs. H. M. Sloggett; Colonels J. L. Notter, W. J. Fawcett, J. P. Rooney, and G. D. N. Leake; Lieutenant-Colonels C. A. Webb, D. F. Franklin, W. Rowney, James, J. F. Brodie, M. Dundon, J. Stevenson (retired), Grant, Alexander, C. A. P. Mitchell, U. J. Bourke, F. T. Wilkinson, and T. M. Corker; Majors A. Stables, J. W. Jérome, M. T. Yarr, A. Dodd, C. W. Allport, G. H. Barefoot, W Hallaran, G. F. Alexander, A. J. Luther, A. de C. Scanlan, S. G. Allen, G. J. A. Tuke, J. D. T. Reckitt, H. A. Cummins, C.M.G., and J. Hickman; and Captains Hardy, E. McK. Williams, G. S. McLoughlin, D.S.O., A. Pearse, J. Grech, G. S. Mansfield, and C. T. Samman. The fund now amounts to £140. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington-gardens-terrace, Hyde Park, London, W.

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W. NASH, A.M.S.

THE following additional subscriptions to this fund have been received:—

	£	*s.*	*d.*		£	*s.*	*d.*
Lieutenant-Colonel H. Grier, R A.M.C	1	1	0	Colonel J. F. Supple, C.B., R.A.M.C.	1	0	0
Lieutenant-Colonel R. H. Forman, R.A.M.C.	0	10	0	Colonel W. Allan May, R.A.M.C.	0	10	0
Lieutenant-Colonel G. Hughes, D.S.O., R.A.M.C.	1	1	0	Previously acknowledged in THE LANCET	81	6	6
Major D. Semple, R.A.M.C.	1	1	0	Total	£86	9	6

HER 167TH APPEARANCE.

WOMAN named Susan Wilson appeared at the Salford Police court recently on a charge of drunkenness. She is a familiar acquaintance of the magistrates and the police, having been before the court 167 times. On a Saturday evening she requested the police at the Town Hall to take her into custody. She liked the workhouse better than the prison but she said it was too late to g there on Saturday night. She was discharged in order that she might go to the workhouse. But of what use is this constant round of ginshop, workhouse, police, and prison? If in a home she might be saved from herself. Familiarity, no doubt, blunts the sense of shame and the report of the case seems to show that the humorous rather than the pitiful aspect of the case presented itself to the court on her 167th appearance.

THE INHABITED HOUSE DUTY.

To the Editors of THE LANCET.

SIRS,—Will you allow me to call the attention of medical M.P.'s and Parliamentary Committees to the serious injustice under which medical men lie with regard to their assessment of house tax? A medical man cannot live where he likes, he has to choose his house both as regards size and position from a purely business point of view. To all intents and purposes the medical man's house is a house of business. Why is not the house rated as such? Medical men (and schoolmasters who are in a similar position) are called upon to pay 100 per cent. higher house tax than a tradesman in the same locality. This high rating is a direct tax upon their industry. This is not a small matter to men whose expectation of life is less than that of any other calling bar publicans and sinners, and therefore whose productive period is of the shortest and most precarious. If the attention of the Chancellor of the Exchequer was called to this fiscal anomaly I am sure tardy justice would at last be done.

I am, Sirs, yours faithfully,
Ilkley, May 11th, 1902. A. H. BAMPTON.

THE R.A.M.C. UNIFORM.

To the Editors of THE LANCET.

SIRS,—May I point out to your correspondent, "Surgeon-Captain," in THE LANCET of May 10th, p. 1370, that the Sam Browne belt has *not* been officially ordered for Volunteer medical officers, and it is, I believe, not the intention of the authorities that it should be worn by medical officers of units? Unfortunately a volunteer association, although unauthorised, stated that the Sam Browne belt was required except in review order.

I am, Sirs, yours faithfully,
May 10th, 1902. V. M. O.

◆

A Vain Woman is strongly recommended to have nothing to do with the quacks in question. Plastic operations in surgery should, in our opinion, only be performed to remedy grave defects—conditions which make the victim an object of repulsion. The signs of ordinary wear and tear of life should not be made the subject of surgical interference, and no self-respecting surgeon would operate upon a patient for the gratification of the patient's vanity solely. Secondly, such a plastic operation as "A Vain Woman" seeks information about would probably be unsuccessful from the first; it might be attended with dangerous complications; and, at the best, it would only be of the slightest temporary benefit to her appearance.

G. F. S.—We are not prepared to say that any one text-book on the subject is better than any other. We have reviewed several favourably. Our correspondent might attend the classes at the Sanitary Institute, Margaret-street, London, W., when his lecturers would advise him which text-books they would prefer him to use.

Yenikeny.—If our correspondent advertises his wants in the usual manner he will find out the market price. Such matters are only decided by mutual arrangement.

A. J. N.—The Drouet Institute are a set of quacks.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (2 P.M.), Royal Free (2 P.M.).

TUESDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (21st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (22nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.). West London (2.30 P.M.), London

Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (3.30 P.M.).

SATURDAY (24th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (20th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Annual General Meeting. Election of Officers. Ordinary Meeting. Dr. Hunter: Infective Lesions of the Tongue, Stomach, and Intestines in Addison's Anæmia (Lantern Demonstration).—Dr. Rolleston: Membranous Cholangitis.—Mr. A. Lucas: Unusual Variety of Knee Joint in Hæmophilia and Congenital Atresia of the Small Intestine.—Dr. F. J. Smith: Disseminated Carcinoma Simulating Tubercle.—Dr. Pennell: Sarcoma of the Suprarenal Body.

WEDNESDAY (21st).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—7.30 P.M. Mr. D. J. Scourfield: Exhibition of Fresh-water Entomostraca.

ROYAL METEOROLOGICAL SOCIETY (Society's Rooms, 70, Victoria-street, S.W.).—4.30 P.M. Papers:—Mr. W. H. Dines: Report on the Wind Force Experiments on H.M.S. *Worcester* and at Stoneness Lighthouse.—Dr. H. R. Mill: The Cornish Dust Fall of January, 1902.

UNIVERSITY COLLEGE MEDICAL SOCIETY (Gower-street, W.C.).—8.30 P.M. Address: Prof. J. Rose Bradford: The Relation of Biology to Medicine.

THURSDAY (22nd).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Clinical Evening. Cases will be shown by Mr. W. Watson Cheyne, Dr. A. Whitfield, Dr. A. Morison, Mr. F. Jaffrey, and others.

NEUROLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Clinical Evening. Cases will be shown by Mr. R. Cross, Dr. F. Weber, Dr. F. Buzzard, Dr. Colman, and others. (Patients at 8 P.M.)

FRIDAY (23rd).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Annual General Meeting. Election of Officers for Session 1902-1903. Papers:—Sir T. Barlow, Bart., and Dr. H. B. Shaw: Inheritance of Recurrent Attacks of Jaundice and of Abdominal Crises with Hepato-spleno-megaly. (Two cases will be shown.)—Dr. W. Hale White and Mr. C. H. *Golding-Bird*: On the Subsequent History of Three Cases of Colitis in which Right Lumbar Colotomy was performed several years ago.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (20th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. Ewart: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Taylor: Heart Murmurs, their Significance and Treatment.

POST-GRADUATE CLINICAL DEMONSTRATION (Westminster Hospital).—4.30 P.M. Mr. W. Turner: Surgical Cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Mr. Ballance: Cerebral Abscess.

WEDNESDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Cantlie: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Eccles: Surgical Anatomy.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. T. H. Green: Difficulties in the Recognition of Pulmonary Tuberculosis. (Opening Lecture of the Summer Session.)

THURSDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Treatment of Injuries.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. J. Mitchell Bruce: Medical Cases. (Post-Graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Penrose: Demonstration of Selected Cases.

FRIDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. D. Grant: Clinique. (Ear.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Abraham: Cases of Disease of the Skin. (Prof. Unna of Hamburg is expected to give the Demonstration.)

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only. AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 15th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min Temp	Wet Bulb	Dry Bulb.	Remarks at 8.30 A.M.
May 9	30·18	N.E.	0·14	91	63	39	41	45	Cloudy
„ 10	30·13	N.E.	0·01	97	61	37	41	45	Cloudy
„ 11	30·00	N.W.	...	90	62	44	47	47	Cloudy
„ 12	29·82	S.W.	0·03	90	64	46	44	46	Raining
„ 13	29·92	N.	0·14	92	61	38	41	45	Fine
„ 14	29·88	N.W.	0·01	99	60	37	40	45	Hazy
„ 15	29·75	S.W.	0·03	53	46	41	43	45	Raining

During the week marked copies of the following newspapers have been received:—*The Sun (New York), Manchester Evening News, Yorkshire Post, Bradford Observer, Morning Post, Hereford Mercury, Essex Herald, Hartlepool Mail, Brighton Gazette, Surrey Advertiser, Bristol Mercury, Dublin Express, Times of India, Penrith Observer, Daily Graphic, Huddersfield Examiner, Sanitary Record, Local Government Chronicle, Hertfordshire Mercury, West Sussex Gazette, Kent Messenger, Middlesbrough Gazette, Birmingham Post, Aberdeen Press, Chicago Medical Times, Scientific American, Clinical Journal, Indian Medical Record, Guy's Hospital Gazette, &c.*

Communications, Letters, &c., have been received from—

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Letters, each with enclosure, are also acknowledged from—

A.—Dr. T. Angus, Stevenston; Mr. F. H. Allen, Scunthorpe; A. W. S.; Apollinaris Co., Lond.; Dr. A.; A. M.

B.—Mr. C. A. G. Browne, Lond.; Messrs. S. Baker and Co., Manchester; Buckle Lond.; Boardman Electrical Patents Co., Lond.; Mr. H. R. H. Bigg, Lond.; Bourne Castle Sanatorium, Medical Superintendent of; Mr. C. E. G. Bateman, Walsingham; Messrs. J. L. Bullock and Co., Lond.; *Brighton Herald*; Mr. G. Barton, Lond.; Branch, Liverpool.

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A Lecture

ON

THIRTY YEARS' WAR AGAINST LUNACY.

Delivered before the Post-Graduate Medical Association on Feb 12th, 1902,

By T CLAYE SHAW, B A., M D, F R.C P
Lond,
LECTURER ON PSYCHOLOGICAL MEDICINE AT ST BARTHOLOMEW'S HOSPITAL; LATE MEDICAL SUPERINTENDENT OF THE LONDON COUNTY ASYLUM BANSTEAD

GENTLEMEN,—With your permission I propose to devote this lecture which you have honoured me by coming to hear to a consideration of the changes and progress in the treatment of lunacy during the last 30 years, the period of my active participation in its various manifestations as seen in public institutions.

The two most important events during the time were, I think, the passing of the Metropolitan Asylums Act, 1870 (known as "Gathorne Hardy's Act"), and the transference of the administration of asylums in the year 1889 from the jurisdiction of the magistrates to that of the county councils. As my experience relates solely to asylums in connexion with the metropolis and its districts my remarks will be made chiefly with regard to them.

There is no doubt that prior to 1870 the London asylums of which there were two—viz., Hanwell and Colney Hatch—were far behind most of the asylums in the north of England and in Scotland, as well in architectural arrangement and administration as in decoration and sanitary conditions The non restraint treatment had been fully recognised—and, indeed, at Hanwell, under the auspices of Dr Connolly, it had acquired its most conspicuous development, though, of course, he only professed to put into large practice the principles and treatment of Pinel which were first introduced into this country by Mr Gardiner Hill. At the time that I am speaking of (the late "sixties") there existed a dual superintendence of the asylums, an imperfect recognition of the advisability of vesting the responsibility of the administration of the asylum in the medical superintendent, and a very inadequate conception of the importance of having a large and efficient medical staff The accommodation itself was notoriously inadequate to the requirements of the metropolis and in the workhouses scores of persons of unsound mind were kept in conditions quite unsuitable for them. The medical staff was ridiculously small For the care of 2000 patients there were two medical superintendents and two assistant medical officers, one on each side. Anything like systematic treatment of patients was impossible and case-taking was only a name. There were no laboratories for scientific work and the teaching of the subject was not recognised in the schools The Lunacy Commissioners, however, were very active in their repeated demands for more accommodation and for alterations to bring the asylums in line with the places where the comfort, at any rate, of the patients was studied with success. It was about this time that Dr Maudsley's book on "Mind" was published and it marks an epoch in the history of the literature of insanity in this country I say that it marked a great advance because it introduced to the notice of the specialty the psychological side of the clinical work that was in a certain estimation and it materially helped to correlate the two. The study of psycho-physics although in course of investigation in Germany, had scarcely penetrated to this country and the whole subject was approached merely from the side of the exposition of symptoms without radical efforts being made to bring to bear the study of morbid anatomy and other kindred methods Of course we must not forget that at this time little was known of bacteriology and the methods of staining tissues were, indeed, only just being brought to notice in the general medical schools The irksomeness of an assistant medical officer's life at times was almost unbearable for going out was often impossible and I have known men confined within the walls of the asylum for as long as six weeks at a time in the absence of the chief As to the nursing staff the less that is said of it the better Not that there were not numbers of very intelligent men and women in care of the patients (and there were probably more stability and permanence in the staff of attendants than there is now) but the hospital system had not been in any way introduced and, indeed, the use of the thermometer was in its infancy as regards its application to lunacy Instruction was in no way given to the nursing staff and whilst the pay was poor the hours on duty were long and the accommodation for amusement and for rest was of the barest description. At this time, too, a deal of power was invested in the lay authorities of the asylum and, as might be expected, this led to a certain amount of conflict as to infringement of territorial rights between the strictly professional and the lay element. The patients, however, were kindly treated and in justice I must add that the attendants, from having so much necessarily left in their hands owing to the impossibility of complete medical supervision, became very expert in their acquired interpretation of symptoms and in their personal management of the patients One source of danger, owing to the insufficiency of medical supervision, was that stock bottles of medicines were often kept in the wards and these stock mixtures included sedatives such as digitalis and tartar emetic. I do not say that these sedative mixtures were ever surreptitiously given to the patients by the attendants but there was always present the possibility of it. Post-mortem examinations were sometimes made, sometimes not There was no understood necessity for making an examination in every case where possible and this must have led to many inaccuracies in the table of causes of death as well as to the want to the patients during life of that security from rough treatment which is only engendered in some attendants by the knowledge that an injury inflicted during life may lead to consequences which will surely be brought home after death.

However incomplete and unsatisfactory from our present point of view the then management of asylums was, I wish to state that in its way a great deal of work was done. Everyone from the committee downward did his best according to his lights but it was not until the idea grew and finally became established that asylums should be treated as hospitals and that therefore the medical element was the essence of the system and that the lay element should be subordinated to it, that a wider reaching view of the subject was possible The old system of treating lunatics was so mechanical in kind and was so crudely based that it took time to bring home to people the notion that insanity was a disease to be studied on the same lines as disease in general and if it took some time to convince the profession of this we may easily see that some difficulty was experienced in convincing the lay governing bodies of this truth and in getting them to recognise the expediency of looking at everything connected with the administration of an asylum from a medical point of view It was the publication of the views of Dr J Hughlings Jackson in the Croonian Lectures and elsewhere that probably more than any other work led to the true view of how insanity should be regarded, and I beg to take this opportunity of emphasising the great regard that all students of mental disease have for this eminent physician The theory that insanity is a dissolution and that it must be interpreted according to the laws postulated by Dr Jackson was the means of letting in more light upon the disease than can be conceived by those who have been from the first taught to take that view of it.

It must now be stated that there is a common opinion to-day that, however bad things were at the time I am speaking of (more than 30 years ago), we have not made any material progress in the successful curative treatment of insanity—that, in fact, no more people are now discharged cured from asylums than formerly I am inclined to think that there is a great deal of truth in this It must be remembered that although we know more of the nature and conditions of insanity than we did 25 or 30 years ago we are still in the dark about a great deal and we are still behind other countries in the amount of medical care allotted to this form of disease The general principles of treatment were the necessity of feeding the patient and the value of rest and of occupation with open-air exercise. The medical treatment consisted in the rather extensive use of sedatives to control excitement. And what is the treatment nowadays? Very similar to what it was then, except that in some asylums there is perhaps more opposition to the control of symptoms by sedatives than there was whilst in others the introduction of subcutaneous injections of powerful new alkaloids is very frequently resorted to

Upon the question as to when a patient is fit for discharge a good deal depends upon the personal equation of the physician and upon some other circumstances that are not quite under his control, such as the wishes of the friends to take the patient out, &c. In America the percentage of cures to admissions is not so great as it is in this country because they are much more particular over there before they allow anyone to leave as "cured." They also have fewer readmitted as "relapsed" cases. In consequence of the great difference that holds in men's minds as to when a patient should be discharged as "cured" I do not think it advisable to quote statistics and I may for the present dismiss this portion of the subject with the remark that in most particulars asylum statistics are unreliable and therefore useless. If, however, the percentage of discharges was about the same as now, showing that there has been no great advance in direct curative treatment, there is little doubt that the percentage of "accidents" was greater and I think that the patients were noisier and more difficult to manage. This I attribute partly to the fact (which I do not attempt to explain) that we had at that time more violent and maniacal cases than we seem to get now, but especially to the fact that the patients were allowed beer (of which some of them managed to obtain a considerable quantity) and that stimulants were generally given to a much larger extent than they now are. Not only have the patients benefited by the curtailment of stimulants but I think that by stopping the use of stimulants by the attendants these are able to treat the patients with more endurance and less irritability. It has often struck me that the amount of apoplexy among asylum patients is very small considering the vast amount of arterial degeneration that one finds, and this I attribute to the low vascular tension from regulated diet, absence of stimulants, and long hours in the recumbent position at night. The proportion per cent. of deaths was larger than it is nowadays and this can be attributed partly to the numbers allotted for treatment to one medical man, making it quite impossible to give more than a cursory daily examination even to the acute cases, but chiefly to the great improvements that have been introduced in the general hygienic conditions of the existing buildings, such as improvement of ventilation, warming of single rooms and dormitories, better laundry arrangements, &c. Patients with phthisis were allowed to intermingle freely with others, but syphilis was well recognised as a cause, though perhaps not to the full extent that it now is, and the curability of myxœdematous insanity by thyroid extracts was quite unknown. Though restraint was to some extent practised by means of sleeve jackets I do not think that there was a large or unnecessary amount of it, and seclusion—i.e., the forcible isolation of patients in single rooms—was probably about as common as it is at the present time, though the instructions of the Lunacy Commissioners about it were rather more stringent than they now are.

I pass now to the consideration of the changes brought about by the passing of Gathorne Hardy's Act in 1870 by which the Metropolitan Asylums Board was constituted, a body to which among other things was entrusted the care of "imbecile" patients. Under their auspices two asylums were built at Leavesden and Caterham and afterwards a third at Darenth, and these institutions were nominally intended to hold, and care for, imbecile or feeble-minded people and the quiet senile dements who were detained in the workhouses. It was largely through the advocacy of the late Mr. Ernest Hart that these changes came about. Now I say that these new buildings were "intended" for the imbecile and feeble-minded from the workhouses, but what was the fact? I know because I superintended the opening of the Leavesden Asylum. It is quite true that scores of patients were received from the workhouses, but many were transferred from the county asylums. As the workhouses were emptied of patients the accommodation there was done away with and so a great stress was laid upon the county asylums to take in the cases for which there was now no room in the workhouses and this led to the erection of another asylum for 2000 patients by the Middlesex magistrates. Note this curious fact, that the patients in the Metropolitan Asylums Board asylums were admitted under a special form of certificate (as, indeed, they are now) very different in its text and exactions from the regular lunacy certificates and that all the patients who were transferred from the asylums lost thereby the special form of protection of the Lunacy Acts under which they were admitted to the asylums and came again to be considered as inmates of a workhouse, for these metropolitan asylums are virtually workhouses within the meaning of the Act. Though nominally built for "imbeciles" there were, in truth, very few real imbeciles in them; most of the patients were the offscourings of the chronic wards of the asylums and at times these were very troublesome and noisy, quite unsuitable to the primitive and simple type of construction of these large buildings, with their large wards meant to hold 180 patients each and a limited amount of infirmary accommodation, with little provision in the way of single rooms for noisy or troublesome persons or (as often occurred) for patients who had recurrent attacks of a maniacal or suicidal nature. At first children were mixed with adult patients in the wards, but this evil was counteracted by the building of the Darenth asylum and removing the idiot and imbecile children there from the older metropolitan asylums and from the county asylums.

Owing to the removal of so many patients from the county asylums the vacancies were filled up by the patients left in the workhouses and by the transfer from the private asylums of many strictly county patients who had been boarded-out in them because there was no room for them in the county asylums proper. It was soon found that many of these transfers from the private asylums had recovered and they were accordingly discharged soon after their admission into the county asylums.[1] It is to be noted that the change from the rigorous lunacy certificates of the county asylums to the simpler certificates of the imbecile asylums did the patients no harm at all and this seems to show that for many of the patients who are now in the county asylums the present form of certificate is needlessly strong. There is no doubt that scores of the patients who are now in the county asylums might be placed in the metropolitan asylums if room existed for them, but then the difficulty remains that the accommodation in the existing county asylums would not be able to absorb all the acute cases in the workhouses and many in the outlying county asylums who are boarded-out because there is not at present room of the proper kind for them in the existing asylums which can accommodate only a certain amount of disease of the acute or turbulent variety. As it is, only the quietest and most elementary forms of lunacy can be received and treated in the metropolitan asylums because of the large wards and the small amount of hospital accommodation, whilst the number of attendants employed is too small to deal with any but the most inexacting and harmless cases. Naturally the number of "cures" in these asylums is very small; there should not, indeed, be any cures, but it would appear that occasionally a curable case slips in by accident or someone is transferred whose symptoms have not been properly reckoned with. It would appear that these large workhouse asylums have reached their limit, for there does not appear to be any inclination to extend them. What they have demonstrated, however, is that a certain class of building can be cheaply erected and maintained in which a large number of patients can be treated, or rather cared for, with success, and that persons who were formerly under very strict legal *régime* can be dealt with quite easily and safely under less elaborate legal safeguards.

At these asylums (Leavesden and Caterham) the experiment was first tried of having one medical superintendent only in care of the whole institution and the result was in all ways successful; it was more economical and it lessened friction, at the same time the working of the two sides was better in the interests of everybody. That the work was arduous and trying will be seen when I say that to look after 2000 patients there were myself and one assistant. I took one side in the morning and he took the other, changing over in the evening. There was no dispenser or clerk for the ordinary clerical work and we had to look after the case-books and conduct the correspondence. I have personally, and alone, admitted as many as 80 patients in one day. Under such conditions medical treatment could not be much more than a name.

About this time (1870) I succeeded Dr. (afterwards Sir Richard) Thorne at St. Bartholomew's Hospital in giving a voluntary course of lectures on insanity. The attendances were small, sometimes 12, sometimes five or six, but a year or two afterwards more interest was aroused and the attendance rose to 20—all voluntary students.

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[1] This accounts for the large list of discharges from some of the asylums in their early years.

contained a scale of charges for examinations of pathological specimens. In the past year 150 clinical investigations had been carried out. The museum was open all day to members and was much resorted to for private study. The following institutions were open to the members for clinical work: the Evelina Hospital for Children, the Dreadnought Hospital, Greenwich, the North-West London Hospital, the Hospital for Diseases of the Throat, Golden-square, the Westminster Ophthalmic Hospital, the North London Hospital for Consumption, the Blackfriars Hospital for Diseases of the Skin, the East London Hospital for Children, and the Victoria and Albert Docks Hospital. The report concluded with the expression of the hope on the part of the council that the results obtained justified the support of the institution by all members of the profession.

Sir **WILLIAM BROADBENT**, in moving the adoption of the report and the balance-sheet, said that they were entitled to support from the public. Personally he regretted that they were so dependent, but their income did not equal their expenditure and they not only had to go to the public to replace capital expenditure but they still had to rely on that support for some part of their annual expenditure.

Mr. **JONATHAN HUTCHINSON** said that large donations had been given to several institutions and he submitted that the Polyclinic had an equal claim to such benefits. They had formed a committee to study cancer and he had not the least hesitation in saying that money could not be devoted to a more charitable purpose and with greater certainty of producing good results than by its being given to the Polyclinic.

Dr. C **THEODORE WILLIAMS** spoke on the financial condition of the college and took a hopeful view of the position of affairs.

Dr. C. O. **HAWTHORNE** drew the attention of the council to the fact that it would be well if members of the council would also make themselves members of the college.

The report and balance-sheet having been duly passed, Dr. **GUTHRIE RANKIN** proposed, and Dr. R. **PURDIE** seconded, the following gentlemen as members for election on the council:—Dr. T. B. Crosby, Mr. D. Dallaway, Mr. Reginald Harrison, Mr. E. Jessop, and Dr. H. Tilley.

A protracted discussion arose as to the right of members to nominate other names for election than those submitted by the council. Finally Mr. C. G. D. **MORIER** proposed, and Dr. L. **WILLIAMS** seconded, the name of Mr. T. J. Hitchins as a candidate for the council.

The following was the result of the ballot for the five vacancies:—Dr. Crosby, 16; Mr. Harrison, 16; Dr. Tilley, 15; Mr. Jessop, 13; Mr. Hitchins, 11; and Mr. Dallaway, 9

A vote of thanks to Sir William Broadbent for presiding was proposed by Mr. **JAMES CANTLIE** and seconded by Mr. **HITCHINS**. This was duly acknowledged and the meeting ended.

THE METROPOLITAN WATER-SUPPLY.

VI.[1]

THE WEST MIDDLESEX WATERWORKS COMPANY.

THE West Middlesex Waterworks were projected at the early years of the last century to supply a part of the West End of London, which was at the time being rapidly "developed," and was without an adequate supply of water. The first Act obtained by the company authorised it to supply Marylebone and certain parishes and places as well as "parts adjacent." The Select Vestry of Marylebone objected to the pavements being taken up for laying the pipes, but in the year 1810 the objection was overcome by the action of Parliament and an Act was passed which increased the authorised area of supply and this rendered impossible any further interference on the part of the vestry. The earliest Acts obtained by the company were 46 Geo. III., c. 119, 50 Geo. III., c. 32, and 53 Geo. III., c. 159, and these were the only Acts obtained by the company before the year 1850.[2] At the middle of the last century the water used by the company was abstracted from the Thames at Barnes and passed into two subsiding reservoirs which covered an area of about 16 acres; these reservoirs were partially supplied also by water which came through the gravelly beds of the district. From the reservoirs the water passed through an iron pipe across the bed of the Thames to the Middlesex side and was pumped to the customers. None of the water was filtered. There were service reservoirs at Kensington and at Barrow-hill, and a supply was given in all cases three times a week "and more frequently in parts of the district where it was required." In July, 1855, water was first supplied from Hampton, where a new station had been erected. At this date the Barnes reservoirs were capable of holding a six days' supply and filter-beds, three in number and having an area of one and a half acres, had been constructed at Barnes. The company then proposed to abandon the service reservoir at Kensington "in order to save the cost of covering it,"[3] for it was situated within the five-mile radius and therefore under the Metropolis Water Act, 1852, it was necessary that it should be covered or abolished. The reservoir at Barrow-hill, Regent's-park was covered and it served to supply the higher parts of the district, the lower parts being supplied directly from the distributing mains. The average quantity of water distributed daily was something between 6,000,000 and 7,000,000 gallons; the number of tenements supplied was 25,732 and the water was furnished "to all parts of the district daily, Sundays excepted, and in some parts twice a day."[4]

The authorised area of supply possessed by the West Middlesex Company is a very large one and includes Barnes, Battersea, Bloomsbury, Brentford, Hanwell, Heston, Kew, Mortlake, the Strand, St. Clement Danes, and St. Paul's Covent Garden. According to the statement presented to Lord Llandaff's Commission which was put in at the fifty-second sitting[5] the districts actually in the County of London supplied are the whole of Willesden, parts of Chelsea, Fulham, Hammersmith, Kensington, Paddington, St. Anne's Soho, St. Marylebone, St. Pancras, St. James Westminster, St. John Hampstead, St. Margaret Westminster; in the county of Middlesex, Acton, Chiswick, Ealing, and Hendon. The companies which supply districts within the authorised area of the West Middlesex Company are the Chelsea, the Grand Junction, the New River, the Lambeth, the Southwark and Vauxhall, and the Colne Valley.[6]

The present arrangements for carrying on the business of the company are briefly as follows. Water is abstracted from the Thames at Hampton, it is pumped to storage and subsidence reservoirs at Barnes and Barn Elms, and filtered at Barnes. It is then conveyed under the Thames to Hammersmith whence it is pumped into the districts supplied, and to service reservoirs situated at Campden-hill (Kensington), Barrow-hill (Regent's-park), and Finchley-road, Willesden. A supply can be sent to another reservoir which is situated at Shoot-up-hill either from Willesden or from Barrow-hill. Of late years many improvements have been made in the works of the company and it happened that the improvements were made at a time when the full statutory dividends of the company had been regularly paid for some years and the back dividends to which the shareholders were entitled had also been fully paid. This, the secretary of the company assured Lord Llandaff, was a coincidence. It was not found necessary to charge any repairs and renewals to revenue account from the year 1879 to the year 1886 (inclusive), but it happened that from 1897 to 1899 three filter-beds were reconstructed at a cost of £21,426,[7] and during every year from 1887 to 1897 a considerable outlay was found to be requisite in improvements—e.g., a new engine, 18 new boilers, office alterations, &c. It would be interesting to know accurately if the plants of the metropolitan water companies which do not pay their full dividends have recently been as thoroughly overhauled as has the plant of the West Middlesex Company.

The most recent improvements and changes which have been effected are shown in Table I., the second column of which gives details of the state of the undertaking in December, 1901, according to the report of the Water Examiner appointed by the Local Government Board.

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[1] Articles I., II., III., IV., and V. appeared in THE LANCET of March 1st (p. 614), 8th (p. 692), 15th (p. 767), 22nd (p. 842), and 29th (p. 915), 1902, respectively.

[2] General Board of Health. Reports to the Right Hon. William Cowper, M.P., President of the General Board of Health, on the Metropolis Water-supply under the provisions of the Metropolis Water Act, London, 1856.

[3] Op. cit., p 43.

[4] Op. cit., p. 44.

[5] Feb. 14th, 1899.

[6] Minutes of Proceedings taken before the Royal Commission on London Water-supply, p. 3487. Dyson and Co.

[7] Op. cit., pp. 3488-89.

The subject of insanity was then not recognised in the examinations though the University of London insisted on a knowledge of psychology for the M.D degree—the actual title being *the "senses, the intellect, and the will, including* the theory of moral obligation." Later the colleges recognised the advisability of including questions relating to insanity in the papers and the University of London changed the heading of the subject to "Mental Physiology, especially in Relation to Mental Diseases," and besides pure psychology there was instituted a separate paper on insanity In addition to the lectures clinical instruction was given at the Leavesden Asylum. The example (begun, I believe, at St. Bartholomew's Hospital) was gradually followed at the other schools and there is not now any medical school without its teacher in insanity. The course of lectures was by no means a favourite one at first and only when it was made compulsory was a good attendance secured. The subject was so new, questions of psychology were so out of the groove of reading of the medical student, that there is no wonder that a little gentle compulsion had to be used to get men to take up the subject. Even now the full teaching of psychology and insanity is only partial; it is done at three hospitals—viz., St. Bartholomew's, Guy's, and University College. At the last hospital the teaching is probably the most ideal, for there are a separate psychologist and an independent lecturer on insanity, whilst there is yet a third lecturer there on the important subject of psychophysics. It is rather an anomaly that the teacher of insanity should have to teach psychology—it is like making the lecturer on physiology give the course on medicine, but no doubt the combination of an arts department with the medical department at University College is the cause of the special *professor there. We have recently begun the special and* separate teaching of psycho-physics at St. Bartholomew's Hospital but time is still required for its full development.

We now come to the third division of the subject, the conduct of the asylums under the county councils, which dates from the year 1890. They (the county councils) took an eminently practical view of the subject. They saw at once the necessity of placing one man in charge of the ship and of establishing his position as the responsible head, whilst of course retaining the *ultimate* refereeship in their own hands. This measure at once silenced any question of that internal conflict of authority which was so disastrous not only to the inner harmony of the establishments but to their smooth working At the present moment the medical superintendent is the responsible authority for good or for ill, in pleasant times or in those phases of anxiety to which all people who have to do with an uncertain body like the insane are liable. And by putting the question of a divided superintendentship out of the pale of doubt they consolidated the unity of authority in a way that showed that if lunacy was to be conducted upon scientific, it was also to be done upon business, lines. They then set to work to bring the various asylums in harmony with the most advanced views of the treatment of insanity They authorised the expenditure of what money was required for improving the light, for ventilation, for warming, and for the comfortable decoration of the wards. They introduced the system of centralisation of administration by which each asylum came to be compared with the others and to some extent *regulated* in its conduct by its compeers This system has its merits and also has, perhaps, some disadvantages. It stands on the theory that the conditions of each element of the system are the same, whereas in reality the conditions are rather special in each—e.g., the class of accommodation is by no means the same in one as in another, and so the distribution of acute and chronic cases is of necessity not the same, hence it would not be fair to compare the cost of maintenance in one with what is found adequate in another, and this applies also to the *results*, as given by the statistics, of the various institutions. For a much-subdivided building with small wards more supervision is required and the expense of the staff at one place may be greater than at another merely because of the structural arrangements of the place, but by allowing a certain amount of margin and play in definite directions, necessitated by the special conditions of each unit of the system, and by joining these units into a whole for financial reasons, they are able to present a balance-sheet which is satisfactory to all the individual members; what is in excess in one is counterbalanced by shortage in the other I am not aware that the example of the London County Council has been followed in this respect by other large counties such as Lancashire and Yorkshire, but as the system is still young and is scarcely even yet thoroughly elaborated it may be said to be still on *its trial. No doubt if found to be ultimately successful* it will be copied by those intrusted with the administration of large interests. The important question of nursing or attendance then occupied the attention of the council and striking ameliorations appeared, of benefit both to the attendants and to the patients. The pay was increased and the number of weekly hours of work was lessened, whilst the leave of absence from duty, both weekly and yearly, was materially increased. Of course, all these changes meant additional expense, and of late the cost of maintaining asylums has materially increased This is as it should be It was always a wonder that asylums could be effectively kept up and properly administered for 8s or 9s per head per week and we can only conclude, *cæteris paribus*, that they were imperfectly administered at the lower rates. The treatment of lunacy is an expensive thing and it must continue to augment in expense. The public (i.e., the press) is not satisfied even now that all is being done that should be done for the treatment of insanity and it will not grudge money spent in the investigation of this still obscure disease. After putting its house in order the London County Council proceeded to consider the question of the provision of accommodation for the numbers of new cases in the workhouses and for the housing in their own asylums of the large numbers resident, at great expense, in the outlying county asylums. The question of the proper cost of accommodation to be built was one requiring much care and in this particular steps were taken to regulate the home experience by that of other countries. As a result the *erection of temporary* structures was begun and the results have been satisfactory It has been shown that it is possible to erect in a short time and at a cheap rate structures in which the treatment of acute and chronic cases can be carried on with good results. Naturally, these structures, being temporary, can only be accepted as palliative of the congested conditions that exist, but they suffice until more definite ideas can be launched as to what is the best way of treating the insanity of a place like London.

We must remember that the word "London" means a very *different thing from what it did shortly before* the London County Council came into existence. "London" now means a county which includes tracts of Surrey and Middlesex which formerly had separate asylums of their own, hence the obligations of the Lunacy Board for the County of London have widened by leaps and bounds. Again, London itself is changing very rapidly in its domiciliary conditions and the transfer of habitations to the suburban and country districts is bound to have an effect which it is at present difficult to forecast upon the numbers of the insane who will *in the future have to be treated in the* London asylums proper It is not too much to say that the *idea* upon which asylums should be built and carried on has of recent years found its correct exploitation—viz., that they should be strictly medical in object and carried on in the medical spirit. And so the medical staff has been largely increased, the asylums thrown open for clinical teaching, and encouragement given for the pursuance of medical research by the equipment of laboratories, whilst individual work among the profusion of material that exists for it is encouraged. *A most noteworthy departure was* made by the London County Council in the appointment of a special pathologist who should utilise the material at disposal among the thousands of patients in the asylums and who, equipped with a special laboratory fitted with all modern appliances and methods, should work in the most untrammelled scientific direction upon the great problems of pathology and morbid anatomy that are still before us How well Dr Mott has risen to the exigencies of his appointment is known to all of us Other counties have followed the example and even Scotland *has in this respect* taken a lesson from London.

If it is asked what has been the result of all this change we must reply that to some degree it is already evident in the more comfortable and general sanitary conditions of the patients but that as regard the effects on statistics of cures and deaths we must wait. Great developments are slow often in operation, but we can go on with more confidence when we feel that we are working in the right direction and that we are moving in this way there is no doubt. It is to the young men that we *must look for advancement*, they have the time and the opportunity for work, though it must be confessed that the distractions of asylum life and the somewhat isolated conditions as regards being in immediate touch with scientific surroundings are rather antagonistic to good work. Certainly the superintendents have little time to devote to scientific work, for the numerous calls of the administrative and clerical duties and the necessity of keeping an active look-out over the medical wants and the safety of the patients leave little time for undertaking work that is not strictly concerned with the management of the place.

The latest proposal for dealing with the housing of the insane is the formation of "reception houses" where patients can be detained until it is seen whether it is necessary to send them into an asylum (and, if so, to what kind of asylum) or whether they can be discharged without having to be put away at all. This very excellent proposition of the London County Council has been brought about by the fact that many people now are sent to the asylums who are practically convalescent and have to be discharged at once and partly because cases unfit for the elaborate installations of the asylums have to be admitted and then, being found unsuitable, have to be removed elsewhere at considerable cost and inconvenience. But before these "reception-houses" can be built the Lunacy Act must be altered, and there is reason to think that that will be done as soon as a Bill can be passed. Neither the villa system (so much vaunted in America and Germany) nor the conglomerate system seems nowadays to be the most useful form of building—both have advantages and disadvantages—but the trend seems to be in the erection of hospital blocks (like those at the Wakefield Asylum and at the Lancashire Asylum at Whittingham) where, with all elaborate and modern improvements for treatment and nursing, the acute cases can be placed, leaving the chronics to the larger and less specialised wards. Let it, however, be remembered that many of these "chronics" are the most troublesome of all classes of the insane; they may be incurable, but they are exceedingly troublesome and dangerous and they may tax the energy and resources of the staff in a way that "acute" cases rarely do. Specialisation seems to be now the watchword in providing accommodation and the London County Council has already made arrangements for the home and separate treatment of epileptics and will probably soon provide for the isolation of patients with phthisis, a complication very common in the insane.

I should like to see in London a lunatic hospital for, say, 200 acute cases, equipped with laboratories and all the most recent scientific apparatus, with a complete visiting staff of neurologists and specialists in all important departments. There should be an operating surgeon, a gynæcologist, an electrician, a pathologist, and a dental surgeon, and clinical lectures on insanity and cognate subjects should be given periodically by the staff. There is little doubt that these clinics would be well attended by practitioners and students, and the treatment of the insane would then be at last on a true scientific basis. Such an institution under the control of a public body like the London County Council would have the confidence of the public, and this would be a necessary element, for the cost and maintenance would be exceedingly high, and I think that it ought also to include provision for the treatment of private patients whose friends would doubtless appreciate the opportunities thus offered for specialised treatment. To be sure, there is the difficulty of procuring a site, for the building would have to be in a central part of London, easily accessible to the staff, but this difficulty is not insuperable.

And now I should like to hazard a speculation upon the future treatment of insanity—viz., the introduction of surgery. Some years ago I advocated the employment of surgical methods in general paralysis of the insane. The principle was based upon the relief of pressure which undoubtedly exists. In some of the cases which I reported the symptoms were considerably relieved and I am sure that life was prolonged and carried on under easier conditions. The operations are tedious, though not dangerous, and I hope to see them continued. In Scotland Sir J. Batty Tuke also adopted surgical methods in general paralysis and his results were encouraging. The want of a special operating surgeon in asylums is perhaps the cause why surgery is not more commonly resorted to. When we consider how inaccessible the brain is and look at our present modes of treatment it is little wonder that so many acute cases run into dementia.

Take the case of delusional insanity. It is very probable that often the local lesion is in one of the sense centres from which radiate influences that affect other parts of the brain. The important thing is, if possible, to locate the part of the brain which is primarily affected and then to discuss the probability of relief by operating directly over that region. Surely, a delusion or hallucination is a local sign of the irregular functioning of a certain part of the brain and it is, I contend, within the legitimate methods of treatment to explore that region with the view of relieving local conditions. But how do we act at present? Quite empirically. Of course, we feed the patient and then we prescribe "rest" or "change" and we combat the troublesome symptoms of restlessness or insomnia by sedatives of one sort or another, ringing the changes upon them until we arrive at the one which seems most adapted to the symptoms. And it seems difficult to say what more can be done by this treatment of symptoms than we are doing but let us not forget that our predecessors did as much and that there is no evidence that we are much more successfu than they were. Surely, if a case resists ordinary treatmen and threatens to become chronic, with the superficial lesion that we know exist there can be no reason for not resorting to surgical means which will, at any rate, reveal the actua condition of the brain and point to the advisability o extended treatment in this direction. I believe that just a there are forms of Jacksonian epilepsy which are relieved b operation so there are forms of insanity due to central loca disturbances which may also be benefited in the same way I beg very humbly to put forward this suggestion for th consideration of those who have large opportunities o observation.

I have already referred to the curious fact that number of patients have been taken from the protection of th Lunacy Acts and have done very well under less stringen certificates. There is at present a strong tendency to kee as much as possible—sometimes to a dangerous degree— patients who are undoubtedly insane altogether outside th jurisdiction of these Acts. I refer to the cases chiefly o private patients who are placed either in homes or in th homes of private medical men without any certificate at al This practice appears to be on the increase and the caus seems primarily to be the wish of the friends to avoid th fact that the patient has ever been in a lunatic asylum or hospital. Partly, also, it is due to the somewhat stringen conditions of the lunacy certificates which render the placin a patient in an asylum a somewhat tedious and complicate process, and partly to the reluctance of medical men to sig certificates because of the liability to subsequent trouble an penalties. If the patients who are thus privately housed ca be well taken care of and safely conducted to a cure there much to be said in favour of this modern tendency, but th risks of treatment in this way are certainly great and it pretty sure that the community is not benefited by it. Amon the public to have been "insane" means to have been some time or other in an asylum, and however insan the patient may really have been if she or he has bee treated privately and has recovered the actual facts will concealed and the patient will be said to have had a litt temporary delirium or something of that sort of no pa ticular consequence. The truth of what really has occurre will be concealed in future marriage or business relation and a deception set up the results of which are not unlike to be disastrous, whilst they certainly invalidate the accura of statistics.

Actual insanity is often veiled under the term "neura thenia," and it is, I know, far from infrequent for peop who are in depressed or excited states to be placed in wh are called "homes of rest" where they are isolated from t external world and are not allowed to communicate wi their families or to know what is going on outside the wal of the "home"—are, in fact, more restrained than th would be in any hospital or asylum, and that, too, wit out any system of inspection or authority to which appe can be made. This is a present-century evolution of the wa of treating insanity, especially in the best-to-do classes. do not know what can be said against it as long as t patients in these conditions are under careful medical supe vision, as long as it is proved that they have a better chan of recovery and actually do recover more quickly than if th were placed under certificates, but it cannot be denied th such practice is sailing dangerously near the wind and th when "accidents" such as suicide or some public scand occur the people concerned are more likely to get in trouble than if they had at the first faced the matter in strict medical and legal bearings.

Another mode of treatment that is now in vogue is hypnotism. Personally I have not much faith in hypnotism in actual insanity because of the difficulty there is in controlling the patient's attention, but I can quite understand that in proper hands it may be of the greatest use in early cases of obsession or insomnia where the symptoms if neglected would run into an actual insane state, or in cases where the presence of hysteria is doubtful. There seem to be people who are endowed with, or who have acquired, special powers of producing this condition, and though we do not yet know the exact nature of the hypnotic state there is little doubt that the production of it may induce rest and so prevent waste of tissue at a time when excessive katabolism is dangerous to mental equilibrium. Of course, we recognise that the person hypnotised really gives himself away and is not in any way affected by the will of the operator.

No department of medicine is in a greater transition state than is the whole question of insanity and what the developments will be during the next few years it is difficult to forecast. If we can hope for more direct accessibility to the brain we shall have made a great advance. That we shall ever know more perfectly than we do now the essential nature of mind and how it comes that a certain condition of action of brain tissue means (I do not say *causes*) the display of what we call consciousness is problematical, but we have still enough to occupy us in the investigation of the physiological, clinical, and anatomical truths which are at present merely theories as far as our explanations go.

I have already had to refer in not very satisfactory terms to the question of statistics in asylum reports. Some of the tables usually appended are good, others are of no value, and some even are misleading. With the great stress now laid on the importance of holding necropsies upon every patient who dies in an asylum it is possible to correct the diagnosis made during life by the facts ascertained post mortem, and if care is taken not to sign the medical certificate of death before the necropsy has been made we have a system for registration which may be pronounced as accurate as it is possible to make it, so that the death tables may be taken to be satisfactory and more useful probably than any other accounts of mortality, except perhaps those from the prisons. But as to the cures or recoveries the results given merely show that in the opinion of a certain medical man authorised by two of the committee such and such a person may be discharged. There is so great pressure on the accommodation and so much interference by the friends who exhibit great anxiety to take the patients away on the first remission of symptoms, and there is also so much legal difficulty in keeping a patient in during the convalescent stage, especially when the time for re-certification comes round, that it is to be feared that many are prematurely discharged. If we read the number of relapses that occur in those who are discharged and the short time that many remain out of the asylum before they have to be re-certified we can but conclude that the discharges were premature, and if so what becomes of the published statistics and how can we compare the results of to day with those of former times? The tables of "Recoveries" have to be received indeed with great suspicion and with them of course disappears, as regards reliability, the allied tables of "Length of residence of those discharged cured" because very often the people were not cured when they were discharged.

Another useless table is that giving the form of disease in those admitted and discharged, because this is merely a table of *symptoms* and if the same patients were under review the week after they would probably fall under an altogether different nomenclature. Again, the table giving the form of insanity among those remaining in the asylums as so many of "mania," so many of "melancholia," so many of "delusional insanity," &c., is really only correct for the particular day on which it is made, the next day the conditions may be quite different. If it were possible to have a sound pathological or etiological classification there would be a real gain in the statistics, but as at present reports are presented in which so many cases of mania or so many of melancholia are admitted, it may be truly said that they are not, as regards practical value, worth the paper they are written upon.

I know the difficulties that exist, how rarely the friends will give, or can give, a true history of the attack and of the cause of it. I have already spoken of the treatment in "homes" or at home of numbers of insane persons, and if, as is the case, these persons never come within the jurisdiction of registration, of what beyond a nominal value is the real value of statistics as to the percentage of insanity in the general population? The proportion of the *registered* cases of insanity to the general population is of course accurate, but the table of causes is a very misleading one and is most inaccurate.

The table of the proportion of suicidal and homicidal cases is merely a hypothetical and visionary one. It is taken chiefly from reports which are often unverified, often misinterpreted, and it has no practical value whatever. So little are asylum statistics valued by the men who have practically to deal with the subject that few trouble themselves to read those parts of the reports in which they are given. Their compilation is in many respects perfunctory; they should be revised and most of them should be abolished.

On the question of heredity I hold that there is much confusion. It by no means follows that because a person is insane enough to be placed in a lunatic asylum therefore his children are of necessity tainted with insanity: so much depends on the nature of the attack and on the age of the children at the time when the ancestral neurosis was established. That hereditary tendency to insanity does exist cannot be doubted, but that it does not do so to the extent generally believed is, I think, much nearer the truth.

Finally, I would insist upon the close connexion between the study of neurology and insanity. At the present moment these allied states are almost divorced. Most asylums are replete with good instances of "neurology," such as the various forms of sclerosis, of hysteria, of trophic muscular lesions, of forms of aphasia, &c., in addition to the mental impairment, but it is to be regretted that most of the former pass unnoticed. And conversely many neurologists find themselves in the presence of symptoms of insanity the practical knowledge of which they are little acquainted with. I hope that before long each hospital will have a good clinique of psychiatry and nervous diseases and that the combination will be more critically and scientifically studied than it is now. Much is to be hoped from the development of the hospital system of treating acute and early cases which will come into force when the contemplated system of reception-houses is accomplished, but all depends upon the liberal spirit with which the proposed changes are carried out, and much money has to be spent and much more energy to be developed before material progress in the treatment of lunacy in this country is assured.

An Address

ON

ACUTE PLEURISY WITH EFFUSION.

Delivered before the Middlesbrough and District Medical Society on Nov. 27th, 1901,

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GENTLEMEN,—Formerly attacks of acute pleurisy with effusion were attributed to the action of cold, but the more our knowledge of the subject increases the more evident it becomes that cold in the great majority of cases can only be considered a predisposing factor, just as it is in the case of pneumonia, and evidence is steadily accumulating which shows that a large number of cases are the result of primary or secondary infection of the pleura by a microbe. We must not, however, rush to the other extreme and conclude that all cases are due to infection, for the following observations appear to indicate that cold may alone cause pleurisy in some cases. Dieulafoy[1] quotes an observation made by Lemarre at Saint-Germain. A high wall which was situated midway between the forage-store and the barracks was lowered to the height of one metre. The soldiers who had to carry bundles of hay or straw from the store to the barracks at once began to rest, while hot and perspiring, on this wall. While thus resting the right side of a soldier, though sheltered in other directions, was exposed to the north-east wind which was often very cold. An epidemic of right-sided pleurisy broke out among these men, all of whom recovered, some after aspiration and others without. They were forbidden to rest at this point and no more cases occurred. The regiment changed every six months and on the arrival of the next one the men again made use of the wall as a resting-place with the result that pleurisy again appeared, only to cease when they were forbidden to rest there. This experience was repeated several times with the same result. In all 50 cases of pleurisy occurred; fortunately, all recovered. It is difficult to avoid the conclusion that these cases were due to the cold wind blowing on the right side while the skin was perspiring.

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[1] La Semaine Medicale, Nov. 20th, 1901.

The comparative pathology of pleurisy shows that in animals it may be due to cold. Outbreaks of pleurisy have been recorded in recently clipped horses which have been kept in the open all night. Duvieusart observed 100 cases of pleurisy, 60 of which were fatal, in a flock of 400 sheep which had just been shorn during a very cold February. None of these animals were tuberculous and the fluid effusion injected into guinea-pigs never produced tuberculosis.

I shall now consider the evidence which indicates the frequency of the infective origin of pleurisy with effusion in man. In any given acute case of pleurisy with effusion it is by no means easy to determine the exact nature of the infection. During the last few years, however, evidence has been steadily accumulating which shows that the great majority of cases are either tuberculous or rheumatic in origin or are due to the pneumococcus. The most important of these is certainly acute tuberculous pleurisy and by this term I do not mean a pleurisy occurring in a subject who is manifestly tuberculous already, but an acute primary attack in an apparently healthy subject. We have now abundant evidence that many of these cases are due to infection by the tubercle bacillus. The most conclusive evidence is afforded by the presence of the tubercle bacillus in the effusion. This is not easy to demonstrate, as the bacilli in the effusion are scanty and in some cases may be altogether absent from the specimen examined. Microscopical examination of the fluid is therefore of little use. Thus Ehrlich found the bacillus by microscopical examination in only two out of nine and Levy in not one out of 13 clearly tuberculous cases. Cultures may be prepared from the fluid but the results are often negative in undoubtedly tuberculous cases. Lemoine made cultures from 38 cases of pleurisy with effusion; in 28 of these the tubes remained sterile and yet 15 of these 28 cases ultimately turned out to be tuberculous. As other bacteria generally develop in cultures prepared from non-tuberculous cases the absence of growth in a tube inoculated from an acute effusion is regarded by many as strong presumptive evidence in favour of its tuberculous origin. Recently, Bezançon and Griffon have employed a new medium consisting of nutrient agar to which are added glycerine and rabbit's blood, spread on the bottom of an Erlenmeyer's flask. It is necessary to employ several flasks in each case and the colonies only appear after three or four weeks in the warm incubator at 37° C. Positive results are said to be obtained more frequently by this method.

The most trustworthy method of determining the presence of the tubercle bacillus is by inoculating a guinea-pig with the fluid obtained by aspiration. If the animal develops tuberculosis it is clear that the patient suffers from pleural tuberculosis. Netter[2] made inoculations with exudation from three different classes of cases. In 16 cases known to be tuberculous eight positive results were obtained. In 25 cases attributed to cold tuberculosis developed in the inoculated animals in 10 cases (40 per cent.). In 14 cases in which the pleurisy was evidently due to some other cause all the inoculations were negative. Le Damany[3] inoculated guinea-pigs with the exudation from 55 cases of pleurisy. In 47 cases (85 per cent.) the animals developed tuberculosis; in eight the results were negative, though four of these were inoculated from cases which gave clinical evidence of tuberculosis. It has been shown by Eichhorst[4] that it is necessary to take a large quantity of a serous effusion for inoculation experiments or else the results are not reliable. This is no doubt due to the fact already mentioned, that even in undoubtedly tuberculous pleurisy the tubercle bacilli may be sparsely scattered in the fluid. This observer found that when 15 cubic centimetres of fluid were used for inoculation more than 62 per cent. of the animals became tuberculous and only 10 per cent. if only one cubic centimetre was used. It was shown by Debove in 1891 that serous effusions often contain tuberculin which we know is a product of the growth of the tubercle bacillus. Still further evidence is afforded by the result of injections of tuberculin for diagnostic purposes. Thus, in the German Government report on the efficiency of tuberculin it is stated that 15 cases of pleurisy were tested with tuberculin and both a general and a local reaction followed in 13 (87 per cent.) of them.

There is further strong clinical evidence of the tuberculous origin of pleurisy with effusion The previous history of a case, as a rule, helps but little but the after-history is often most instructive. It is well known that a patient who has had pleurisy with effusion not infrequently develops tuberculosis, generally of the lung, later. Several series of cases have been published which show this relationship clearly. For example, Dr. A. G. Barrs[5] in 1890 ascertained that 21 out of 57 cases of pleurisy with effusion treated at the Leeds Infirmary during the years 1880–84 had died from tuberculosis. Hodges found that in 130 cases of primary pleurisy which were traced for seven years 40 per cent. became tuberculous. Fiedler found that of 92 cases of pleurisy with effusion 28 died in two years from phthisis, 43 had either definite tuberculous disease of the lungs or signs suggestive of it, and only 21 appeared to be healthy. Whitney[6] by adding together several published series of cases obtained a total of 310 cases of pleurisy, 178 (57 per cent.) of which subsequently developed tuberculosis.

Post-mortem evidence also points to the same conclusion, for Kelsh and Vailard[7] examined 16 fatal cases of pleurisy in the majority of which the effusion was serous. The subjects were in good health before the attack which had generally been attributed to cold and died during apparent convalescence. In every case miliary tubercles were found on the pleura. Dieulafoy[8] relates several similar cases of acute primary pleurisy with effusion in which the patients died suddenly during the attack and in which tuberculosis of the lung or pleura was found at the necropsy. If we take all these facts into consideration I think we may fairly conclude that fully one-half of all cases of pleurisy with effusion are due to infection of the pleura by the tubercle bacillus. This is an important conclusion and has a direct bearing on prognosis and treatment.

Another microbe which causes pleurisy with effusion is the pneumococcus. More commonly infection of the pleura with this microbe results in a purulent effusion, as when lobar pneumonia is followed by an empyema. Still, in some cases a serous effusion may occur with, or follow, a croupous pneumonia; thus, Prudden found the pneumococcus twice in six such cases which he examined. We may, however, have a pleurisy with effusion caused by the pneumococcus without any pneumonia at all. The following case is a good illustration of this.

The patient was a single woman, aged 33 years, who was being treated in the Newcastle Infirmary by Dr. G. T. Beatson's method for inoperable recurrent carcinoma of the right breast, when she had an acute attack of pleurisy with effusion. The breast had been removed by Mr. J. R. Morison on Nov. 6th, 1900. Recurrence took place 12 weeks after leaving the hospital, when she was readmitted. It was decided to adopt Dr. Beatson's treatment by removal of the ovaries and giving thyroid extract. Mr. Morison removed both ovaries on March 6th, 1901. On the 16th she was transferred to my care for the second part of the treatment. I may mention incidentally, though it does not concern us further here, that the treatment had a remarkable effect upon the recurrent nodules of growth, which rapidly diminished in size and almost disappeared. Some six weeks later, however, they returned and have since grown larger than ever. During the 14 days which followed the operation the temperature was only above 100° F. on two evenings—100·2° on the 8th and 101·4° on the 20th. On March 25th the temperature rose to 100° in the evening and the next evening to 103·4°. Two days later she complained of severe pain on the right side of the chest, which came on suddenly, and was increased by deep inspiration. Two days after this the apex beat was displaced outwards to the left, nipple line and there were absence of vocal fremitus, dulness on percussion, and absence of breath sounds over the lower part of the right side of the chest up to the fifth rib in the right nipple line in front and to the angle of the scapula behind. On April 1st the apex beat was in the fourth left intercostal space just outside the nipple line and the dulness extended up to the fourth rib in the right nipple line. No further increase in the physical signs took place. An exploratory puncture was made and a syringeful of clear serous fluid was withdrawn, from which cultures were made on agar-agar. After incubation a pure culture of numerous colonies was obtained of a diplococcus identical in appearance with the pneumococcus. The temperature was not normal until April 12th. The physical signs gradually diminished but on the last examination (on May 10th) the apex beat was internal to the left nipple line, the vocal fremitus was still slightly less at the right base than at the left, and there was dulness at the right base for three finger-breadths. The breath sounds were audible down to the right base but were less loud than on the left. Here we have a good example of an acute attack of pleurisy with effusion with 18 days' fever running a favourable course in which the effusion was absorbed without the aid of aspiration.

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[2] Recherches Expérimentales sur la Nature des Pleurésies séro-fibrineuses, Societé Médicale des Hôpitaux de Paris April 17th, 1891.

[3] La Semaine Médicale, 1897, p. 427.

[4] Quoted by Osler, Text-book of Medicine, p. 667.

[5] Brit. Med. Jour., 1890, vol. i., p. 1059.

[6] Twentieth Century Practice of Medicine, vol. vii., p. 11.

[7] Quoted by Dr. J. K. Fowler in "Diseases of the Lung."

[8] Loc. cit.

It has been shown by Dr. J W Washbourn[9] that the constitutional symptoms of primary infection of the pleura by the pneumococcus may be just the same as those of lobar pneumonia, for which they are apt to be mistaken. Thus, in one of his cases there were herpes, high temperature, delirium, cough, and rapid breathing, yet at the post-mortem examination the lung was found to be unaffected while the right pleural cavity contained 54 ounces of pus in which the pneumococcus was found. The occurrence of acute primary empyema with such symptoms indicates the importance of exploratory punctures of the chest in cases in which the physical signs are not conclusive.

Other bacteria which have been found in serous pleural effusions are the typhoid bacillus, the streptococcus pyogenes, and the staphylococcus pyogenes, though when the two latter organisms are present the effusion is usually, but not always, purulent.

In empyemata bacteria are commonly present. In old empyemata, however, bacteria may die and the pus become sterile. I remember a child (who was admitted to University College Hospital under the care of Dr. S. Ringer when I was house physician there) with a very large empyema of long duration in which tubes inoculated from the pus at the time of the operation and incubated remained quite sterile. I have once found tubercle bacilli in pus discharged from an empyema which had been opened and drained some time previously. This was in a patient (whom I saw with Dr. H. S. Baumgartner) who was suffering from tuberculous disease of the lung on the same side and whose sputum also contained tubercle bacilli. In another case of empyema I found the staphylococcus pyogenes albus and in others the diplococcus. In addition to these three micro-organisms the streptococcus pyogenes has frequently been found and the typhoid bacillus and bacillus coli communis have been found occasionally.

Mr. Bilton Pollard[10] has recently pointed out that the course of an empyema varies according to the micro-organism present and that a bacteriological examination of the pus is a useful aid to prognosis. He found that pneumococcal empyema runs the most favourable course. This variety occurs most frequently in children in whom empyemata are generally benign. Staphylococcal empyemata begin more insidiously and run a less acute course, while streptococcal empyemata develop rapidly, run an acute course, and are accompanied by severe toxic symptoms. Mr. Pollard considers that any pleural effusion, even if only slightly turbid, which contains streptococci, should be regarded as an empyema and treated as such.

In the case of serous effusions it is also important to ascertain the exact cause. We will now consider how this is to be done. The actual symptoms and physical signs will not give the required information. In some cases a careful inquiry into the past history may show that there has been, perhaps, an obstinate bronchitis, a slight hæmoptysis, a fistula in ano which was cured by an operation, enlargement of the cervical glands in childhood, or possibly disease of the hip-joint. The actual attack may have been preceded by vague ill-health, some loss of strength, and decrease in weight. Any of these would indicate that the pleurisy was in all probability tuberculous. Cultures prepared from the fluid drawn off in a sterilised syringe will show if the effusion is caused by the pneumococcus, the streptococcus pyogenes, or the staphylococcus aureus. The tubercle bacillus takes long to grow, so that absence of growth at the end of 48 hours is in favour of tuberculosis. Culture tests are, however, difficult to carry out in private practice. Inoculation tests require a special licence. The fluid removed from the chest has been found to cause agglutination of a culture of tubercle bacilli, but the test is much more difficult to carry out than Widal's test for enteric fever and as yet has not been sufficiently simplified for regular use. Courmont obtained a positive reaction in 23 out of 31 cases in which he used the fluid from the pleura and in 18 out of 22 in which he employed the blood for the test. The tuberculin test might also be employed, but it has not as yet come into general use and might give unreliable results as long as the temperature was high in acute cases.

A still more recent method which was introduced by Widal and Ravaut and described lately by Dieulafoy,[11] which deserves extended trial, is by the microscopical examination of the deposit obtained by centrifugalising some of the fluid withdrawn by an exploring syringe. A drop of the sediment is spread on a cover-slip and stained with thionin or other suitable stain and examined under the microscope. It has been found that pleural effusion may contain red blood corpuscles, leucocytes with multipartite nucleus, large mononuclear cells, lymphocytes and endothelial cells, and it has been found that different cells preponderate in different types of effusions. Thus in passive effusions large endothelial cells are found almost exclusively or greatly in excess of any red blood corpuscles or leucocytes which may be present. In pleurisy caused by the pneumococcus or streptococcus large polynuclear and mononuclear cells preponderate. In the acute pleurisies which we have seen every reason to regard as tuberculous the cells are almost entirely lymphocytes with some red blood corpuscles. I have had as yet no personal experience of this method but mention it as a simple one which, if reliable, may be of great service. If by one or other of these methods we arrive at an exact diagnosis we shall in the case of a tuberculous pleurisy expect the effusion to be absorbed, though probably paracentesis may be required once or oftener, and we shall frame a prognosis and after-treatment, bearing in mind the danger of tuberculosis of the lung at a later stage. If the effusion is due to the pneumococcus the prognosis is favourable and the duration of the attack will probably be from one to three weeks. The fluid may be entirely absorbed or if paracentesis is required it will be only once. If the streptococcus is found the attack will probably be acute and severe. The fluid, serous at first, soon becomes turbid and often purulent later. The duration of the attack may be long, extending to several months. The fluid soon accumulates again after aspiration, so that incision and drainage are usually required as for empyema.

Of the symptoms of an attack of pleurisy with effusion little need be said, as we have already described some of them in detailing the case of diplococcus pleurisy. The acute onset, with repeated chills, rather than a rigor, and the sharp stabbing pain in the side are characteristic. I think it is probable, however, that a rise of temperature may occur even before these symptoms. The relief of the pain when the serous exudation takes place and separates the two layers of the pleura is also a common feature. The physical signs have been so often described that they do not require further consideration here. I would emphasise one point, however, and that is the presence of typical bronchial breathing instead of the usual absence of breath sounds over a pleural effusion in some cases. This was well illustrated by a case of Hodgkin's disease in a woman (whom I saw with Dr. W Murray and Mr F Page) who had enlarged lymphatic glands in the posterior mediastinum which caused a left hydrothorax. In this case, which I aspirated on several occasions, there was always typical bronchial breathing when the effusion was large. It disappeared each time after tapping, only to return as the pleural cavity refilled. This is more frequent in children than adults but is a common cause of error

It not infrequently is necessary to make an exploratory puncture, either to ascertain if fluid is present in the pleura in cases in which the signs are doubtful or to determine the nature of the fluid itself. I do not by any means advocate the indiscriminate use of an exploring syringe in all cases, but there is no doubt that in a large number of cases valuable information is obtained by its use and on the whole it is used less frequently than it should be. The ordinary hypodermic syringe which is sometimes employed for making an exploratory puncture is unsuitable owing to its small capacity, as it holds only about 20 minims, and the very small bore of the hollow needle attached to it. The ordinary exploring syringe which holds one drachm is quite small enough for the purpose. On the whole, the simple pattern made just like a hypodermic syringe, but at least three times as large, is the most convenient. The hollow needle should be not less than three inches long and should have an internal diameter of not less than one-sixteenth of an inch. It is necessary to see that the needle is strong and has no flaw in it. Such a needle as this, when fixed on to the syringe held in the hand, ought to be able to bear a lateral strain of one pound in any direction near the point. This is easily tested, either by a one-pound weight or by a spring balance. The syringes which are supplied for the injection of antitoxic serum should never be used to explore the chest, as I have known the needle to snap off short. The needle must always be sterilised just before use. This may be done in several ways. It has been shown by Professor A. E. Wright of Netley that hot oil may be used in the following manner. Some olive oil is heated over a flame until a temperature is reached at which a crumb of dry white bread turns brown when dropped into it. If the syringe and needle are then washed out three times with the oil they will be thoroughly sterilised, however septic they may have been before.

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[9] Transactions of the Royal Medical and Chirurgical Society, vol. lxxvii

[10] Clinical Journal, Feb 27th, 1901, p. 203.

[11] Loc. cit.

Practically, I find the following method is reliable. The needle is put into a test-tube and enough cold water is added to cover it. This is then heated over a spirit lamp till it boils and is kept boiling gently for one minute. The tube is then inverted over a dish containing 1 in 40 carbolic lotion, so that the needle falls directly into this and is kept sterile till it is wanted. The syringe should be washed out two or three times with the carbolic lotion. If cultures are to be made from the fluid both syringe and needle should be boiled in a pan. I have tested the results of boiling in this way with a laboratory culture of the staphylococcus pyogenes aureus as follows. A broth culture of this micrococcus two days old was taken, which was turbid with the growth, and on microscopical examination was found to contain plenty of cocci. Some of the broth was drawn through a cannula which was also immersed in the culture, so that the micrococci were brought in contact with all parts of it. The cannula was then put into a tube of cold water and boiled one minute. It was then transferred to a tube of sterile broth for a short time, after which the tube was placed in the hot incubator. This tube of broth remained sterile. Three loopfuls of the water in which the cannula had been boiled were rubbed on the surface of an agar tube which was incubated but no growth took place. As a control the same experiment was repeated *without* boiling the water in the tube, the result being that an abundant growth appeared in the broth tube in which the cannula had been dipped and many colonies of the staphylococcus pyogenes aureus appeared on the surface of the agar tube inoculated from the tube of water.

The disinfection of the skin is also important. It should be well washed with soap and water and then scrubbed with cotton-wool soaked in 1 in 20 carbolic lotion. This I find to be sufficient and this conclusion is supported by the following tests. In the case of diplococcus pleurisy already described, before the skin was cleaned for the puncture a sterilised platinum loop was rubbed over it at the site selected and then over the surface of an agar tube. The skin was then washed and scrubbed with the carbolic lotion and the platinum rubbed over it as before, and a second agar tube was inoculated in the same manner. Both tubes were incubated and by the following day 213 colonies of staphylococcus pyogenes aureus and albus had developed in the tube inoculated from the skin before cleaning and none at all in the other one. It may be said that the absence of growth was due to some of the carbolic lotion being transferred to the tube by the platinum wire and inhibiting the growth of any organism. That this was not the case, however, was proved by inoculating the tube with the micrococcus growing in the first tube, after which it grew abundantly in the second tube also. If a puncture had been made in this case without antiseptic precautions there would have been a considerable risk of carrying some of the pyogenic cocci from the surface of the skin with the needle into the pleural effusion and thus of converting a serous effusion into an empyema. In another case of a man who had aortic disease and left hydrothorax I took cultures in the same manner, with the exception that the carbolic lotion was washed off with cotton-wool and hot water, both of which had previously been boiled. In this case 13 colonies developed in the tube inoculated from the skin before disinfection and none in that done afterwards.

In selecting the point at which to make a puncture we must be guided by the physical signs, but in the majority of cases with signs of fluid at the lower part of the pleura the eighth or ninth intercostal space in the line of the angle of the scapula is the most convenient position, with the patient sitting up in bed. If it is necessary to explore with the patient lying down the mid-axillary line in the sixth or seventh intercostal space will be more convenient. The skin should always be frozen with the ethyl-chloride spray, as patients have often assured me that without it a puncture may be very painful and with it they scarcely feel it at all.

In making an exploratory puncture the needle should be just pushed through the parietal pleura at first and the handle of the syringe withdrawn about one-third of its length. If no fluid appears in the syringe push the needle in another third, withdraw the handle another third, and if still there is no fluid push it in as far as it will go and draw out the plunger to the full limit. If, instead of doing this, the needle is pushed right in at first it may pass through and beyond a layer of fluid and miss it altogether. The following case is a good illustration of this.

A man, aged 29 years, was admitted under my care at the Newcastle Royal Infirmary on Feb. 1st, 1897. Six weeks previously he received a sharp blow on the left side of the chest and had pain for several days, which then subsided. Three days before admission he was seized with severe pain in the left side of the chest and difficulty in breathing. On admission no definite physical signs were present. On the 10th there were loss of vocal fremitus, dulness on percussion, and loss of breath sounds below the level of the angle of the left scapula behind. The heart's apex beat was midway between the nipple line and the sternum. The following day the dull area was explored with a needle but no fluid was obtained. The dulness increased upwards to the middle of the scapula and the patient became cyanosed. The chest was again explored on the 12th and some clear serous fluid was obtained and the natural conclusion drawn was that there was a serous pleural effusion and not an empyema, as had been suspected. Three days later, however, he expectorated 14 ounces of foul pus which was found to contain an enormous number of micro-organisms, streptococci and pneumococci among them. Two days later the chest was again explored just below the angle of the left scapula and pus was withdrawn. The pleura was opened and drained but the patient died the following day. At the necropsy, in addition to the empyema which had partly discharged through the lung, the posterior part of the pericardium was found distended with five or six ounces of clear serous fluid, so that there was only about one inch of compressed lung between it and the chest-wall, the two layers of pleura at that point being separated by only a thin layer of pus. Thus in exploring the chest the needle had evidently passed right through the empyema into the distended pericardium, from which the serous fluid had been withdrawn through the empyema. If in this case the needle had been thrust just through the chest-wall at first the pus would have been tapped and the mistake avoided.

If no fluid appears in the barrel of the syringe the needle should be withdrawn and the contents of the needle itself driven out on to a glass slide. It should be noted if any smell can be detected and the fluid thus obtained should be examined under the microscope. In some cases of empyema the pus may be viscid and will not flow through the needle. In such cases the microscopical examination of the contents of the needle will often reveal its presence. In making the puncture it is important to note the resistance offered to the entrance of the needle and also to move it about somewhat so as to ascertain if the end is free in a cavity filled with fluid or has penetrated a solid. In this way the presence of a thickened pleura or a fibroid lung may sometimes be ascertained.

In all cases of acute pleurisy rest in bed is necessary. At the onset treatment is directed to the relief of the acute pain. For this purpose hot applications, linseed or linseed and mustard poultices, and belladonna fomentations are useful. Dr. F. T. Roberts's plan of strapping the affected side so as to limit the respiratory movements gives great relief in many cases. The application of a few leeches to the side, though now seldom employed, is certainly useful. If the pain is very severe a hypodermic injection of morphia gives prompt relief. As soon as exudation takes place the inflamed pleural surfaces are separated and the pain disappears. As soon as this occurs it is important to give a saline aperient, sulphate of magnesium or sodium in two or three drachm doses each morning, so as to ensure the passage of two or three liquid motions. 20 grains of sodium salicylate three times a day are often useful in early effusions; and it has been shown by Rosenbach and Pohl that in cases treated with this drug it is found to be present in the pleural effusion, whether it be active or passive in origin. At the end of a week or ten days, when the more acute part of the attack is over, iodine is of service in aiding the absorption of the effusion by the lymphatics. We can give tincture of iodine in five-minim doses, iodide of potassium in from five- to ten-grain doses, or iodoform in half- or one-grain doses. At the same time it is advisable to rub a drachm of 10 per cent. oleate of mercury into the affected side each day. Hay's method of treatment, in which the patient is restricted to half a pint of liquid in the 24 hours, while from half an ounce to one and a half ounces of Epsom salts in a concentrated form are given each morning an hour before breakfast, is highly recommended by Osler.

In many cases of pleurisy with effusion the question arises as to whether the fluid should be removed or not. Under certain conditions this has to be done without delay. In all cases of large pleural effusion at any stage in which there is dulness all over one side of the back of the chest, and dulness up to the clavicle in front, aspiration should be carried out at once; it should never really be deferred so long, as it is better to remove some of the fluid as soon as dulness extends above the level of the fourth rib in the nipple line in front. In these large effusions delay is dangerous, as sudden death sometimes occurs. The physical signs, however, do not always indicate the amount of fluid which is present, so that in cases in which the area of dulness is less than that just indicated immediate aspiration is required if there are marked dyspnœa on slight exertion, cyanosis, palpitation, irregularity of the pulse, or signs of œdema of the opposite lung. In cases in which the effusion is moderate in amount and produces no urgent symptoms there is no necessity to remove it during the first week or 10 days. A moderate effusion is probably useful in the early stages of an acute attack of pleurisy, as it separates the two layers of the pleura, allows the lung to retract, and lessens the respiratory movements. As a result of this the inflamed serous membrane is kept at rest as much as possible. The two surfaces are prevented from rubbing against each other and the pleura is placed under conditions which are favourable to recovery.

If aspiration is carried out at this early stage we are simply removing these favourable conditions, nor do we attain our end as the fluid is apt to reaccumulate. If at the end of a week or 10 days there is no diminution in the effusion recovery will be hastened by aspiration; if, on the other hand, absorption has already commenced it is not required. For removal of fluid from the pleural cavity Potain's aspirator is by far the most useful instrument. In urgent cases, where the aspirator is not at hand, it may sometimes be necessary to use a simple trocar and cannula with an indiarubber tube, but this is unsatisfactory.

All I have already said with regard to the exploring needle applies equally to the cannula. This should have a diameter of from one-sixteenth to one-tenth of an inch and should be sterilised along with the trocar and stopcock, boiling in a pan of water for at least a minute, and then transferring to 1 in 40 carbolic lotion until required. If a test tube is used for boiling the trocar should be passed through the stopcock before boiling and the cannula affixed afterwards. The hands should be washed in soap and water and then in 1 in 20 carbolic lotion. If the patient is able to sit up the puncture should be made in the eighth or ninth intercostal space below the angle of the scapula. If the patient is feeble or is liable to faint he should lie with his shoulders raised by a pillow and the puncture should be made in the sixth or seventh intercostal space in the mid-axillary line. The skin should be cleaned and frozen just as for an exploratory puncture. Just before the puncture is made the bottle attached to the aspirator should be partly exhausted by about half-a-dozen draws with the air-pump. As soon as the trocar has penetrated the pleura it should be withdrawn and the fluid flows through the cannula into the bottle. Aspiration is best carried out slowly, so as soon as the flow into the bottle ceases it is best to keep on drawing just sufficient air out of the bottle and to keep up a steady flow so that 10 minutes are allowed for the removal of each pint, a rate of flow which has been found by Fraentzel to obviate the disagreeable symptoms which sometimes occur when the flow is more rapid. The amount of fluid which should be removed varies, of course, in different cases. It is not advisable to attempt to remove all the fluid at a first aspiration and as a rule not more than two pints should be drawn off at one sitting. If during aspiration the patient begins to cough violently or complains of pain in the chest or faintness it is advisable to stop and to withdraw the cannula. The opening should be closed with a small piece of antiseptic wool and collodion.

A marked fall in the temperature follows aspiration in some cases, in addition to other signs of improvement. Thus, a man, aged 22 years, was admitted under my care at the Newcastle Infirmary on the seventh day of an attack of pleurisy. There were absence of vocal fremitus, dulness on percussion, and absence of breath sounds over the lower part of the right side of the chest as high as the upper border of the fifth rib in the nipple line in front and as high as the middle of the scapula behind. The apex beat was displaced to one inch outside the left nipple line. The temperature was 103° F. in the evening of the eighth day. On the ninth day 26 ounces of clear serous fluid were removed. After the tenth day the temperature did not rise above 101° but still rose to 100·8° in the evening up to the eighteenth day. On the nineteenth day 48 ounces of fluid were removed, after which the temperature did not again rise above 99·2° in the evening.

Aspiration is of little use, as a rule, in empyema except to give temporary relief. It is true that occasionally an empyema does not fill up again after aspiration, but this is rather the exception, and in all cases incision and drainage of the pleura should be carried out as soon as possible. In one case of double empyema which I aspirated to relieve urgent dyspnœa aspiration of one side emptied both sides, showing that there must have been a communication between the two pleural cavities. The child died but no post-mortem examination was made.

After aspiration the patient should remain in bed for at least two or three days. After that he may be allowed to get up as soon as his general and local condition allow it. The after-treatment of a case of pleurisy with effusion is of great importance and is practically the same whether the fluid has been absorbed or removed by aspiration. The great object in view is complete re-expansion of the lung. This is often difficult to attain, especially in the case of poor patients who are unable to carry out the most suitable treatment and in whom we often find signs of deficient expansion at the base of the lung long after the acute attack. As soon as the physical signs indicate that the fluid is being absorbed, or three or four days after paracentesis, it is advisable to start respiratory exercises which increase the intra-pulmonary pressure and so assist the expansion of the lung. For this purpose the simplest plan is to instruct the patient to inflate an ordinary indiarubber football bladder by blowing into it, as has been recommended by Mr. Bilton Pollard[13] in the treatment of collapsed lung after operation for empyema. The patient should be instructed to inflate the bladder as much as possible some six times in succession three or four times a day. The influence of thus making a respiratory effort against resistance in expanding the lung is easily illustrated by making the patient inflate the bladder while the chest is being aspirated just when the flow into the bottle ceases; a steady stream will at once begin to flow again as a result of the increased intra-pleural pressure. Dr. Osler recommends the use of Wolff bottles, an arrangement of bottles fitted with tubes through which water can be driven by blowing alternately from one into the other. The indiarubber bag is, however, much more simple and can easily be carried in the pocket.

A prolonged convalescence is advisable after a pleurisy with effusion. The importance of this is easily realised when we consider the great frequency of tuberculosis in these cases. As much time should be spent in the open air as possible and a gradually increasing amount of walking exercise should be taken in addition to the continued use of the pulmonary exercises. Exercises with dumb-bells and Indian clubs are also useful. The patient should be sent to as high an altitude as possible. Where the circumstances of the patient permit of it there can be no doubt that residence for a couple of months in the Alps, at a height of from 4000 to 6000 feet, gives the best results. The deeper and more rapid respiration which is necessary at this height gives better results in restoring the full expansion of the lung, in my experience, than any other method of treatment. I am inclined to think that those who are able to carry out this climatic treatment are less liable to develop pulmonary tuberculosis at a later date than those who do not.

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[13] Loc. cit.

The following two cases illustrate the advantage of a visit to high altitudes. The first was that of a young man, aged 25 years, whom I saw with Mr. A. H. Thompson of Darlington on May 9th, 1900. The patient had an acute attack of pleurisy with effusion on the right side. As the temperature was high and the effusion was not sufficiently large to necessitate immediate removal we decided that it was not advisable to aspirate then. When I saw him again 10 days later the effusion had not diminished and he was nervous, as he had fainted when an exploratory puncture was made. We decided that the fluid should be removed and aspirated about a pint while he was lying back on the pillows. After this he steadily improved and later spent some time in the hills at the head of Weardale. On July 13th he was much better but still was easily tired and had some dyspnœa on exertion. On examination there was still some impairment of resonance at the base of the right lung behind. We advised him to go to Arosa, in the Alps, where he spent two months at an altitude of 6000 feet. As a result of this the lung expanded fully and when I examined him on his return movement, percussion note, and breath sounds were quite normal again. He spent last winter in Egypt and when I examined him recently the condition of the lung and pleura was quite normal. He had occasionally slight pain with very deep respirations owing to adhesions which are sure to be left after such an attack.

The second case was very similar; it was in a man about 10 years older than the other case, whom I saw several times with Mr. T. A. McCullagh of Bishop Auckland. The patient had an acute attack of pleurisy with effusion on the right side which we found necessary to aspirate. After this he steadily improved and as soon as he was strong enough he spent some weeks at high altitudes, chiefly over 4000 feet, in the Alps. The result was most satisfactory, as complete expansion of the lung took place, so that no difference could be detected between the two sides of the chest.

A CONTRIBUTION TO THE STUDY OF TROPICAL ABSCESS OF THE LIVER.[1]

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In the course of an experience of tropical abscess of the liver somewhat large for an English surgeon, though ridiculously small as compared with that of those practising in the tropics, I have been led to think about the disease and its complications, and I trust that the following contribution to its study may be, if disjointed, not therefore without interest. Possibly it may elicit some useful comment and criticism and it is on this account that the statements contained in it are somewhat dogmatic. I will deal first with some of the complications.

Perihepatitis, usually perihepatic peritonitis, is an almost invariable accompaniment of tropical abscess and must always exist to a greater or less extent when the abscess reaches the surface of the liver, but it is astonishing how little there is in some cases even when the matter has approached within perhaps half an inch of the surface. If there be no adhesions the introduction of an exploring trocar or an aspirator needle into the liver will be probably immediately followed by the escape of pus into the peritoneal cavity. Supposing the needle has been introduced for the sake of discovering the existence of an abscess and the operation for its evacuation be immediately proceeded with there may yet have been time for a quite considerable quantity of pus to have escaped in the few minutes which have elapsed before the peritoneum is reached. It is even possible to mistake this free pus for the abscess itself. The further exploration of the liver under these circumstances is essential. But first the peritoneal cavity in the neighbourhood of the puncture should be carefully sponged, for although the pus may contain no other organism than the amœba coli and need not necessarily give rise to septic peritonitis there is no security that streptococci or staphylococci or bacterium coli commune may not be present. It is scarcely possible under these circumstances to sew the liver up to the abdominal wall, as each stitch will most likely enter the abscess cavity and the stitch holes will leak. It is safer, therefore, to pack round the part where the incision is to be made before the abscess is actually opened and after the opening has been made to manipulate the parts as gently as possible. Perihepatic peritonitis is the cause of the acute pain that is often met with as distinguished from the typical liver pains. This pain is, of course, superficial, and is accompanied by acute tenderness easily elicited by even light percussion. Peritonitis occurs often in definite attacks, accompanied by fever and vomiting, and often yields a useful physical sign—i.e., *friction,* which may be felt with the hand and heard with the stethoscope over the liver. It exercises a protective effect by shutting off the part into which an abscess is pointing, so that when rupture occurs a sub-diaphragmatic abscess results, and not a general peritonitis.

As might be expected, peritonitis most commonly affects the convex surface of the liver which thus often leads to the adhesion in whole or in part of this surface of the liver to the diaphragm. When this has occurred an enormous amount of pus may accumulate in the liver without giving rise to any enlargement downwards and the enlargement upwards may only be indicated by partial dulness in the lower part of the chest; the dulness is least marked when the lung is adherent to the pleura because the lung cannot be then displaced upwards by the approximation of the diaphragm to the chest wall. Perihepatic peritonitis may also occur on the under surface of the liver and may then give rise to very serious results. The stomach, duodenum, and colon may become firmly adherent to the liver and after the abscess has been evacuated the consequent contraction may lead to considerable displacement of these viscera, giving rise to such troubles as dilated stomach from kinking of the duodenum. But it is a much more serious thing if the transverse fissure and the small omentum have been the seat of the peritonitis, for any one or all of the hepatic ducts may be partially or completely obstructed. I have recently seen with Dr. P. Manson a case which bears out this statement.

A man, aged 35 years, who had been in India almost continuously since 1887 and had had some pretty severe attacks of fever, began to have hepatic troubles following dysentery in May, 1900. The special points in his illness were that he had had several attacks of acute pain and indigestion, accompanied with high fever; and that an unsuccessful attempt to open the abscess through the chest wall in the lower axilla had been made in Madras in May, 1901. It will be observed that the history suggests a good deal of peritonitis. I opened the abscess without difficulty through the old scar in July, 1901, and during convalescence, which was rather tedious, there was from the first a rather large quantity of bile in the discharge. This escape of bile is not uncommon; it indicates that a bile-duct of some size communicates with the abscess, and though it delays healing it seldom gives rise to trouble. In this case, however, after the abscess had contracted and pus had ceased to flow bile still came from a small opening in the scar. After a while it nearly stopped. But at the end of September, after some abdominal pain, all the bile came through the wound and the stools became white. On Nov. 7th the flow of bile ceased and the patient became intensely jaundiced. Knowing the danger from hæmorrhage of operating on a jaundiced patient I passed probes into the wound and fortunately re-established the flow of bile by this channel, and when the jaundice had diminished, and after the administration of large doses of chloride of calcium, I opened the abdomen on Nov. 28th and found the matting together of the viscera which I have described above. It was quite hopeless to free the common bile-duct from the dense surrounding adhesions, as I had hoped to do, and so, as the gall-bladder, though not distended (because the bile was escaping through the wound), contained bile, I anastomosed it with the first part of the duodenum, using a Robson's bobbin. It was a difficult task. I ought to have waited still longer—i.e., until the jaundice had completely disappeared—for after a few days hæmorrhage occurred in the wound, and to the consequent stretching of the parts I attribute the partial giving way of the junction and the escape of bile and duodenal contents through the abdominal wound for a while. At last, however, the leak stopped and the wounds healed, the stools becoming of normal colour and the patient's health soon re establishing itself. I must add, however, that he had an attack apparently of indigestion in January, 1902, followed by the escape of bile for a few days from the abdominal wound. But this has again closed and at present he is quite well. His condition for the next six months will be watched with interest.

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[1] A paper read before the Royal Medical and Chirurgical Society on May 13th, 1902.

The escape of the whole of the bile through the wound is fortunately not of common occurrence. I have never before met with it in cases of tropical abscess though I have seen it in hydatid of the liver. It does not necessarily lead to loss of appetite or difficulties in digestion, but it sooner or later causes emaciation which may become extreme. I have seen bedsores form over the projecting angles of the ribs and angles of the scapulæ. I am permitted by the kindness of my friends Dr. Manson and Sir W. H. Bennett to mention the only other two instances which I have heard of in connexion with tropical abscess, and I would suggest that in fatal cases the same condition as that which occurred in the one that I have just described will be met with. In Dr. Manson's case (Case 1) the patient died after four months in a state of extreme emaciation though the fistula was apparently beginning to close, and in Sir William Bennett's case (Case 2) the sinus gradually closed after seven months and the patient made a complete recovery. In connexion with this subject reference may be made to cases, with which all will be familiar, where there is complete obstruction to the common bile-duct either from calculus, tumour, or inflammatory adhesions. These patients do not, as far as I have seen, emaciate; on the contrary, their nutrition may remain fair for years and it is quite remarkable how long the fatal event may be delayed.

It has been shown by the beautiful observations of Klein that the direction of the flow in the lymphatics of the diaphragm is upwards. As might, therefore, have been expected, pleurisy is a very common accompaniment of tropical abscess. It is a useful diagnostic sign. It is also a note of warning. Rupture into the pleura is in my experience one of the most dangerous outcomes of this disease. I could, if it were advisable, give more than one example of this catastrophe being followed by the most extraordinarily rapid pleural effusion. In one, indeed (Case 3), though I saw the patient within 24 hours of the rupture of an abscess which had for so many months remained dormant that its very existence had been doubted, the patient appeared to be moribund, and the pleura contained an enormous amount of fluid. But even when the pleura is opened at once, if the lung have not previously contracted adhesion to the chest wall, it is not unlikely that it may collapse against the spine and never expand again, and the most extensive Estlander's operations may fail to effect a cure. The patient, therefore, who has extensive pleural adhesions is saved from very grave dangers.

It would often save trouble and anxiety if the presence or absence of such adhesions could be determined. This is, however, notoriously difficult and often impossible, which is my excuse for mentioning two aids to diagnosis which have not, I think, received sufficient attention. 1. The upper level of the dulness caused by a liver which is enlarged upwards is, speaking generally considerably lowered when the patient is placed on his left side. If, however, the lower part of the pleural sac is obliterated by adhesions this does not occur, because the lung cannot be sucked down into the pleural sinus by the falling away of the liver—that falling away which so frequently causes pain when the patient attempts to lie on the left side. 2. In very thin people, even when the parts are normal I have pointed out[3] that it is often possible on careful inspection to see the lower margin of the lung on the right side move upward and downward during respiration. It may sometimes be observed on the left side, especially if the spleen be enlarged or if there be a great enlargement of the left lobe of the liver, or, indeed, any tumour in this situation, and on the right side it is more obvious when the liver is enlarged than when it is of normal size. This sign requires somewhat careful inspection for its discovery and it is only of use in emaciated or very thin subjects. If it be present it is a certain proof that there are no adhesions in this situation and that there is little or no pleural effusion.

Whilst writing this paper I had under my care a young woman in the last stage of emaciation from advanced actinomycosis, in whom I was able to demonstrate this phenomenon to spectators standing at some little distance from the bed. It was in her visible on both sides. It has been doubted by physiologists whether on deep inspiration the lung ever reaches the bottom of the pleural sinus. Careful observation of this patient showed that on very deep inspiration the lower border moved quite as far as the anatomical limit of the pleural cavity.

Though not quite germane to the subject it may not be out of place to throw out the suggestion that when the liver is much displaced downwards by a pleural effusion and there is no corresponding displacement of the heart outwards it is almost certain that the base of the lung is not adherent to the diaphragm and that under these circumstances it may be almost impossible to say whether the fluid is above or below the diaphragm.

In connexion with the question of adhesions I desire to make a practical suggestion. If the incision for opening the abscess has necessarily to pass through the pleura below the lower border of the lung it is often difficult or impossible to tell whether the cavity is obliterated by lymph or not. I have more than once cut down through both layers of the pleura and as no air has entered I have gone on to incise the diaphragm and liver. On withdrawing the finger, however, the ominous sound made by air rushing into the chest has shown that the two layers of the pleura were at first only held together by the attraction of cohesion or by very feeble adhesions, and a laborious process of stitching up the hole had to be undertaken. The right way to proceed, if there be any doubt, is to cut through the diaphragm across its fibres at the part nearest its costal attachment and to sew up a flap of the muscle to the intercostal muscles at the opposite end of the wound. The incision into the abscess can then be undertaken without fear of producing pneumothorax. By adopting this precaution I do not expect to meet with the above-mentioned accident again.

Pleurisy may lead to serous effusion, or to empyema, without any rupture of the liver abscess through the diaphragm, and such an effusion may keep up the temperature after the successful evacuation of the hepatic abscess. I once opened a large tropical abscess on an Indian army surgeon who was in an extremely exhausted condition. There remained some dulness in the back and the temperature did not fall to normal. The removal by aspiration, several days later, of a few ounces of clear fluid was immediately followed by disappearance of the pyrexia and from this time the patient made an uninterrupted recovery. On another occasion, when the physical signs and symptoms were almost the same, the fluid was pus and an equally good result followed the insertion of a drainage-tube into the pleura. A less successful result followed in the case of a young officer whom I saw with Dr. Ringer and whose abscess I had opened in the lower axilla. Repeated attempts at aspiration of the chest were unsuccessful because there was much recent lymph as well as fluid in the pleura. In the hope of securing better drainage I made a second incision into the abscess behind, and in doing so found that I had opened the pleura and a considerable quantity of clear fluid and large masses of lymph escaped. Thinking that some of the pus from the abscess had probably entered the pleura I therefore placed through this second opening one tube into the abscess and one into the pleura, but I am sure it would have been better to have sewn up the opening in the pleura and to have left this cavity for treatment later, for the recent pleural adhesions gave way owing to the violent coughing of the patient, the lung collapsed and a general pneumothorax was produced. The case was a very septic one and a fatal result was probably inevitable but I think that it was hastened by the pleural complication. I said that the existence of friction was an *ominous* sign, for although rupture into the lung as everyone knows often leads to a rapid cure of the disease no one who has seen the disastrous results that may ensue would dream of waiting for it to occur. *When there is marked pleural friction, therefore, exploration of the liver should be made without delay.*

I am thus led to the next part of my subject.

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[3] Brit. Med. Jour., Oct. 6th, 1900, p. 997.

Changes that take place in the lungs.—It is obvious that in every case in which an abscess bursts into the lung a certain amount of lung tissue must be destroyed and an abscess of greater or smaller extent must be formed. In those which recover in a short time this is a negligible quantity. But it is often far otherwise. The next most favourable cases are those in which a small abscess forms in the lower part of the lung either in front or behind. Most commonly the signs of cavity will be met with below and to the inner side of the right nipple; but the cavity not infrequently occurs behind, and in rarer cases a liver abscess bursts into the left lung and forms a cavity there. At the end of this paper will be found an account of cases illustrating each of these conditions (Cases 4, 5, and 6). If such abscesses are opened as soon as they are discovered it is probable that they will heal readily. But if operation is delayed a series of phenomena may occur that are not unlikely to give rise to a very chronic condition which may end fatally. These abscesses do not behave like those resulting from pneumonia, injury, or tubercle, but have a peculiar tendency to burrow by means of long and intricate tubular processes which are very difficult to follow up and drain and may lead to the gradual destruction of large areas of lung tissue. I have seen one lobe almost completely disorganised in the course of an illness extending over many months (Case 7). The suppurating tracks are sometimes in the lung itself, sometimes partly in the lung and partly in the pleura. The pus discharged from them has the characters which we are accustomed to associate with liver pus—that is, it is inodorous, thick, slimy, and chocolate-coloured, and may contain the amœba coli, so that I am inclined to believe that the peculiarity of the process depends upon the presence of this parasite. In these cases hæmorrhage is a common symptom; it is often frequent and severe and occasionally is fatal (Case 8). The continued discharge of what has been recognised as liver pus has led to the assumption that the abscess of the liver is still unhealed; but this is certainly not always the case, for I have met with an instance in which the patient, a young man from an unhealthy Indian tea-garden, died from hæmorrhage and at the post-mortem examination so little trace of the liver abscess remained that the medical man who made the necropsy stated that there never had been an abscess of the liver at all. This, however, I knew to be incorrect, for I had had my finger in the patient's liver, and the observation did not surprise me for I have been struck with the complete way in which all traces of a liver abscess even of large size may disappear (Case 7). This is surely a not unimportant fact in making a prognosis, and it accounts for the completeness of the cure if recovery takes place. It is also interesting to note that if an abscess forms in the left lung, as a result of the inspiration of matter from the opposite side, the pus formed in it may be slimy and chocolate-coloured like that which came from the original abscess (Case 9). I do not mean to say that chocolate-coloured pus may not come from a primary abscess of the lung; it may do so, but physicians will agree that this is a most exceptional occurrence. *It may be safely stated that the persistent discharge of chocolate-coloured pus does not prove that the liver abscess is not healed.*

Another danger to which a patient with an imperfectly drained abscess of the lung is exposed is abscess of the brain. I have met with two such cases following tropical abscess (Cases 9 and 10). In one I opened the abscess myself and in the other I directed the operation; both ended fatally.

The practical deduction from what has been stated is that *pulmonary abscess consequent on hepatic abscess should be opened without delay*, and that a careful search should be made for outlying suppurating tracks; that these should be drained by the insertion of full-sized tubes, and, as far as possible, laid freely open even if this should necessitate extensive removal of ribs; and, finally, that the tubes should not be removed or shortened until the surgeon is satisfied that closure of the abscess is almost complete.

Dr. Manson, with whom I have been associated in several of the cases that have come under my care during recent years, has shown that in the majority the amœba coli is present in the pus. In some its presence is more easily demonstrated a few days after the abscess is opened than on the day of operation. In some it is found in abundance many weeks later, when the case is perhaps pursuing a normal course towards recovery. There is, therefore, strong suspicion that the amœba has something to do with the causation of tropical abscess. This persistence of the organism and the very slight effect which it may under some circumstances produce possibly account for one of the most striking features of this disease—its occasional extreme chronicity. One cannot fail to be struck with the long periods of time during which an abscess may be latent, with the way in which symptoms that point strongly to the existence of an abscess may disappear, and with the comparatively slight disturbance of health that is not inconsistent with the presence of an abscess. I have known a young officer who was suspected of having an abscess go go through a winter's hunting and return to show himself, as he thought, well, though the abscess was almost pointing at the epigastrium, and it is well known that an abscess may show itself years after a patient has returned from the tropics.

Some abscesses, on the other hand, after a long period of latency suddenly become acutely septic. These cases most likely become infected from some part of the intestinal tract with the bacterium coli commune or some other septic organisms.

I had under my care last year a young officer invalided home from India on account of liver abscess, but his symptoms so completely disappeared that he was supposed to be well and was sent abroad to recruit. He had, however, occasional attacks of acute epigastric pain, in one of which a swelling formed at the epigastrium which was caused by the rupture of the abscess in this situation. This was accompanied by great collapse and was quickly followed by double parotid bubo. The abscess and the two parotid buboes were opened but the patient died in a few days with all the symptoms of acute septicæmia.

Some liver abscesses contracted in the tropics are, on the other hand, acute and septic from the first. These should, I think, be placed in a class by themselves and are not, properly speaking, examples of tropical abscess but are part of a general pyæmic process. They may arise in this country. They are often multiple and, as far as my experience goes, are quite hopeless cases to treat. But some genuine tropical abscesses are very acute. I saw lately a young man from Central Africa who had had many attacks of fever but no hepatic symptoms till he reached Europe on leave. In the course of a few weeks he developed a small abscess in the right lobe. It was easily reached and it healed in a shorter space of time than any other case I have had to treat, a very few weeks sufficing for the cure.

The majority of tropical abscesses that I have seen have been single and I believe that many of the cases which have been reported of a second abscess following the first are those in which the drainage-tube has been removed too soon or in which a diverticulum of the original abscess has never been properly drained and has been shut off from the main cavity. I think it is of great importance at the time of the operation to explore the cavity very carefully with the finger and to open up all branches of it, as far as possible, before the drainage-tube is inserted. I am, of course, not likely to forget that the cases which we see in England have been sent home from distant parts of the world, and am prepared to hear that others of a totally different type may be met with by surgeons who are on the spot where the disease originates. I have, indeed, been frequently told that we in England do not see the really bad cases, which may be true, though it must be owned that some of them are bad enough in all conscience.

The last point I would deal with is the question of the *best place to make the incision* and will begin by stating that I consider that, if possible, the seat of election for the operation is in the lower axilla. If two lines be drawn vertically downwards, prolonging the anterior and posterior folds of the axilla as far as the margin of the ribs, they will at the lower part inclose the space where the widest interval intervenes between the lowest part of the pleura and the costal margin, an interval generally of two inches and often even greater. The incision may conveniently be made transversely—that is, parallel with the lower margin of the pleura—and the portion of one rib and cartilage that crosses the wound obliquely should be removed, great care being taken to separate the structures on the deep surface of it without injuring the pleura in case by chance it should extend lower than usual. Generally the structure thus exposed consists only of the origin of the diaphragm, but if the pleura should be low it is easily recognised and may without any difficulty be dissected up without injuring it and fastened out of the way to the upper part of the wound. If it should accidentally have

TABLE I.—*Showing the Nature and Amount of the Chief Changes effected between December, 1895, and December, 1901.*

—		For the year 1895.	In December, 1901.
Supply	Number of houses supplied	79,644	87,937
	Percentage of houses on constant supply ...	70	100
	Estimated population	634,506	650,734
Reservoirs, subsiding and storage for unfiltered water ..	Available capacity in gallons	117,500,000	397,500,000
Filters	Number of beds.	—	18
	Area in acres ...	15	22½

In spite of the alterations and improvements which have been effected the water supplied by the West Middlesex Company compares unfavourably with that distributed by the New River Company and the Kent Company. This fact will be seen readily by a study of Table II. which shows the results of analysis of the water supplied by these companies during every month of the year 1901 and during the month of January, 1902. It is much to be regretted that a larger number of complete analyses are not available, but the constant superiority of the water supplied by the deep wells of the Kent Company is beyond doubt.

TABLE II.—*Showing the Results of Analysis expressed in Parts per 100,000 of Organic Carbon and of Organic Nitrogen in the Water supplied by the West Middlesex Waterworks Company, the New River Company, and the Kent Company in each Month of the Year 1901 and in the Month of January, 1902. (Compiled from the Reports of the Results of Analysis made by Dr. T. E. Thorpe, F.R.S., on behalf of the Local Government Board.)*

Year and month.	Organic carbon, expressed in parts per 100,000.			Organic nitrogen, expressed in parts per 100,000.		
	West Middlesex Company.	New River Company	Kent Company.	West Middlesex Company.	New River Company.	Kent Company.
1901.						
January	0·222	0·070	0·039	0·029	0·010	0·008
February	0·254	0·073	0·044	0·030	0·012	0·010
March	0·238	0·141	0·043	0·024	0·013	0·010
April	0·227	0·124	0·043	0·031	0·012	0·008
May	0·200	0·031	0·042	0·021	0·013	0·006
June	0·144	0·068	0·036	0·017	0·009	0·007
July	0·124	0·062	0·058	0·012	0·010	0·012
August	0·121	0·049	0·038	0·017	0·007	0·005
September	0·130	0·115	0·037	0·015	0·013	0·009
October	0·132	0·048	0·058	0·019	0·010	0·007
November	0·146	0·070	0·055	0·017	0·009	0·009
December ...	0·130	0·093	0·048	0·013	0·009	0·006
1902.						
January	0·214	0·077	0·059	0·023	0·008	0·006

At the present time, however, the customers of the West Middlesex Company are in many respects at a great advantage compared with those of some of the other companies. The water rents charged are not high. The arrangements for the distribution of water are superior to those of many of the other businesses. The shareholders of the company now receive their full dividends and any increase in the profits of the company becomes practically the property of the water consumers. For their protection, therefore, all that they require is control over the company's financial affairs. This was advocated by Lord Avebury before the Llandaff Commission.

A question which the water consumers should be allowed to decide is whether their profits should be spent in improvements or for the lessening of the water rent. If they were wise they would prefer the former course.

Looking Back.[1]

FROM

THE LANCET, *SATURDAY, APRIL 3*, 1824.

Extraordinary Case of Loss of the faculty of Speech, successfully treated by FREDERICK BASSET, *Esq. Member of the Royal College of Surgeons in London.*

To the Editor of The Lancet.

SIR,—On Thursday the 5th of this month[2] I was requested to see a young lady, eighteen years of age, and a full plethoric habit of body, who had lost her voice in June last; upon enquiry I found, that at that time, from excessive grief and anxiety, she had had a paralytic stroke, which deprived her for some hours of the use of her right side; a medical gentleman was sent for, who attended her for some time, and restored to her the use of her limbs, but not of the organs of speech. She was then removed into the country, where also she was regularly attended by a professional man, and Dr. BABINGTON, there also saw her, and decided the case to be a complete paralysis of the tongue, and I believe was the one who advised galvanism, which was several times performed by Mr LABANMA of Southampton Street, without producing any beneficial effect. It was some time subsequent to this that I saw the patient, and upon examination found Dr. BABINGTON's opinion of the disease perfectly correct, and that the paralysis extended to the muscles of the larynx. The tongue was drawn to the posterior part of the mouth, appeared very white, and with a very feeble circulation through it, quite insensible to the prick of a needle, and perfectly immovable.

I ordered a mustard poultice to be applied to her throat every night, to inhale the steam arising from boiling water, having some flour of mustard in it*; to take one pill composed of extract. colocynth. c. gr. v. & hyd. submur. gr j. every other night, and to gargle the throat and mouth with the following mixture, five or six times a day:

℞ Infus. sinapis, ℥ viij.
Tinctur capsici
——— Myrrhæ aa ℥ j. ft. gargar.

She began this treatment on the day following (Friday) and I saw her again on the Monday after. She was the same, except the tongue looked a little more vascular. I altered the gargle as regards the infus. sinapis to the infus armoraciæ compos,* and desired her to continue the same plan with this exception. On the next Thursday I again visited her, when I found the tongue much more red, and appeared to have every now and then a tremulous motion I ordered her to continue as before, and on the following Monday, when I called, was both surprised and delighted to be accosted by her with "Good morning to you." Upon requesting to know when and how this change took place, I was informed that on the morning after I saw her, she awoke and found her tongue hanging out of her mouth, upon rubbing it she felt it give her pain, and upon attempting to speak, found she was capable of doing so nearly as well as before the attack.

This young lady is now perfectly well, and articulates better than ever, having lost an impediment which had existed from her infancy

FREDERICK BASSET.

* Four or five times in the course of the day.

* I forgot to mention I ordered her some lozenges, made as subscribed, and to dissolve four or five in her mouth in the course of the day—

℞ Pulv capsici, ʒ iij.
Zingiberis ʒ ij.
G Acaciæ ʒ ij.
Sacchari ℥ i et
Esprit de Rose ʒ j.
fiant Troches lx.

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[1] It will be noted that the day of publication is now changed from Sunday to Saturday.—ED. L.

[2] Probably Thursday, March 4th, 1824.

been opened the suture of the opening is a simple matter and it is essential to make it perfectly air-tight before proceeding The rest of the operation consists in incising the diaphragm, either in the direction of its fibres or across them (I prefer the former method), and then cutting through the diaphragmatic peritoneum. If there be no adhesions the liver may either be sutured to the diaphragm and the chest walls or the parts around the opening may be carefully plugged with some antiseptic material. If the latter course be adopted it must not be forgotten that if the abscess be large the liver will at once shift its position and that this shifting will take place in the upward direction

It may be asked, "Why lay down this dogmatic rule when it is well known that the abscess may occur in any part of the liver?" But to this it may be answered that, in my experience at all events, by far the majority of abscesses occur in the right lobe, and that if they be of large size they can generally be opened in this situation even if they form a projection in the epigastrium or most nearly approach the surface behind. I have already referred to the difficulties and dangers of incising the liver behind, depending upon the fact that it is necessarily a transpleural operation. The epigastric incision does not drain well and I am therefore in the habit, even if the abscess appears to be pointing in this situation of ascertaining to begin with whether or no the matter can be reached at a moderate distance from the side. It is a question whether, if this be found to be the case, and after making the lateral incision the epigastric tumour disappears, the surgeon should be content or whether he should make an epigastric incision as well A case recently under my care and referred to in an earlier part of this paper supplies an argument in favour of the latter course. I had been content with the single incision in the side, but it turned out that the epigastric swelling had been caused by a localised peritoneal collection of matter due to the bursting of the abscess in front. The communication was not, however, sufficiently free to allow of satisfactory drainage and it was necessary to make the anterior opening in the course of a few days.

I do not deny that the epigastric incision is the only possible one in certain abscesses in the right lobe and in all of those that occur in the left lobe I would strongly deprecate a lateral incision below the costal margin, because the opening is certain to become troublesomely oblique in the course of a few days as the liver shrinks up under the ribs The opening into the liver itself may conveniently be made with a long pair of dressing forceps followed by the finger In this way abscesses at a great distance from the surface may be safely reached and effectually drained Hæmorrhage is often free but it usually stops spontaneously if the finger be retained for a minute or two in the wound. Should it not do so careful plugging round the tube must be practised. Some cases bleed extensively after the operation and the bleeding occurs on subsequent occasions. I am not referring to the slight hæmorrhages which often occur for many days in cases which are pursuing a normal course, but to those in which the loss is considerable. I look upon this as a grave sign and I think it occurs most in the septic as opposed to what I have called the amœbic abscesses. A certain amount of blood often escapes into the peritoneum as the result of the preliminary puncture. It seldom is of any moment, but dangerous and even fatal cases of exploratory puncture have been recorded. It is not unlikely that these patients are either jaundiced or suffering from leucocythæmia

I cannot conclude without referring to Dr Manson's ingenious device of introducing a drainage-tube through a large trocar plunged boldly through all the superficial tissues into the abscess It has yielded excellent results in the hands of many and I would not say a word against it But for my own part I prefer to know in what condition I have left the pleura and peritoneum, and to have ascertained what the size and shape and possible ramifications of the abscess may be, to have opened these up if it appears to be necessary to do so, and to have placed the tube or tubes in what seems to be the best position for the future draining of the cavity

ILLUSTRATIVE CASES.

CASE 1. *Escape of all the bile through the incision made into the abscess, death* —This case was under the care of Dr Manson and has been published by him in the Medical Reports of the Imperial Chinese Maritime Customs, *circa* 1884 The patient was a man, aged about 34 years a tea taster, resident 15 years in China, chiefly at Amoy 10 years previously he had had pleurisy and suffered from stricture and chronic sores on the legs. For the previous four or five years he had had chronic dysentery and had been of intemperate habits. Liver symptoms began in February 1883 There were pain, fever, and other symptoms of hepatitis By August the liver had enlarged considerably and some friction was heard. On Sept. 14th he reluctantly consented to an exploration and pus, which was found at a depth of two or three inches in large quantity of a dark chocolate-brown colour, escaped freely through the cannula which had been introduced A drainage tube was passed through the cannula eight inches long and through this the residual pus was from time to time removed by aspiration Bile in small quantities appeared in the pus and by the beginning of October it was large in amount. On the 13th there was an extensive hæmorrhage On the 16th the abscess was irrigated with a solution of salicylic acid and some sloughy material escaped On the 19th the bile was discharged in very great quantity and on the 30th it all came through the wound and the stools became white. About the same time some thick sloughs came away After this the bile was collected in a bottle and the daily amount varied from 28 to 35 ounces His weight diminished but the appetite remained good. On Dec. 22nd the tube was plugged but this was followed by a rise in temperature so the plug was removed. On the 24th, 25th, and 26th there was bile in the stools. He was then sent on a voyage to America, but on the way he died on Jan. 29th, 1884 apparently from exhaustion owing to the very rough weather, but it was noted that the amount of bile was reduced to 14 ounces per diem and that the stools were coloured so that it is probable that he would, like the patient in the following case, have recovered if he had not experienced such a tossing upon his voyage.

CASE 2. *Escape of all the bile through the incision made into the abscess, recovery* —The patient was a man, aged 48 years, under the care of Sir W H Bennett, who has kindly furnished these notes. He had lived in India since the age of three years. He was well until October, 1898 when he began to have occasional attacks of acute diarrhœa and severe malarial fever In May, 1899, he came under observation suffering from an abscess in the right lobe of the liver which was opened below the end of the eleventh rib at which spot the abscess was bulging on May 22nd. Nothing peculiar was noticed at the operation, but seven hours afterwards the dressings were thoroughly soaked through with pure bile, which continued to flow intermittently The stools were generally white but sometimes piebald, and they partially regained their normal colour during the occasional stoppage of the leakage Dyspepsia was troublesome. There was often great constipation and sometimes diarrhœa. Emaciation was extreme The wound was open from May 22nd to Dec. 26th when permanent closure occurred. Leakage stopped suddenly twice after gradually diminishing to a certain point. The first stoppage of leakage occurred on Sept 28th and no bile was seen for a week Then a profuse flow began suddenly During the cessation of leakage the stools became more normal in colour but they whitened again with the recurrence of the flow of bile. The patient was more or less jaundiced until about a fortnight before the final healing of the wound.

CASE 3. *Rupture into the pleura, very rapid effusion* —The patient was a man aged about 25 years a Ceylon tea-planter, under the care of Dr Bramwell of Cheltenham. He had had hepatic symptoms dating from August, 1895 They subsided and it was thought that the abscess had disappeared but symptoms reappeared in the spring of 1896. The only physical sign observed was a slight elevation of dulness in front. It was intended that I should see him on April 26th but on April 23rd the abscess burst into the pleura during the night On the morning of the 24th the right side was dull all over and the patient was very ill indeed. In the afternoon I saw him and first aspirated two pints of sticky material resembling pea soup and then, without removing any rib let out a further large quantity by an incision on the seventh interspace in the axilla. I did not think that he could stand a more severe operation He died in a day or two and a second abscess was found which was apparently about to burst into the peritoneum The position of it was not stated

CASE 4 *Pulmonary abscess in the anterior part of the lung* —The patient was a lady aged about 30 years who had been in India and who was seen with Sir Richard Douglas Powell This is one of the very few cases of tropical abscess which I have met with in women. The patient developed an abscess in the right lobe of the liver which burst into the lung and which I opened by means of a lateral incision in July, 1896. The fever did not completely subside and there were signs of right pleurisy, but exploration with the aspirator revealed nothing. The expectoration continued. She left for the country with the wound unhealed and by November, 1896, it was obvious that there was an abscess in the lung to the right of the sternum, about opposite the fifth rib. This was opened and drained. The expectoration stopped and both wounds finally healed soundly. The patient has remained well since.

CASE 5. *Pulmonary abscess in the base of the lung behind.*—Dr. S——, aged 35 years, I.M.S., China and India. He had had dysentery and hepatitis in 1894 and was invalided home in September, 1894. He had one rigor in October, 1894, and right pleurisy lasting one month followed by normal temperature for a fortnight. The abscess burst into the lung in December, 1894. I saw him in January, 1895. The physical signs indicated a liver of normal size and a pulmonary abscess behind. The expectoration was about six ounces of blood-stained muco-pus per diem. The pulmonary abscess was opened on Jan. 31st, 1895. The expectoration stopped 36 hours after operation. The abscess was healed completely in three weeks.

CASE 6 *Abscess in the left lung.*—Lieutenant ——, aged 28 years, was sent to me by Dr. John Anderson. He had been in India from 1892 to 1899. He had had no fever or dysentery. Hepatic symptoms began in May, 1899. An operation was performed but no pus was found. Expectoration of blood and pus began in July, 1899, after a fall. He was invalided home in November, 1899. Left empyema was diagnosed. An operation was performed, resulting in the discovery of some clear fluid in the left pleura and the absence of an abscess beneath the left side of the diaphragm. On a subsequent occasion the right pleura and the subdiaphragmatic region were explored and were found to be healthy. I first saw the patient on March 17th, 1900. The physical signs pointed to an abscess in the base of the left lung, behind and inside and below the angle of the scapula. There was no marked enlargement of the liver. There was copious expectoration of reddish-brown pus. The expectoration occasionally stopped, which always caused a rise of temperature. I opened the abscess in the situation indicated by the physical signs—namely, higher up than the previous incision into the left pleura—removing a piece of the eighth rib. The abscess was in the lung, it had thick walls and many prolongations No communication was found with the liver. His general health at once became quite good, but healing was, as might have been expected, slow, the wound not being completely closed till November, 1900.

CASE 7. *Extensive and fatal destruction of lung.*—The patient was a man aged 46 years. When first seen in June, 1897, by Dr. Hector W. G. Mackenzie he had been 22 years in India. In 1890 he had malarial fever. In 1892 he had typhoid fever and was afterwards invalided home. There was no history of dysentery. In February, 1897, he was quite suddenly attacked with diarrhœa and he temporarily lost power over the sphincter ani. He had pain over the ribs on the right side at the same time. He went up to the hills for a time and while there was very ill with fever every night and rigors. Then a purulent discharge from the rectum came on. He returned to Calcutta and an abscess of the rectum was diagnosed; he was relieved by hot hip-baths but was very ill and he lost flesh and strength. The pain in the side continued and in March a severe dry cough came on. In April he began to expectorate pus stained with blood and continued to do so more or less till the end of the case. He was sent to England. Cough, sweating, pyrexia, and depression of spirits continued on his voyage home. When examined by us there were signs of enlargement of the liver upwards in front (level of the third rib) but no increase of liver dulness downwards. The rectum appeared to be healthy. On July 8th a large abscess was opened anteriorly and laterally and this was followed by a gradual improvement in health; but drainage was never satisfactory and there were occasionally attacks of increased cough and expectoration owing to retention of discharge. On Dec. 6th the ramifications of the abscess, which were now found distinctly to involve the pleura, were very thoroughly opened up. During the year 1898 there were periods of improvement and relapse. At one time it looked as if he would make a good recovery; but at the end of the year the tendency was gradually downhill and his condition became more obviously septic. On March 27th, 1899, though he was then very ill indeed, a further attempt at opening up the suppurating tracks was made. They were found to be very extensive, reaching up almost to the apex of the lung. The cavities were bounded in part by the chest walls, in part by broken-down lung tissue. A great portion of the anterior aspect of the right lung had been destroyed by the suppurating process. He only survived this operation a few days. There was no post-mortem examination.

CASE 8. *Destruction of lung; fatal hæmoptysis.*—The patient was a man, aged 26 years, a tea-planter, who was born in India, was educated in England, and who returned to India in 1886 and stayed there till 1893, and had had some attacks of fever. He had dysentery in March, 1893, and was in hospital in Calcutta. The dysentery was not quite cured and he was invalided home in November, 1893, in a very bad state. The dysentery stopped on the voyage and on arrival home he was well except for a dry cough. On Dec. 13th he began to spit blood and matter. On Feb. 20th, 1894, he came under my care. He had lost three stones in weight, and had constant cough, copious chocolate-coloured expectoration, hectic temperature, diarrhœa with blood and mucus, pain in defecation, and difficulty in micturition. His appetite was good; he was given a milk diet. The physical signs indicated great enlargement of the liver and an abscess at the base of the right lung. An operation was performed on Feb. 21st. An abscess in the lung was opened behind and a finger was passed through the diaphragm into the liver. Considerable improvement followed but there were frequent hæmoptyses. Fatal hæmoptysis occurred on April 24th, 1894. Post-mortem the liver was found to be firmly adherent to the diaphragm at the upper part but there was no sign of an abscess. The right lung was firmly adherent to the diaphragm and to the chest wall up to the level of the eighth rib. A large irregular cavity occupied the lower and middle lobes and there was a cavity as large as a Tangerine orange at the right apex. The liver and kidneys were amyloid.

CASE 9. *Abscesses in both lungs and in the brain.*—The patient, a man, aged 43 years, had lived in India for 10 years. He had dysentery soon after his arrival, from which he completely recovered. 16 months before his admission to hospital he had had symptoms of abscess of the liver. Five months later it burst into the lung and four months after that he was operated upon, portions of the seventh rib in the axilla and eighth and ninth ribs behind having been excised. This had not relieved the patient; it was uncertain if pus was found. On admission there were no signs of enlargement of the liver. The physical signs pointed to the existence of an abscess at the base of the right lung. Exploration, however, failed to detect the presence of pus. Three days after operation symptoms of cerebral abscess commenced. Eight days later an abscess was opened in the right occipital lobe, the only localising sign being tenderness on percussion. On the same occasion an abscess in the base of the right lung was opened through the old scar in the axilla, more space being gained by removal of more portions of ribs. No improvement followed and another trephine opening was made in the hopes of finding a second abscess in the brain, but none was discovered and the patient died 20 days after the first operation. At the post-mortem examination the lower lobe of the right lung was fibrotic and riddled with cavities. The right pleural cavity was obliterated at the base. The left lung contained a cavity as large as an orange opposite to the fifth, sixth, and seventh ribs, and the pleura in this situation was obliterated. The brain contained a large abscess in the right occipital lobe but there were no other collections of pus. There was little or nothing to indicate the old abscess in the liver.

CASE 10. *Abscesses in the lung and the brain.*—The patient was a man, aged 33 years, a merchant, and was seen with Dr. Crombie on Jan. 9th, 1901. He had lived in Calcutta for seven years. He had had very little fever. In May, 1897, he had dysentery and congestion of the liver which lasted till the end of the year He was invalided home on account of sprue in January, 1898, and remained till September of the same year. Liver symptoms began in September, 1899. Pus was removed by aspiration in October. Aspiration was again performed in November but nothing was found. In January, 1900, cough began and had continued ever since He had had intervals from fever and cough lasting a week but not longer. These were followed by a rise of temperature and expectoration. He had lost some flesh but not much. In June, 1901, he had signs of a pulmonary abscess at the right base which was opened by a posterior incision opposite the eighth rib. There was a gradual improvement, though drainage was never perfect because the cavity had many branches and a considerable amount of bright blood and pus was discharged from the wound and expectorated as well. He improved so much, however, that he was sent to Christchurch, Hants, under the care of Dr. Leslie B Burnett. In September symptoms of cerebral abscess manifested themselves and before long symptoms pointing to affection of the left motor area appeared. Dr. Burnett explored this region but found no pus. A few days later, at my suggestion, he explored further back and found a considerable abscess in the left occipital lobe. There was some improvement but the patient died on August 3rd Post mortem the right lobe of the liver was found to be adherent to the diaphragm but it contained no pus (compare Case 8); the abscess in the lung was extensive and it branched out into numerous pockets; part of its wall was formed by the ribs (compare Case 7) A considerable cavity existed just beyond the end of the drainage-tube The abscess in the occipital lobe was not empty, an accumulation existing beyond the end of the drainage-tube

IS CHLOROFORM MORE DANGEROUS THAN ETHER?

CONSIDERATION OF RESPIRATORY TROUBLES FOLLOWING OPERATION DURING 12 MONTHS AT A LARGE GENERAL HOSPITAL.

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DURING the session 1899-1900 there took place at the Society of Anæsthetists a discussion on the After-Effects of Ether Inhalation on the Respiratory System.[1] The discussion was carried on by a large number of members and visitors, all, or at any rate a majority, of whom were experienced in that particular branch of the profession. As the meeting proceeded it became increasingly evident that not only was there no general consensus of opinion as to the cause and prevention of such respiratory affections after ether, but it was even denied by some that such complications existed at all, and the climax was reached, as was only right and proper, when the President, Dr. J F W. Silk, in the last words of the last speech, said that "he was almost inclined to think with Mr Carter Braine that the inhalation of ether was, if anything, protective against pneumonia."[2] As there was, however, and always has been, a very strong opinion among medical men generally that such complications did arise after ether it occurred to us that the matter required further examination; we therefore determined for a space of 12 months to watch every in-patient in St. Thomas's Hospital who had had ether or chloroform administered to him and see in what proportions these respiratory complications did arise.

For such a series of observations to be accurate and satisfactory they must be undertaken by one who is not only in a position, but is forced by routine, to examine every patient from the date of operation to the date of convalescence or death The observation, moreover, must be undertaken by the same man over the whole period Such an observer is, as a rule, difficult to discover in a large hospital, and it must be a large hospital, otherwise the number of patients would be too small to be of value, but at St. Thomas's Hospital in the surgical registrar we have such an officer with the necessary qualifications and that share of the work has been done by him.

We had at the outset made up our minds that we would include in our list no cases of "ether inflammation" (by this we mean any respiratory complication following the administration of ether) which did not arise within 24 hours. We were quite aware that many observers, both at home and on the continent, had given it as their opinion that respiratory troubles arising even as late as three weeks after the inhalation] might be due to the latter. We, however, bearing in mind Dr. Dudley Buxton's remarks on this point, foresaw that unless we fixed a narrow time-limit it would be pointed out, and rightly, how a number of other factors would come into play which would lead a large number of our cases to be rejected.[3] In order still further to disarm criticism we abstained from adding to our list any case in which the temperature may have been influenced by suppuration. Cases did occur of fever with respiratory complications which we were satisfied were true cases of "ether inflammation," but as there was more than stitch-hole suppuration we felt that they were "not proven" and rejected them. One case (No. 9 on the list) would seem at first to have contravened this rule, but in reality it did not do so, as the sloughing of the flap and the subsequent suppuration started after the bronchitis had stopped. The same rule applied to patients who might have had influenza or tubercle.

It will be as well here to state the conditions under which patients are operated on at St. Thomas's Hospital. The anæsthetic is administered either by the staff anæsthetist or by a student under his direction or by one of the house officers The operation is performed in nearly all cases in one of the large theatres. The anæsthetics employed are either gas and ether or chloroform. The only mixture that is used is A.C.E. and this hardly ever. One of the staff (Dr. E. H. Grant Morris) we believe very occasionally uses equal parts of chloroform and ether for children, and Mr W. Tyrrell, President of the Society of Anæsthetists, also very occasionally gives a demonstration of his "two bottle method." The exceptions, indeed, to the administration of ether with gas or chloroform alone are very few. The mask used for chloroform is a wire frame, covered with lint, the lint being renewed for each patient. The apparatus employed for ether is Clover's portable inhaler with a bag made of red rubber which is boiled after each case and with a facepiece that is carefully washed. The gas is administered through a Barth valve, the bag being a four gallon one. No wet towels are used at all during the operation, the patient being covered with towels which are dry after being sterilised in tins surrounded by superheated steam. After the operation the patient is carried in a trolley along a corridor to the ward. Where the ward is above the level of the corridor he is also taken in a lift. The remaining patients—cases mainly of fractures requiring setting and of cellulites requiring incisions—are operated on in small theatres opening directly out of the wards, the anæsthetic here being invariably administered by a house officer The locale and the type of operation are not the only differences. A very large number of these cases are chronic drinkers, some, indeed, suffering from alcoholic poisoning at the time of the anæsthetic, and many, owing to their septic condition, are much enfeebled. They are all operated on within a few hours of admission and therefore undergo no preparation, and finally—a matter of much importance—the ether is nearly always given without the previous administration of gas.

During the 12 months under consideration (the year 1900) there were given in the hospital just over 3000 anæsthetics, both chloroform and ether The figures cannot be exact, as a certain number of casualty cases had more than one anæsthetic, the second being for purposes of readjustment of splint, &c. We do not think, however, that the error would be 20 one way or the other 2842 of these were given in the principal theatre, the remainder in the smaller theatres adjoining the wards. The accompanying table contains details of 10 cases of respiratory complications undoubtedly due to the anæsthetic. All of these cases occurred with ether, not one with chloroform. It only remains now to analyse these cases and to see whether there is a common cause to account for the lung trouble.

1. *The age of the patient*.—From this there is nothing to be learnt, the trouble arose at all ages. There was a case in a child, aged nine years, below which age ether is but rarely given, and another in a woman, aged 64 years, who had practically reached the upper age limit for ether.

2. *Previous lung condition*.—The history was uniformly good if we may except two previous attacks of pleurisy, one of which occurred 20 years before In one case the patient had a cough but there were no physical signs What is

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[1] Reported in the Clinical Journal, 1900, and the Transactions of the Society of Anæsthetists, 1900, pp. 55-114

[2] Transactions of the Society of Anæsthetists, p. 114.

[3] Ibid., p 60.

Table of Respiratory Complications following the Administration of Ether at St. Thomas's Hospital, 1900.

No.	Date.	Sex and age (years).	Previous chest condition	Operation	Temperature 24 hours afterwards.	Nature of respiratory complication.	Duration of respiratory complication.	Condition of wound.	Remarks.
1	Feb. 5th.	M, 62	Pleurisy 20 years previously	Colotomy for carcinoma of the rectum	101·4° F.	Bronchitis.	12 days temperature over 101°; normal on the fourteenth day.	First intention.	No difficulty with anæsthetic.
2	March 31st	F, 34	Good, but cough before going to theatre. No physical signs.	Whitehead's operation for hæmorrhoids	101·0°	Broncho-pneumonia Consolidation of the left lower lobe of the lung. Mitral stenosis on the seventh day.	Temperature normal on the fourteenth day.	"	"
3	May 16th	M, 56	Good	Inguinal hernia. Undescended testis Bassini's operation	101·4°	Bronchitis; not severe.	Temperature normal on the eighth day.	"	"
4	" 29th.	M 9	"	Inguinal hernia Undescended testis. Bassini's operation	103·0°	Broncho-pneumonia Report on the third day: dulness over the lower half of the left lung posteriorly, and air entry poor, occasional tubular breathing and crepitation, probably diffuse broncho-pneumonia, with possibly some fluid at the base.	Temperature normal on the seventh day.	"	"
5	July 9th	M, 34	No respiratory trouble.	Pyonephrosis, nephrectomy.	101·0°	Bronchitis, broncho-pneumonia, pleurisy.	Death.	—	No difficulty. Full account of case in text.
6	" 10th.	M., 15	Good.	Radical cure of inguinal hernia; Bassini's operation.	103·5°	Bronchitis.	Temperature normal on the fifth day.	First intention.	No difficulty.
7	" 27th	M, 19	No trouble in the past	Radical cure of inguinal hernia, Bassini's operation	102·0°	Bronchitis and pleurisy. Report on the fourteenth day aspirated two and a half ounces of fluid drawn off. Asp'ration had been advised on the tenth day.	Temperature normal after aspiration.	"	"
8	Sept. 6th	M, 23	Good	Varicose veins (extensive).	101·6°	Bronchitis definite but slight.	Temperature normal after the fourth day.	Wound was dressed on the eighth day; slight suppuration at two incisions.	"
9	" 12th	F, 56	"	Amputation of the breast and axillary glands.	103·6°	Bronchitis and cough.	Temperature normal after the eighth day.	Piece of flap sloughed, followed by suppuration.	No difficulty. Sloughing occurred after bronchitis had ceased.
10	Nov 19th	F, 36	Previous attack of pleurisy.	Amputation of the breast and axillary glands and above the clavicle.	102·0°	Bronchitis and sputum.	Temperature remained up for some time.	Slight suppuration in both wounds.	No difficulty. In this case there was a definite dry stage with pain at the sternum and dry cough.

more remarkable still is that where ether was given to patients with chronic bronchitis no untoward symptom arose. The cases of two patients, indeed, are worth mentioning. They were females, aged 65 and 39 years, suffering from irreducible femoral and ventral herniæ respectively. They both had an extremely well-marked history of winter cough, and, more than that, had cough with expectoration at the time of operation. They were given ether and were none the worse for it.

3 *Condition of patient at the time of operation.*—In all cases the condition was good. It has been suggested that the occurrence of respiratory complications after ether could be explained by the routine use of that anæsthetic in the cases of patients in a desperate condition. This has certainly not been our experience. There was, however, one case which would appear to support this view. The patient was a woman, aged 57 years, in bad condition, suffering apparently from carcinoma of the liver; ether was administered for an exploratory operation. Before an incision was made the woman became blue and [illegible] pulse extremely feeble. On auscultation the lungs [illegible] of bubbling sounds. She was taken back to the wards and died in five minutes. Post mortem the lungs were found to be extremely œdematous; there were no signs of bronchitis. We have not included this case, as we felt that such a condition is sometimes due to a dying heart. The same condition has, however, been said before now to be due to the directly irritating effect of the ether. We have quite an open mind on the subject and would particularly wish for opinions on this case.

4 *The operation.*—They were all trunk cases except on which was a very extensive case of varicose veins, the operation lasting nearly two hours. They were all long cases. The "colotomy" included a long examination, the herniæ were all "Bassini's" operation for radical cure, while the breast cases had extensive gland infiltration.

5 *Behaviour of patient during anæsthesia.*—The vari anæsthetists reported, when questioned on this point, difficulty of any kind, no particular tendency to cyanosis excessive secretion, neither did the patients require abnormal amount of ether.

6 *Time of year.*—Seven out of the 10 cases occurred in summer; it is certainly a question whether at that tim

year the patients, owing to freer ventilation, are not exposed to greater draughts.

7. *Locale*.—The patients were all operated on in the large theatre and afterwards taken by lifts and corridors to the wards.

8. *Experience of anæsthetists*.—All the anæsthetics were administered by house officers and not by the staff anæsthetists. The former had not naturally the experience of the latter but they could not be called inexperienced.

9. *The anæsthetic employed*.—In all the cases the ether was preceded by gas. We mentioned earlier that the gas-bag was a four-gallon one. We would suggest that owing to this excessive size the patients are given an unnecessarily large amount and the resulting cyanosis has much to answer for.

10. *Conditions after the operation*.—They were all cases that required such bandaging that of necessity the chest and abdominal movements were restricted and their powers of expelling sputum curtailed. A description of the ward, the ordinary large ward of a hospital, is, we imagine, unnecessary.

11. *Healing of wounds*.—Of the wounds of the nine surviving cases six healed by first intention. Two had slight stitch-hole suppuration, while in the remaining case, owing to the extreme tension, a piece of skin-flap sloughed and subsequently suppurated. In none of the three cases was the suppuration of such a character as to account for the temperature.

12. *Character of the respiratory complications*.—In six patients the symptoms and signs were those of bronchitis. In one case (No. 10) there was a definite dry stage lasting for the first 24 hours, characterised by hard cough, pain at the sternum, and very scanty expectoration, exactly as is usually seen in a typical case of acute bronchitis, so making this case appear to be the result of exposure. In the other five cases there was from the very first a copious expectoration. In our seventh case some pleuritic effusion occurred; it was noticed on the tenth day and two and a half ounces of fluid were drawn off on the fourteenth day. Three patients had broncho-pneumonia—one of these died, the symptoms and signs of the other two cleared up within a week, the temperature coming down by lysis. There was no case of true lobar pneumonia.

Fatal case: bronchitis, broncho-pneumonia, pleurisy.—The patient was a male, aged 34 years, suffering from pyonephrosis; nephrectomy was performed on July 9th. There was a calculus in the right ureter. The anæsthetic (ether) was given by an assistant house surgeon who experienced no difficulty in the administration. There was no past history of respiratory trouble. 24 hours after the operation there was cough, and after the operation the temperature, pulse, and respiration were as follow:—

Days.	Temperature.	Pulse	Respiration.
1	101·0° F.	108	26
2	103·4°	124	30
3	102·0°	124	32
4	103·2°	128	38
5	103·2°	124	42
6	103·2°	128	42
7	104·0°	132	44
8	104·2°	148	50
9	104·4°	140	48
10	108·0° at death	—	—

On the fourth day after operation the resident assistant physician, Dr. A. E. Russell, made the following note: "Respirations 52, pulse 132. Dulness at extreme right base and round angle of right scapula, here also breath sounds are tubular. Air is entering to the base of the lung and there is no evidence of emphysema. There is some pneumonic consolidation of the lower lobe, especially of its upper portion." And again on the eighth day: "The left lower lobe now involved; right lower lobe clearing up."

Necropsy.—The trachea and bronchi were much injected and contained some frothy mucus. The bronchial glands were swollen and succulent, not tuberculous. Each pleural sac contained a small quantity of blood-stained serum. There were no adhesions. The lungs were dense and heavy. Each lower lobe was partially collapsed and its investing pleura was wrinkled. Many small broncho-pneumonic patches were present in the lower and middle lobes of the right lung, with one of the size of a filbert in the inner part of the middle lobe. In the left lung the broncho-pneumonia was more extensive than in the right. Both lobes were involved but the areas were small. No abscess or tubercle was seen. The pericardium contained blood-stained serum in small quantity.

To sum up, out of some 2400 patients to whom ether had been given 10 developed temperatures with some respiratory troubles within 24 hours and all of them had inhaled gas previously to the ether. There was no previous history of bronchitis in any case and all were in good condition at the time of operation and took the anæsthetic in a perfectly normal manner. The operations were prolonged ones and with one exception the trunk was the site of operation. On leaving the theatre the patients were taken along corridors and in lifts, the temperature of which would certainly be below the temperature of the theatre, to a ward where they would have to lie for several days in a position which would probably retard, and enveloped in bandages which would certainly prevent, free expectoration.

Though under the same conditions precisely not one of the 600 patients who had chloroform developed any form of respiratory trouble. And in this connexion we would call to mind two cases reported by one of us two years ago.[4] Two patients were operated on for some bowel trouble; they both had ether and both developed ether inflammation within 24 hours. After the lapse of one month and two months respectively they underwent a far longer operation with chloroform without any respiratory complications of any kind. This freedom from respiratory troubles after chloroform is the more remarkable when we consider what a large proportion of these were mouth cases, a class of operations always considered very liable to such a complication. A contrast equally remarkable is seen in the cases of those who were operated on in the small theatres adjoining the wards, none of whom suffered from this complication. Here, it will be remembered, ether is given usually without any previous administration of gas to cases of fractures and cellulites. The period of administration is not very prolonged, but, on the other hand, a large proportion are patients in an enfeebled condition due to alcohol or sepsis; none of them receive any preparation and many of them have to put up with the same drawbacks as regards posture and bandaging as have abdominal cases.

These ward cases, then, differ from those of the large theatre in four ways: (1) the latter invariably have gas administered before the ether while the former usually have ether alone; (2) the latter operations were long and the former were short; (3) the latter were trunk cases and the former for the most part were limb cases; and (4) the latter have to traverse corridors to get back to the ward and the former are operated on in an annexe of the ward. It must be remembered, however, that the ward cases included a large number of fractured thighs which suffered the same drawbacks as regards posture and bandaging after the anæsthetic as the trunk cases.

Such are the facts which we have had to put forward. The figures are remarkable—10 cases of "ether inflammation," one of which proved fatal, out of about 2400 ether inhalations. When this investigation was begun we had no idea that such a state of things existed. We are quite prepared to be told that such a condition does not exist in this or in that hospital and we are equally prepared to decline to accept any such general statement of denial. 12 months ago, had we listened to such a paper, we would have vigorously denied the existence of such a state of things at St. Thomas's Hospital. To-day we are wiser. Unless every case is examined with the same thoroughness that our cases were no one is in a position to put forward a claim to better results. The anæsthetists never hear at all of the subsequent history of their cases; the surgeons are interested in the state of the wounds, leaving the house surgeon, who, as a rule, has not sufficient experience to connect the ether with the cough and temperature, to look after the patient's chest. Thus has been created a condition of false security.

With these figures before us we must reconsider our position with regard to ether which in the present light bids fair to oust chloroform from its place of dishonour. The death-rate from chloroform is usually considered to be 1 in 3000.

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[4] Transactions of the Society of Anæsthetists, vol. iii., 1900, p. 83. Clinical Journal, August 8th, 1900, p. 253.

Our figures work out for ether at 1 in 2400[5] and are very similar to those of the London Hospital of 1897—1 in 2910—which were mentioned by Dr. Probyn Williams at the debate at the society.[6] If these figures are correct it seems to us that in preaching the greater safety of ether than of chloroform anæsthetists would be acting wrongly. We are merely changing the venue of the death from the operating-table to the bed, the house surgeon's signature for the coroner's. The chief cause of this frequent and, in cases, alarming complication, then, is ether. The contributing causes are the length of the operation, the previous administration of gas, the inexperience of the anæsthetist, and the exposure of the patient during and after the operation.

The remedies are not so obvious. Manifestly we cannot advocate the entire giving up of ether, for, after all, chloroform has troubles of its own. But we do recommend chloroform for all long operations on the trunk. We do not desire to banish the previous administration of gas but it should be so arranged that too much cannot be given by inexperienced anæsthetists and that can be best done by having the gas cylinders away from the anæsthetising-room and the gas bag of moderate dimensions, say two gallons. After the operation the patient should have the mouth and nose carefully protected from the cold air of the corridors and the ward by means of a loosely-folded towel over the face.

In conclusion, we must mention that we are deeply indebted to Dr. Russell, the resident assistant physician of St. Thomas's Hospital, who most kindly examined every case to which his attention was called. Without his assistance we could not have been so certain as we are that we have given only true cases of ether inflammation.

POSTSCRIPT.

At the meeting of the Society of Anæsthetists at which the above paper was read there seemed to be some confusion about the object with which it was brought forward. The question as to whether ether or chloroform is the most dangerous was raised from consideration of their post-operative complications. The evidence brought forward in this communication clearly demonstrated that in this particular chloroform was *facile princeps*. Most of the speakers in the discussion that followed dealt only with the dangers that are run during the administration. We have in consequence decided to add to our paper the cases in which a fatal result took place during the period of anæsthesia. One death occurred under chloroform and was that of a child who was being cleaned up after a burn. From the extent of the burn and the condition of the child, aged one and a quarter years, it was an error of judgment to have attempted such a proceeding at all. An abstract of the case is given in the St. Thomas's Hospital Reports for 1900, p. 181. Obviously it is unjust to put the child's death down to the anæsthetic. With ether we were unfortunate enough to have a death also. This was in the case of an anæmic, fat, elderly man who was suffering from an extensive and exquisitely tender cellulitis of the knee. His heart was flabby and he had albuminuria. Ether was administered in an annexe of the ward, as described above, without the previous use of gas. Some difficulty was experienced and the respirations became shallow, death occurring before the operation was begun. None of the staff anæsthetists were present. The last case is recorded in the St. Thomas's Hospital Reports, 1900, p. 179. It is not fair to either anæsthetic to put these results to their account. In our communication we have recorded one case, and probably a second, in which the fatal result was due to ether, but both these cases happened after the return to the ward and therefore out of sight of the anæsthetist or the surgeon. Our statistics on all points raise the question of the relative dangers of chloroform and ether. In conclusion, we wish especially to draw attention to the advisability of changing the anæsthetic to chloroform after a time, when ether has been given originally. The reasons for this are dealt with by one of us in the *St. Thomas's Hospital Gazette*, 1901. This is not a new procedure and many speakers referred to it as their frequent practice. As the fear of chloroform will deter many from its use and the "operative" safety of ether will keep for it many advocates we strongly recommend this change of anæsthetics.

THE FEEBLE-MINDED AND CRIME.

BY MARY DENDY,

HONORARY SECRETARY OF THE LANCASHIRE AND CHESHIRE SOCIETY FOR THE PERMANENT CARE OF THE FEEBLE-MINDED.

MY object in writing this paper is to call attention to the fact that a large number of philanthropic persons are expending a great amount of time and energy and good feeling and vast sums of money in attempting to do away with evils which are only the symptoms of a widespread and constantly increasing disease. As a result of many years of work amongst the poor, of a minute attention to the condition of children in our public elementary schools and in their own homes, and of a certain amount of reading and of consideration of expert opinion, I have come to the conclusion that the main cause of most of the evils which keep so many of our people in a degraded condition is weakness of intellect. This cause would operate equally in all classes of society but that in the so-called upper classes the feeble-minded are generally guarded from the natural consequences of their defect. Even amongst these, however, the trouble is passed on by marriage, and probably some cases escape notice and account for instances which occur, otherwise incomprehensible, of descent in the social scale. Mr. Holmes, the prison missionary, tells us of one man whose parents were highly respectable, who had no motive for stealing, who was well educated and intelligent generally, but who could not help stealing watches. I know at this moment of a boy, whose father does not belong to the working-classes, who has been twice convicted of stealing; he is abnormally naughty in other ways and his brother is in an idiot asylum but no one recognises the fact that he is not responsible for his actions and he will descend in the scale of life until he is a habitual criminal. Further, weakness of intellect is in the majority of cases an inherited disease and a very large proportion of feeble-minded persons have children, either with or without marriage. There can then be no way of stopping the increase of this disease but by caring for feeble-minded persons during their whole lives.

Hooligans, or corner-lads, criminals, paupers, and drunkards—all are these frequently only because they are feeble-minded. The lying-in wards of our workhouses, idiot asylums, deaf and dumb asylums, special classes, reformatories, and industrial schools, to say nothing of the homes which are springing up everywhere as the result of private charity—all are fed by our feeble-minded population or their offspring (for it must be remembered that the child of the merely feeble in mind may be an idiot), and the managers of these refuges all fail to stem the evils with which they contend because they act on the assumption that temporary care and training are all that are needed. So after a term of years their patients are turned out again on to the world, trained to obey and to behave decently under the strict supervision of their keepers but not trained to stand alone and in many cases only more helpless that they have been kept in leading-strings so long. It needs to be understood that the feeble in mind cannot be trained to stand alone. As the lame man wants his physical crutch, so these poor creatures need their mental crutch and when that is withdrawn they inevitably fall. The more amenable they have been to good influences the more readily will they succumb to bad ones. They lack will-power and this must be superimposed from without; if it be a power for good all is well, if for evil, as it generally is, the result is disastrous.

Two years ago I made an inspection of all the children in actual attendance in the board schools in Manchester with a view to ascertain how many of them were in such a mental condition as to make instruction in special classes necessary for them. At one time there were 494 children in these schools needing such instruction out of a total of 39,600. Of these 494 children 214 were "dull and backward," it being understood that their condition was due to their state of mind and body and not to neglect, 276 were "mentally feeble," and four were deaf-mutes. I need not say that to obtain these results I did not rely upon my own opinion—in every case the child was seen by Dr. H. Ashby of the Pendlebury Children's Hospital. I further saw in their own homes 45 children who were excused from school attendance by medical certificate. A more minute analysis of these two sets of children gives the following results. Of the 494 feeble-minded children attending school, 78 boys and 63 girls were so hopelessly defective that it would be impossible for them, in the most favourable circumstances, ever to reach a normal mental standard. Of these, again, four boys and eight girls were so imbecile that they could be properly placed only in an idiot asylum. Of those excused from school attendance there were 22 boys of this type, of whom 10 were asylum cases, and 11 girls, of whom three were asylum cases. We thus get a total of 100 boys, of whom 14 are asylum cases, and 74 girls, of whom 11 are asylum cases. Thus leaving out of question the milder cases, it is found that amongst the board school children of Manchester there are 174 children who can never be trained to take care of themselves and who must inevitably be a great danger to society. Only about half the children of Manchester attend board schools and there is reason to suppose that similar results would be obtained by an inspection of the other half who are in voluntary schools. Those children who are excused from school attendance were not necessarily worse than those going to school, but their mental or physical peculiarities either made it impossible for them to go safely through the streets or else caused them to be unmanageable in company with other children.

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[5] Possibly 2 in 2400 if the case recorded above is counted. Also see postscript of fatal cases added to this paper.

[6] Transactions of the Society of Anæsthetists, 1900, p. 101.

Last year I inspected in the same manner all the voluntary schools in a large non-school-board area near Manchester, including Church of England, Congregational, Roman Catholic, Undenominational, Methodist, and British schools. Here, again, the cases which I selected were seen by skilled medical men. We put on our list 150 out of 3000. This larger proportion was accounted for by the fact that one school received scholars from a home for waifs and strays who were all of a very low type.

It appears that there are always about three defective boys to two defective girls. This, I am told, is because all characteristics are more strongly transmitted to males than to females. The law so far recognises the existence of this class of children as to provide in a half-hearted sort of way for their education up to the age of 16 years. I say in a half-hearted sort of way because its permits but does not enforce the provision of special classes for their instruction. It defines them as "children who by reason of mental or physical defect are incapable of receiving proper benefit from the instruction in the ordinary public elementary schools, but are not incapable by reason of such defect of receiving benefit from instruction in such special classes or schools as are in this Act mentioned." The condition of some of these children is accounted for by curable physical disease—such as deafness or bad sight; of others by early neglect and bad home surroundings; of others by illness which has caused them to lose some years of school life. In these cases the extra time at school and the minute attention to their particular requirements given in the special class will suffice to bring them up to the level of the average child. But there are many more in whom the trouble is of a quite different nature and who are no nearer to being cured at the end of their school life than they were at the beginning. It must be remembered that many amongst the milder cases classified in Manchester would be incurable though the disease had not in them assumed its most troublesome form. Given, then, in any town a complete system of special classes, in those classes will be found the raw material for most of our social failures; boys and girls who are recognised as abnormal up to the age of 16 years and who are then discharged to be worked up by the pitiless machinery of our streets into the criminals, paupers, and lunatics who are the insolvable problem to all our philanthropic agencies.

Let us take examples of a few of the very numerous types of feeble-minded children and try to see what becomes of them.

R. is a gentle-tempered, obedient boy, aged 16 years. In his spare time he plays with sticks and stones like a child or at "gee-gee" with his bed posts. He is at work, but it is doubtful if he will keep his situation because he has hurt himself with the machines. He has more than once stolen because he was ordered to do it by bigger boys who took his stolen goods from him. He will never become a "Hooligan" but he is very likely to become a thief or a train-wrecker. Quite recently the police reports contained notices of two boys convicted for attempted train wrecking who were known to be of feeble mind. Older boys were implicated in the same charges with them. Probably R. will become a father.

T. is a lad who can do a certain amount of head-work, though he is behindhand. He is fairly strong physically and will probably be able to maintain himself after a fashion as a labourer. But he is one of that peculiarly difficult class of children who have no moral sense. He is exceedingly mischievous and shortly before I saw him he had procured a box of matches and set fire to the cloaks in the school cloakroom. Little J., again, is another boy of this kind; he is destructive to the last degree and having set his heart on achieving one particular piece of mischief (the pulling down of a piece of lead-piping from a wall) even very severe physical punishment several times inflicted would not keep him from returning to it again and again. Restless and troublesome in class, dangerous in the playground, quite unashamed, untouched by kindness or punishment, these lads will inevitably grow into the Hooligan type. L. is 20 years of age now and earns some sort of a living; he is the terror of all who have to do with him, the son of a father who was "queer," and he is an ill-conditioned, badly-built lad with a malformed head. I think he has not yet been convicted but that is only a question of time. Perhaps he is a degree better than the lad who kicks an unoffending workman to death; many people have tried to keep some hold on him. Probably all these lads will become fathers.

G. is a boy, aged 15 years, an orphan. He attended school regularly but never learned anything. He was taken on at the "shop" where his step-grandfather worked and could do what he was put to, but he was so fascinated by the leather bands going round the wheels that he could not resist the temptation to put bits of rag and string under them to see them drawn into the machinery. He was, of course, discharged. He is now in an idiot asylum and he will be discharged at the end of seven years to take his share in producing the next generation.

It would be easy to multiply cases, but these must suffice for the boys. Briefly speaking, what generally happens to feeble-minded boys of the poorer classes is this. A boy leaves school quite unable to take care of himself. Very often the one wholesome guiding influence of his life ceases with his school days, his parents being frequently only slightly stronger in mind than himself. Their one notion is to make him earn money for them. He knows no skilled work and cannot keep a situation if he gets one.[1] Then he goes upon the streets, sells matches, shoelaces, papers, and generally ends by getting into gaol. By this time he has become used to a vagrant life and as he can only move along the path of the least resistance and as it is made so much easier for him to go wrong than to go right he continues to go wrong and becomes a confirmed criminal. So he grows up through a pitiful and degraded youth to a pitiful and degraded manhood and dies, leaving behind him offspring to carry on the horrible tradition.

The following are some examples of female cases. With the girls the evil is more obvious though not more real. To begin with the moral imbecile.

S. is a girl in a board school in Manchester reported on by Dr. Ashby. She was bright at her lessons, fairly well grown, and pretty. Her father was a criminal who had deserted his wife. Her appearance was normal except for a restless expression in the eyes. She stole in the school very ingeniously, taking garments which she sold for a few pence to buy sweets. When her mother flogged her she slept out and was more than once taken home by the school attendance officer. She was quite without shame—in fact, she gloried in her achievements. When spoken to by a skilled observer it was at once obvious that her mental condition was abnormal. Dr. Ashby said: "If I were to tell a judge and jury that this girl is not responsible for her actions they would laugh at me, but if she is not put under constraint at once she must inevitably join the criminal classes." This girl would become very likely such a one as N., a girl 18 years of age, whom I know and who was living the worst possible kind of life. I could make no impression at all upon her. Her answer to my remonstrances and offers of help was a silly laugh and "the police can't get me for anything I do." She had no conscience beyond half-a-crown and costs. She also was a rather pretty girl and did some work for her living. Going to see her mother I found that the latter was a deaf-mute. Or possibly S. might become a criminal of another type, like poor little M. who was sentenced to 16 years' penal servitude for the manslaughter of her employer's children by drowning them. M. was 15 years old and would be released when she was 30. All these three girls would probably become mothers.

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[1] Dr. J. Kerr, late of Bradford and now medical adviser to the London School Board, who has given much attention to the children in the special classes there, says it is characteristic of the boys that though they can do some kinds of work and generally find situations when they leave school they never keep their places and are always on the streets.

Fortunately, with the girls as with the boys, the morally defective are not the commonest type of the feeble-minded.

E. is a small delicate child whose mother is a deaf-mute. P., aged 12 years, is in Standard I. She cannot speak clearly, cannot see properly, and cannot carry a message. T. is an overgrown, delicate, defective girl, aged 12 years. These three girls are of a very usual type, nervous, timid, biddable children, just those who are ready to fall a prey to any evilly-disposed person who comes across them. These are the children who to a very large extent account for the child-mothers in the lying-in wards of our workhouse infirmaries. This extract from the *Manchester Evening News* of Feb. 26th, 1900, gives an example of how the trouble comes to pass: "It was stated to the magistrates at the City Police Court this morning that S. T., a girl of nearly 16 years of age, had been missing from her home since Friday morning, when she left home to go to her work but did not turn up. *As she is of rather weak intellect* it is feared she has been decoyed." It is not very long since I saw a child, aged 14 years, in the workhouse infirmary with her infant in her arms and there are few women guardians who could not give several similar instances.

The life of girls such as these is pitiable in the extreme. Year after year they return to the workhouse to bear children, many of whom fortunately die but some of whom live to repeat their mothers' experience. Year after year they become more degraded, wretched, and restless. At the present time there is in a workhouse a feeble-minded boy whose feeble-minded mother has been in and out 21 times during a year. In the same workhouse there have been during the last three years amongst the mothers of illegitimate children 16 who were of weak intellect. Nor do the girls who come under notice in this way represent nearly all of their class; very many are confined at home and it is a marvel that more do not die merely from the hardship of their conditions. In one house to which I went to inquire for a feeble-minded boy I found also his sister, a woman 35 years of age, of weak intellect and deaf, nursing her third illegitimate child.

This disease, moreover, as things are at present is no bar to marriage. I know of a woman, aged 28 years, who was married at 16 years to a notoriously half-witted man. She "did not know he was silly" when she married him. She is very ill and evidently has some serious internal complaint which will soon kill her, when her husband will be at liberty to marry again. She has had 10 children, of whom she has "buried eight," as the phrase goes. The remaining two are feeble-minded, the elder, a girl aged 13 years, in a marked degree. In all probability this child will be a mother before long. Mr. Holmes, from whose book I quoted above, tells me that many children of weak intellect are committed to reformatories, certified as "fit" because the medical man who has had them under observation has seen them only under such control as prevented their mental peculiarities from showing themselves. Frequently when these children have been a little while in their new homes the unfitness becomes manifest and because there is no provision for them under the same roof with sane children (indeed, there hardly could be such provision) they are discharged, to come again upon the streets and again to be convicted. In this way he has known the same boy to be twice committed to a reformatory within six weeks.

Anyone who reads the police reports must be struck by the number of apparently purposeless crimes that are committed. It is not to be wondered at when we realise how large the proportion is of the "borderland" or semi-insane intellects. Recently a case was reported of a woman who was convicted for the fortieth time. It was added that she was known to be of weak intellect.

Mr. Holmes states that many, the notorious Jane Cakebread among them, who are treated as habitual drunkards are really not dipsomaniacs but are not quite sane. He says: "These people are not what they are because they drink but the reverse: they drink because they are what they are. In a word, drunkenness is not the cause but the result of their condition. Doctors will not, of course, certify them to be insane; until, therefore, the State makes some provision for the half-mad their case is hopeless and frequent tragedies will continue."

As to the immediate suffering and degradation that are due to this disease there can be no doubt. The most horrible house which I ever entered was one to which I went to inquire for a child excused from school attendance. He was brought to me from his bed, his clothes having been pawned as soon as it was known that the attendance officer would not call. It was impossible to unravel the relationships in that family, but there were, I think, three generations of weak-minded persons there; certainly there was an elderly woman of whom it would be difficult to say whether she was most bad or mad, a woman aged 23 years and a boy aged 14 years who were nearly idiots and the little lad on whose account I went. But all this suffering and degradation, terrible as it is, is insignificant compared with the misery we are heaping up for future generations. It has been urged as a reason against taking steps to counteract the evil that if we would let weak-minded persons alone they would die out. Unfortunately that is not so. They die young, it is true. The average life of an idiot is only 20 years. The feeble-minded seem to be generally short-lived in proportion to the degree of their mental weakness. It is rarely, indeed, that children who are weak in mind are strong in body. There seems to be a connexion between congenital deaf-mutes and these children. They are peculiarly susceptible to disease, particularly to consumption, and succumb more readily than normal persons to epidemics. But a great number of them live to have families and their offspring are often more feeble in every way than themselves. This would point to the conclusion that they would in course of time die out, but unfortunately they are not left to themselves: the strong and bad mix with the weak and mad, and so the horrible story goes on and there are always enough accidental cases to renew the strain.

It would be easy to multiply cases and instances in support of what I have said but it is unnecessary. After all, everyone who is acquainted with the sin and misery of our social life has knowledge of one aspect or another of the "feeble-minded problem" and could supply evidence of the existence of the evil. What I am concerned to do is to point out the fact, which many people seem to shrink from recognising, that there is no way of curing this disease in the individual and that the only way of putting a stop to it is to prevent its transmission to the future by careful segregation of the sufferers from their early childhood to their death.

It is grievous to consider the pitiful waste of time and goodness, skill, and money which is involved in treating this trouble temporarily, where it is recognised as existing, and in attempting to cure its symptoms, drunkenness, vice, and crime of every description, where it is not recognised. There is a deplorable futility in convicting a feeble-minded woman forty times, a deplorable loss of power involved in forty times putting all the machinery of the law in operation for one poor creature who was not responsible for her own actions and who should have been placed in happy safety before she was of an age to be dangerous to herself or to society.

It is sad to remember, too, how many charitable agencies are wasting their powers because they do not understand that it is impossible to "rescue" the weak-minded unless it is done once for all. People who deal with these children and see them under control behaving in decent and orderly fashion and generally accepting good habits are apt to forget that the control, and that alone, is the cause of the good behaviour, that so soon as this control is removed the patients are likely to succumb to any other influence which may be brought to bear.

So long ago as 1875 a special committee of the Charity Organisation Society summed up its report thus: "After the period of training a few may be discharged as cured and will become merged in the mass of the population. A large number may be employed as they often are now [employments specified 'at home,' 'in asylums,' &c.]. But, *after making all these deductions* a large proportion of the young persons who have passed through the training schools will prove unfit to be restored to society even under these modified conditions, and for these adult custodial asylums must be maintained at which they may be permanently cared for in the most economical manner, with the advantage of constant medical supervision. But such is the sustaining, healing influence of regular employment that even the adult asylums ought, as far as possible, to be managed on the principle of industrial establishments, having gardens, farms, and workshops of various kinds connected with them to one or other of which every patient capable of doing anything should be attached. Such a system properly carried out would diminish the expense of the institutions "

In connexion with this admirable suggestion it must be remembered that the feeble minded person can never become wholly self-supporting As the late Sir Douglas Galton said, he is in the most favourable circumstances worth only three fourths of a man. But in the least favourable circumstances he is worth considerably less than that. Putting aside for the moment the question of his own happiness or misery, it would be far cheaper to provide for him by supplementing his own earnings in an industrial home than to keep him as a criminal or a pauper

The thing can be done and now is the time to set about doing it. It is well known that these children, so long as they are children, are exceedingly persuadable and affectionate, and that they readily attach themselves to places and persons. When they have once become habituated to the life of the streets, when they have become parents they are much more difficult to deal with, are restless and uneasy and anxious for change and for the excitement which they have once tasted. The special classes provided under the *Elementary Education (Dull and Defective Children) Act* give us the first step necessary towards the permanent care which alone can be effectual in such cases. Children who are acknowledged to be fit subjects for special education in the sense determined by this Act should be under careful medical observation for the last few years of their school life with a view to ascertain whether they are really suffering from mental incapacity If they are they should immediately on leaving the day school (and in some cases before the time for their doing so has arrived), without any disastrous interval spent in learning the lesson of the streets, be transferred to a boarding school and thence again to an adult school, in which they might remain, working and playing, all their lives, children to the end, but happy harmless children, instead of dangerous and degraded ones

IMPROVEMENTS IN THE OPERATION FOR THE RADICAL CURE OF INGUINAL HERNIA BY THE USE OF SOME NEW INSTRUMENTS AND GOLD-WIRE SUTURES.

BY PROFESSOR IGINIO TANSINI,
DIRECTOR OF THE SURGICAL CLINIC IN THE ROYAL UNIVERSITY OF PALERMO

IN the operation for the radical cure of hernia the most careful attention to aseptic precautions is absolutely essential. It is an operation of great practical importance and it is now very frequently performed but its success is not rarely endangered by the occurrence of slight suppuration, while if the suppuration is extensive the result is a complete failure. This suppuration is in the majority of cases due to the use of silk or catgut as sutures. Silk is the better material of the two, for it is less readily absorbed and more easy to sterilise than is catgut, but in spite of very careful sterilisation silk is nevertheless found to cause suppuration in a large percentage of cases Suppuration sometimes occurs early, even within the first 10 days after the operation, sometimes, on the other hand, it is postponed and a perfectly successful operation in which primary union has been obtained is followed by suppuration after the lapse of even six or seven months. In the first case there is at least some risk of failure and relapses are possible, and since the patient's stay in bed is prolonged he is apt to imagine that the surgeon is directly responsible for the *mishap*

The circumstance that suppuration may follow healing by primary union, and may in fact not show itself until many months after a most successful result has been obtained, proves that the suture material has either been imperfectly sterilised or that it possesses some property, chemical or physical, which is capable of exciting suppuration or of acting as a focus of infection *conveyed through the blood* Relapses are the consequence of this defect, and relapses sometimes occur even after healing by primary union without any remote suppuration. Many attempts have been made to find a substitute for silk. Silver wire has been suggested and as it is inadvisable for the wire to be left in the wound removeable sutures have been devised, but these latter have for good reasons found little favour with surgeons (1) because they are more difficult of application than are the ordinary sutures; and (2) because if they are removed in 10 or 12 days the support is withdrawn too soon, while if they are left longer in position the duration of the treatment is correspondingly increased. In order that silver wire may have sufficient strength it must be of considerable thickness, and it is then open to the objection that in passing through Poupart's ligament it weakens it materially

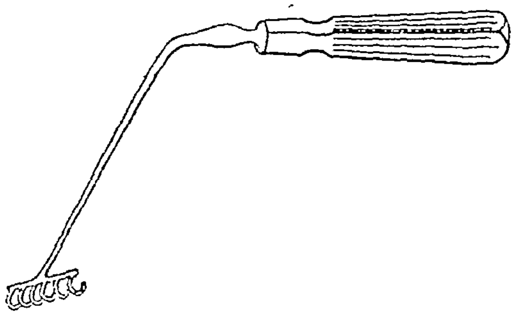
I recommend the use of gold as a material for sutures, for this metal may be drawn into wire which is not only finer than silk but is also stronger and more flexible With such a wire it is as easy to apply sutures as with silk and it cannot do harm as a foreign body The suture is fixed by twisting the ends three times and this requires less time than tying a silk suture. Using this suture and the new instruments to be presently described I have performed the radical operation for inguinal hernia within 10 minutes.

In performing *Bassini's* operation for inguinal hernia, or a modified Bassini, I use thick wire for the deep sutures and much thinner wire for the aponeurosis of the external oblique muscle, for ligaturing the neck of the sac I use the same wire as for the deep sutures and for suturing the sac, if necessary, I use the same wire as for the superficial sutures The ends of the deep sutures are seized with dissecting forceps and turned into the thickness of the internal oblique muscle, the ends of the superficial sutures, which are very thin, are left as they are. After making many experiments with a view to find the most ductile alloy and the smallest possible size of wire I was at last successful thanks to the energy and assistance of the firm of Messrs. E De Amici of Via San Sepolcro, Milan The cost of the wire may at first sight seem to be high but in actual practice the result is an economy The gold which remains in the patient's body weighs only from 12 to 60 centigrammes (from two to 10 grains), the ends of the wires can be preserved, re-melted, and used over again. Moreover, the surgeon may rely on there being no suppuration, especially if along with the gold wire he uses my instruments to be described presently The patient is not kept in bed more than for eight or 10 days, and there is only one dressing in order to remove the sutures inserted in the skin, which sutures may if desired be of silk Silk, however, is not in itself a cheap material, a good deal is required each time that it is used, and much *is apt to be wasted In order to avoid the* necessity of leaving ligatures in the wound I now use torsion for the vessels and I obtain perfect occlusion of them by leaving the artery forceps in position till the end of the operation

Of late years surgeons have given a great deal of attention to the subject of disinfection of the hands, but there are many points in connexion with it which still remain undecided. Gloves are not always worn At an operation the surgeon has always more misgivings about the disinfection of his assistants' hands than about that of his own, for he can avoid coming in contact with obvious sources of infection and can choose the day of operation, but, on the other hand, his usual or occasional assistants, from the nature and variety of their occupations, have more difficulty in keeping their hands clean, so that any device which would obviate the necessity for the assistants to touch the wound would be a great step in advance With the instruments which I have made there is no need for the assistants to touch the wound during an operation for inguinal hernia and the work of the surgeon is also in some degree facilitated In performing Bassini's operation and other similar operations for inguinal hernia I was often not quite satisfied with my assistants, especially with respect to the retraction of the edges of the incision in the aponeurosis of the external oblique muscle and with respect to the depression of the floor of the wound with a view to the easy application of the sutures It was also requisite for me to have two assistants, one of whom had a hand fully occupied with retracting the spermatic cord.

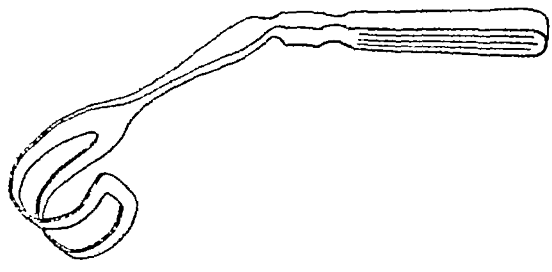
I have now been using my new instruments for more than a year The spermatic cord is intrusted to a hook (Fig 1) which by its own weight and without being held by anyone *keeps* the cord out of the way of the sutures, and the handle of the instrument, on account of its curve, remains close to the surface of the body The edges of the aponeurosis of the external oblique muscle which used to slip from the ordinary hooks or from the fingers of the assistants and were sometimes inadvertently included by the needle are now held wide apart and are well protected by two special hooks (Fig. 2) which act automatically and by their curve do not get in the way. The spatula (Fig. 3) serves also to depress perfectly the floor of the wound and to prevent the point of the needle from sinking into it; it thus facilitates passing the needle through Poupart's ligament. It also has a handle of such a length and shape that the hand of the assistant who holds it is some distance from the field of operation.

FIG. 1.



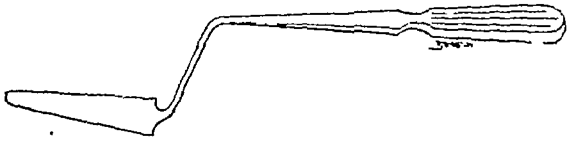
Hook for spermatic cord (actual length nine inches).

FIG. 2.



Retractor (actual length about 10 inches).

FIG. 3.



Spatula (actual length 12 inches).

As evidence of the value of the gold-wire sutures and of the usefulness of the instruments now described the following statistics may be quoted. My operations always included a fair proportion of successes, but before I devised these instrumental aids I had in every 20 cases to deplore one of either early or late suppuration and one relapse in every 70 cases. Now, however, operating in the same place and with the same assistants, out of 150 consecutive operations for the radical cure of hernia, of which not a few were of a serious nature either from their size or from adhesions or from the age of the patient, I have uniformly obtained healing in eight days without any suppuration, early or late, and without a single relapse.

Palermo.

BRISTOL CITY LUNATIC ASYLUM, FISHPONDS.—The forty-first annual report of the Visiting Committee of the Bristol City Lunatic Asylum which has just been issued states that at the end of 1901 the patients numbered 905—viz., 391 males and 514 females, compared with 814 patients (369 males and 445 females) at the close of 1900. The committee adds with regret that it has been necessary to grant Dr. H. A. Benham, the medical superintendent, six months' leave of absence owing to ill health.

A CASE OF PERFORATION OF THE RECTUM INTO THE PERITONEAL CAVITY; LAPAROTOMY; SUTURE; RECOVERY.

BY G. R. TURNER, F.R.C.S. ENG.,
SURGEON TO ST. GEORGE'S HOSPITAL.

A YOUTH, aged 17 years, was admitted into St. George's Hospital on April 17th, 1901, at 4.30 P.M. He said that he was trying to vault over a broomstick and he failed; the broomstick passed up into his rectum, tearing a hole in his trousers and causing much pain and hæmorrhage. On withdrawal the broomstick was covered with fæcal material for about two inches. He was taken to the hospital collapsed and suffering from much pain. He was pale and shivering and vomited three times in the surgery. He was examined by Mr. T. C. English, the house surgeon (to whom I am indebted for these notes), who found a tear of the anus about one inch posteriorly which passed up the posterior wall of the rectum for a short distance. He also thought that he could feel a rent of the anterior wall. The mucous membrane beyond was smooth and fæces were present some three inches from the anus. The examination was difficult and indefinite owing to spasm and pain. The patient was admitted into the hospital and about 10 P.M. he vomited again; there was now much hypogastric pain. The abdomen, which was rigid on palpation, moved well on respiration. I was sent for and at 11.30 P.M., eight and a half hours after the accident, an anæsthetic was given and a rectal examination in the lithotomy position was made. There was an extensive tear of the anterior wall of the rectum which passed through the recto-vesical fold of the peritoneum into the general peritoneal cavity. A sound passed through the rent was found to touch the anterior abdominal wall. There was also a wound of the rectum continuous with the tear of the anus posteriorly.

It was decided to perform laparotomy and, if possible, to suture the rent. A four-inch incision was made above the pubes, fæcal matter and foul fluid being found in the peritoneal cavity. After much difficulty a transverse rent two inches long was found in the peritoneum between the bladder and the rectum, the serous coat being stripped off the posterior wall of the bladder. The examination was aided by an assistant's finger in the rectum. By pulling on the bladder and by the aid of long clips the rent was eventually brought sufficiently near to the surface to admit of suture with catgut. This was effected by long curved needles on handles and a cleft-palate rectangular needle. The peritoneum was carefully cleaned by sponging both before and after suture of the rent and subsequently this neighbourhood was gently irrigated with warm water. The irrigation was not permitted to be more than a local one. A large glass drainage-tube was inserted and some strips of cyanide gauze were passed down to the peritoneal aspect of the rent. Another large tube was introduced into the rectum beyond the tear of the bowel.

The following are the notes of the progress after the operation. On April 18th the patient was doing well. There were no signs of peritonitis. No pain or vomiting was present. The pulse was good. The wound was dressed; much serous fluid came away from the drainage-tube. On each of the two following days the wound was dressed. The patient was doing well. There was slight serous discharge and some of the gauze plugging was removed. On the 22nd the wound was dressed, all the gauze plugging was removed, the glass tube was withdrawn, and a smaller india-rubber tube was inserted. Nothing came away from the rectum. On the 24th he was made to lie on his face to facilitate drainage. On the 26th a little flatus was passed by the abdominal wound. On May 1st the tubes were removed. The bowels had not acted since the operation. He was given half an ounce of castor oil. On the 2nd about one and a half ounces of fæcal material came through the abdominal wound. On the 3rd (16 days after the operation) more fæcal material flowed from the wound and a normal motion was passed by the bowel. On the 4th there was less discharge from the wound. The stitches were removed. On the 5th there was a normal motion by the rectum. On the 7th he passed a

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8849 births and 5015 deaths were registered during the week ending March 22nd. The annual rate of mortality in these towns, which had been 23·3, 20·5, and 19·6 per 1000 in the three preceding weeks, further declined in the week to 17·6 per 1000. In London the death-rate was equal to 18·8 per 1000, while it averaged 17·1 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·5 in Handsworth, 9·2 in Ipswich, 9·7 in Hornsey and in Grimsby, 9·8 in Barrow-in-Furness, 10·0 in Aston Manor, and 10·4 in West Hartlepool; the highest rates were 21·1 in Sunderland, 22·1 in Stockport, 22·9 in West Bromwich, 23·0 in Rochdale, 25·1 in Merthyr Tydfil, 27·0 in Devonport, and 29·7 in Burnley. The 5015 deaths in these towns in the week included 553 which were referred to the principal zymotic diseases, against 571, 601, and 617 in the three preceding weeks; of these 553 deaths 149 resulted from measles, 116 from whooping-cough, 93 from diphtheria, 68 from small-pox, 50 from scarlet fever, 46 from diarrhœa, and 31 from "fever" (principally enteric). No death from any of these diseases was registered in the week in Hornsey, Bournemouth, Ipswich, Norwich, Handsworth, Wigan, or Tynemouth; while they caused the highest death-rates in Willesden, West Ham, Walsall, Smethwick, Burnley, Blackburn, York, and South Shields. The greatest proportional mortality from measles occurred in Willesden, Northampton, Great Yarmouth, Grimsby, Warrington, Burnley, Rotherham, and York; from scarlet fever in Reading, Burton-on-Trent, and Burnley; from diphtheria in West Ham, West Bromwich, Salford, and Blackburn; from whooping-cough in Aston Manor, Liverpool, Middlesbrough, and South Shields; from "fever" in Smethwick; and from diarrhœa in Walsall. Of the fatal cases of small-pox registered in the week, 53 belonged to London, five to West Ham, three to East Ham, three to Tottenham, two to Swansea, one to Willesden, and one to Leyton. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals, which had been 1309, 1508, and 1542 at the end of the three preceding weeks, had further risen to 1567 on Saturday, March 22nd; 449 new cases were admitted during the week, against 369, 554, and 450 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2185, against numbers decreasing from 3137 to 2206 on the 12 preceding Saturdays; 258 new cases were admitted during the week, against 215, 277, and 266 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 733, 589, and 493 in the three preceding weeks, further declined during the week to 388, and were 83 below the corrected average. The deaths in London directly attributed to influenza, which had been 103, 89, and 67 in the three preceding weeks, further declined last week to 39. The causes of 50, or 1 0 per cent., of the deaths in the 76 large towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Salford, Leeds, and 45 other smaller towns; the largest proportions of uncertified deaths were registered in Smethwick, Liverpool, Wigan, Preston, and Halifax.

In 76 of the largest English towns 8139 births and 5175 deaths were registered during the week ending March 29th. The annual rate of mortality in these towns, which had been 20 5, 19·6, and 17·6 per 1000 in the three preceding weeks, rose again to 18·2 per 1000 last week. In London the death-rate was 18·4 per 1000, while it averaged 18·1 in the 75 other large towns. The lowest death-rates in these towns were 6·2 in Hornsey, 7 8 in Reading, 9 7 in Grimsby, 10·8 in Walthamstow, 11·3 in Burton-on-Trent, 11 7 in Bury, 12·1 in Leyton, and 12 2 in Handsworth; the highest rates were 21·3 in Manchester, 21·8 in Rhondda, 22·0 in Huddersfield, 22·1 in Stockport, 25 4 in Burnley, 26·0 in Wallsall, 26·1 in St. Helens, and 34·1 in Merthyr Tydfil. The 5175 deaths in these towns included 602 which were referred to the principal zymotic diseases, against 601, 617, and 553 in the three preceding weeks; of these 602 deaths 157 resulted from whooping-cough, 145 from measles, 93 from diphtheria, 68 from small-pox, 52 from scarlet fever, 49 from diarrhœa, and 38 from "fever" (principally enteric). No death from any of these diseases was registered last week in Hornsey, Bournemouth, Ipswich, Great Yarmouth, Devonport, Coventry, Derby, West Hartlepool, or Tynemouth; while the highest zymotic death-rates were recorded in Willesden, Bootle, St. Helens, Burnley, Blackburn, Barrow-in-Furness, Stockton-on-Tees, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in St. Helens, Burnley, Blackburn, Barrow-in-Furness, and Merthyr Tydfil; from scarlet fever in Walsall, Kings Norton, and Middlesbrough; from diphtheria in Birkenhead and Rhondda; from whooping-cough in Leyton, Plymouth, Wallasey, Stockton-on-Tees, and South Shields; and from "fever" in Northampton and Bootle. 68 fatal cases of small-pox were registered last week among persons belonging to the 76 large towns; of these, 61 belonged to London, two to Tottenham, two to West Ham, and one each to Croydon, Leyton, and Liverpool. There were 1526 cases of small-pox under treatment in the Metropolitan Asylums hospitals on Saturday, March 29th, against 1508, 1542, and 1567 at the end of the three preceding weeks; 389 new cases were admitted during the week, against 554, 450, and 449 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had decreased from 3137 to 2185 on the 13 preceding Saturdays, had further declined to 2147 at the end of last week; 250 new cases were admitted during the week, against 277, 266, and 258 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 589, 498, and 388 in the three preceding weeks, further declined last week to 360 and were 60 below the corrected average number. The causes of 63, or 1·2 *per cent.*, of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Manchester, Newcastle, and in 44 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Coventry, Wigan, Warrington, Barrow-in-Furness, Halifax, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 25 4 and 23·6 per 1000 in the two preceding weeks, rose again to 23·7 per 1000 during the week ending March 22nd, and exceeded by 6·1 per 1000 the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·5 in Perth and 18·2 in Greenock to 25·8 in Aberdeen and 26·3 in Paisley. The 767 deaths in these towns included 28 which were referred to whooping-cough, 25 to diarrhœa, 11 to measles, six to small-pox, five to scarlet fever, four to diphtheria, and four to "fever." In all 83 deaths resulted from these principal zymotic diseases during the week, against 69 and 85 in the two preceding weeks. These 83 deaths were equal to an annual rate of 2 6 per 1000, which was 0·7 per 1000 above the mean rate from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 20 and 23 in the two preceding weeks, further rose again in the week to 28, of which 15 occurred in Glasgow, four in Edinburgh, four in Aberdeen, three in Dundee, and two in Paisley. The deaths from diarrhœa, which had been 13, 17, and 23 in the three preceding weeks, further increased to 25 during the week, and included 12 in Glasgow, five in Dundee, four in Aberdeen, and two in Leith. The fatal cases of measles, which had been 14 in each of the two preceding weeks, declined in the week to 11, of which six were registered in Glasgow and two in Dundee. The deaths from small-pox, which had been 10, two, and seven in the three preceding weeks, decreased again to six and were all recorded in Glasgow. The fatal cases of scarlet fever, which had been seven and eight in the two preceding weeks, declined in the week to five, of which three were registered in Greenock. The deaths from diphtheria, which had been seven and six in the two preceding weeks, further declined to four in the week and included two in Edinburgh and two in Dundee. The four fatal cases of "fever" corresponded with the number in the preceding week and included two in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 230 and 189 in the two preceding weeks, rose again to 217 and were 91 in excess of the number in the corresponding period of last year. The causes of 30, or nearly normal motion. The wound was healing well. A slight but not foul, discharge came from the abdominal wound. On the 20th the wound had firmly healed and the patient was up and about. On the 30th, on examination the whole of the rectum was found to be healed and the rectal wall was quite smooth all round. On June 9th the patient was discharged. The temperature for a week after the operation was 99·2° F. at night, otherwise it was normal throughout.

I have been unable to find any case quite similar to this one. Fæcal extravasation into the peritoneal cavity following perforation of the rectum is a rare condition and I know of no case that has been successfully treated by laparotomy. Some years ago I operated on a case of perforation of the rectum and bladder by a branch of a tree. The patient was a boy who whilst climbing a tree fell and staked himself. I did not see him until more than 12 hours after the accident and although I was able to sew up the bladder rent I found his small intestine was also injured. He survived the operation about 24 hours. I attribute the recovery in the case related above mainly to the gauze packing and drainage and to our successful attempts to limit the contamination of the peritoneum to the parts immediately around the wound of the rectum. The suture of the rectal wound was very difficult. The stitches had to be put in as best one could and it was not at all certain that they were confined to the serous and muscular coats.

Half Moon-street, W.

A SHORT NOTE ON THE USE OF LINEN SEWING-MACHINE THREAD FOR LIGATURES AND SUTURES.

BY ARTHUR E. J. BARKER, F.R.C.S. ENG.,
SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

THE question what ligatures and sutures it is best to employ in any given case is one which must often engage the attention of all surgeons of any large experience. A mere glance at the list of materials employed at different times for the purposes in point must convince anyone that there is still a difference of opinion as to which is best. Most of us have, I suppose, in former times used the old hempen thread and silver wire, then catgut in all its forms, also kangaroo tendon and ox aorta, as well as silk of different kinds, silkworm-gut and horsehair, and, finally, celluloid hemp. Each has been shown to have its advantages but with each there is some drawback. The object of these few lines is to draw attention to a material certainly not new but which probably for its very commonness appears to have been but little used either as a ligature or suture material and which after an experience of nearly two years I find to possess many merits. This is *linen* thread now made for the ubiquitous sewing-machine of the tailor and seamstress. I have used this now in a very large number of cases during the last two years, indeed, almost exclusively and I find it to possess the following good points. In the first place, it can be procured everywhere all over the world wherever there is a depôt for Singer's sewing-machines for which, I believe, it is specially spun. It is relatively very cheap. It can be easily sterilised by boiling in plain water and then stored in methylated spirit. It is enormously strong and ties a most uncompromising knot. It is easy to work with and runs through the eye of any suitable needle easily, having been spun with special care in order to travel evenly through the sewing-machine needle. I have used several sizes and now limit these to three—viz., No. 40, which is as thick as need be desired for the abdominal wall or ligature of the larger arteries; No. 60, which is thinner but still very strong; and No. 90, which is as fine as can be desired, say, for a suture of the intestine. I find it convenient to procure No. 40 as a white thread, No. 60 in red, and No. 90 in black. I have prepared it by simply boiling it for an hour in ordinary water and then keeping it in spirit. A little of the dye comes out of the finer sizes in boiling but does not appear otherwise to alter the thread which can be boiled over and over again without rotting it.

One of the greatest tests of such a thread, to my mind, is an enterectomy or a gastro-enterostomy, and here I have given it a wide trial and have not yet known it to behave in any but the most satisfactory manner. Many of my patients are now going about with it in both stomach and intestine. But where it can be seen in the skin, as, for instance, in the long wound of a breast amputation, its non-irritating nature can be studied *where it has not been tied too tight*. It comes out at the end of 10 days or so just as it went in.

I cannot help thinking that to those who work in out-of-the-way places and who often find it difficult to obtain the usual traditional materials of good quality this *linen* thread will prove a boon. It probably is not absorbed at all but appears to be none the worse for this. Cotton thread is not strong enough in my experience for surgical ligatures and, moreover, rots if much boiled. But this *linen* material is different and the flax fibre of which it is made is long and very smooth.

Harley-street, W.

MENINGO-ENCEPHALOCELE.

BY EDGAR DU CANE, B.A., M.B. R.U.I.

AN infant, aged three and a half days, with a tumour in the occipital region, was brought to me by the midwife for operative treatment. The mother, aged 35 years, had had five healthy children at full term and one still-born, the cause being unknown, and the present child was born after an interval of 10 years. No particular difficulty appeared to have occurred during labour and apart from the tumour the child appeared well-nourished and to have been born at full term. The tumour was found to be two-thirds the size of the child's head, globular in shape, and connected with the occipital region by a large circular peduncle covered with hair. The skin at the posterior portion was much thinner than elsewhere, being practically only membrane. Pulsation occurred when the child cried and besides the presence of fluid, evidenced by fluctuation, there were some solid contents. The connexion with the cranial cavity seemed to be between the centres of ossification of the occiput. I diagnosed the case as one of meningo-encephalocele and having explained to the parents the probability of a fatal termination whether an operation was performed or not I proceeded at their request to remove the tumour.

Having rendered the parts aseptic I aspirated four ounces of fluid and then, dissecting the skin back from the membranes, I separated each layer in the manner of treating a strangulated hernia and finally came upon the posterior portions of both occipital lobes. As these could not be returned into the cranial cavity I carefully excised the protruding portions which on examination proved to be immediately behind the angular gyrus. Bleeding vessels were tied or twisted, membranes were removed, and the edges of the membranes were stitched together; the skin was sutured and a firm pad of antiseptic gauze was applied. The child cried, took the breast, passed urine and defecated naturally, and presented no signs of paralysis and no convulsions. The wound healed rapidly without suppuration and only on the third day was there any rise of temperature, when it reached 100° F., falling on the same night. After 14 days of uninterrupted progress the child had a convulsion and finally died 16½ days after the operation.

The post-mortem examination showed almost complete cicatrisation of the cerebral lesion, but the brain was adherent to the membranes and the latter to the operation wound. There were no pus and but little fluid in the cranial cavity nor was there any great distension of the ventricles. Apart from the cicatrisation extensive congestion was absent.

My reasons for operating were as follows. 1. The disease, if left alone, is usually speedily fatal.[1] 2. Dr G. A. Wright of Manchester[2] says that "attempts have been made to excise the tumours with sufficient success to encourage further trials in selected cases." 3. Dr D. Ferrier[3] states that "though the occipital lobes are included in the visual centres it is nevertheless a remarkable fact that they can be injured, or cut off bodily, almost up to the parieto-occipital fissure on one or both sides simultaneously without the slightest appreciable impairment of vision." He further adds[4] that "Horsley and Schäfer inform him that the results of removal of the occipital lobes in their experiments entirely harmonise with his as to the completely negative effect of this operation on the animal's visual and other faculties." Schatz[5] records a cure in three cases by *constricting* the peduncle with clamps. Dr. Wright[6] excised an occipital meningo-encephalocele in which a piece of the cerebellum of the size of a walnut was removed. The child recovered though it developed hydrocephalus after the operation. Sir Eric Erichsen[7] mentions a case in which a portion of the brain—whether cerebrum or cerebellum is not stated—was sliced off, the patient surviving, but he gives no further particulars and no reference to any records of the case. Mr. T. R. Jessop[8] of Leeds records a successful case of excision but there was no protrusion of cerebral substance or distinct communication with the cranial cavity. Professor T. Annandale[9] in a case where sloughing of a portion of the tumour was taking place ligatured the peduncle and removed the tumour, the child recovering completely in spite of an attack of measles. Dr. Wright in a private communication to me says that "so far as he remembers the other cases he has operated upon have all been meningoceles only."

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[1] Erichsen: ninth edition, vol. ii., p. 554.
[2] Ashby and Wright: Diseases of Children, fourth edition, p. 571.
[3] Functions of the Brain, second edition, p. 273.

I feel that the partial success attending operative measures in this case would justify me in again attempting removal in a similar case.

Swindon.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Procemium.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

A CASE OF PERFORATED DUODENAL ULCER; CŒLIOTOMY; RECOVERY.

(Under the care of Mr. R. H. LUCY.)

THE diagnosis of duodenal ulcer is often extremely difficult. It is certainly more common in men than in women; according to Krauss's statistics nearly 10 cases occurred in men for one case in a woman (58 cases to six). In the following instance the sex of the patient and the fact that the abdominal rigidity was specially marked to the right of the middle line pointed to the perforation being situated in the duodenum rather than in the stomach. The differential diagnosis, however, is not of any great importance when perforation has occurred, for laparotomy must be performed in either case Especially noteworthy in the case recorded below is the fact that after recovery from the operation the patient was no longer troubled by the dyspeptic symptoms from which he had suffered for two or three years.

A horse-driver, aged 61 years, was lifting some poles on to a wagon in the afternoon of Jan. 10th, 1898, when he felt a severe sharp pain about one inch above, and to the right of, the umbilicus. He walked home, put up the horses, and about 5 P.M. commenced "to cry and groan" with pain and vomiting set in. For two or three years previously he had suffered from pain at the close of nearly every meal and for his own comfort kept to "slops," but he had never had hæmatemesis or melæna. His wife considered the present attack to be an aggravation of his dyspepsia but eventually called in Mr. C. H. Stevens of Plympton who sent the man into the South Devon and East Cornwall Hospital under the care of Mr. R. H. Lucy about noon on the following day.

On admission the upper abdomen was very rigid and tender (though retracted), particularly to the right of the middle line. *As the signs and symptoms pointed to* duodenal perforation having occurred some 20 hours before Mr. Lucy opened the abdomen in the middle line and found turbid bile-stained fluid. On searching a small punched-out ulcer in the second part of the duodenum was found and was with great difficulty sutured transversely with Lembert sutures of fine silk. The right kidney pouch and the under surface of the liver were cleansed of fluid and lymph but a drain was not employed. The parietes were united with great difficulty owing to the tautness of both recti which persisted even under deep anæsthesia. The patient made a good recovery and was last seen on Jan. 19th of this year, just over four years after the operation. He was then well and hearty, was able to do a hard day's work, had put on flesh, and could "eat anything" without the slightest discomfort, though absolutely edentulous, and the bowels acted naturally every day. Unfortunately the scar had given way and there was a large ventral hernia with wide separation of the recti, but it was perfectly reducible and with the wearing of a stout belt he suffered no inconvenience.

Remarks by Mr. LUCY.—Judging from Mr. B. G. A. Moynihan's paper in THE LANCET of Dec. 14th, 1901, p. 1656, and the cases reported by Dr. Cyril Ogle and Mr. A. Marmaduke Sheild in THE LANCET of March 29th, p. 890, the notes of the above successful operation (for which I am mainly indebted to our late house surgeon, Mr. J. Dill Russell) may be of value. The points of interest are, I think, as follows: (1) the history of indigestion at the close of meals but never any hæmatemesis or melæna; (2) the fact that the patient *walked* home nearly half a mile and put up his horses without help and did not take to his bed for one and a half hours after the perforation had occurred; (3) the actual retraction of the epigastrium some 19 hours after extravasation of duodenal contents and the rigidity of the right rectus when compared with the left muscle; and (4) the difficulty experienced in suturing the parietes with the subsequent giving way of the scar is a result which determines me now when opening the abdomen above the umbilicus to enter between the separated fibres of one or other rectus.

PLYMOUTH BOROUGH ASYLUM.

A CASE OF PERFORATING GASTRIC ULCER; LAPAROTOMY; RECOVERY.

(Under the care of Dr. W. H. BOWES and Mr. R. H. LUCY.)

THE percentage of successes in the operative treatment in perforation of gastric ulcer is steadily increasing with the increasing early recognition of gastric perforation. Unfortunately it is often very difficult to diagnose a gastric ulcer in the absence of hæmatemesis, otherwise perforation might be rendered rarer than it is at present. The following case demonstrates the importance of keeping the stomach empty in the interval between diagnosing gastric perforation and the operation. In all cases of perforating gastric ulcer it is desirable that bacteriological examination should be made of the peritoneal contents, for the issue of the case must depend in no small degree on the form of microbic infection present.

A nurse, aged 25 years, with a history of 18 months' indigestion, was taken with sudden pain and "a feeling of something having burst inside her" at 5.30 P.M. (after a meal of tea and fried potatoes) on Dec. 17th, 1901. At 7 P.M. she went to bed and on her own initiative took a draught containing 20 grains of chloral and 20 grains of potassium bromide. Becoming worse she was seen by the medical officers at 9.30 P.M. who found her collapsed, in excruciating pain, with rigid abdomen and great epigastric tenderness. She had vomited slightly (no blood) twice. A perforating gastric ulcer was diagnosed; a hypodermic injection of morphia was given, turpentine stupes were applied, and she was ordered to keep as still as possible and not to take anything by the mouth. On the morning of the 18th Mr. R. H. Lucy was asked to operate. At 10.30 A.M. the abdomen was opened through the left rectus muscle and on incising the thickened vascular parietal peritoneum gas escaped freely, together with bile-stained mucus. An ulcer three-sixteenths of an inch in diameter was found on drawing down the lymph-coated anterior stomach wall in the line of the parietal incision and half an inch below the margin of the liver. The perforation was closed with eight or nine Lembert sutures of silk, the left kidney pouch was carefully dried out, and the omentum and transverse colon were cleansed and replaced. For 60 hours after the operation nothing was given by the mouth. Nutrient and saline enemata relieved the thirst. Fluid diet was then commenced with two-drachm doses half-hourly of milk-and-water and gradually increased. Light farinaceous (Benger's) food was first given on the 25th and after that date she gradually advanced to ordinary rations. On the 22nd for a few hours there were severe pain and collapse. There was some foul suppuration around the skin sutures for which chinosol fomentations were used. The sutures were removed on the ninth and tenth days. The patient left her bed on Jan. 1st and returned to duty on Jan. 18th. She is now in excellent general health and has *not had indigestion since the operation.*

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[4] Op. cit., p. 276.

[5] Berliner Klinische Wochenschrift, 1885, No. 28, p. 371.

[6] Op. cit., p. 572.

[7] Op. cit., p. 556.

[8] Brit. Med. Jour., Dec. 30th, 1882.

[9] Erichsen, vol. ii., p. 556.

Remarks by MR. LUCY.—The foregoing case is of interest as showing the value of early accurate diagnosis and the effect on the post-operative progress of withholding strictly everything by the mouth when perforation is once diagnosed. The history of precedent dyspepsia, a tender epigastrium, and occasional vomiting, together with the sudden onset of pain and collapse, the rapid thoracic respiration, tympany over the whole liver area, but marked dulness in the left hypochondriac and lumbar regions, all made up a clinical picture of sudden gastric perforation. Cœliotomy was performed about 17 hours after perforation and the ultimate good result was largely due to the withholding of all oral feeding by Dr. Bowes and Dr. H. B. Wilkinson. The absence of hæmatemesis here (as in all perforating cases that I have so far seen) is noteworthy.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tropical Abscess of the Liver.

THE following concludes our report of the meeting of this society held on May 13th (*vide* THE LANCET, May 17th, p. 1397).

DR. PATRICK MANSON, in discussing MR. RICKMAN J. GODLEE's paper on Tropical Abscess of the Liver (which is published at p. 1452 of our present issue), said that the operation he had suggested—namely, plunging in a trocar and inserting a drainage-tube through it, was only suitable for ordinary use or in tropical countries where experienced surgeons were not so plentiful. It was a simpler operation. He would like to ask why it was that abscesses in the upper part of the liver extended the liver dulness upwards instead of lowering the liver as a whole. He doubted if the escape of a little pus into the peritoneum in these cases was attended by very great danger.

DR. A. CROMBIE remarked that he had been treating cases of hepatic abscess for 30 years. It was the practice in India to use Dieulafoy's aspirator and in small abscesses this was sufficient and the patient recovered. Even in larger abscesses one or two such operations were sufficient. In one case he had aspirated 14 times and the case resulted in recovery. He thought that all suitable cases should be treated in this way, at any rate in the first instance. In all his cases he had never found it necessary to stitch the liver to the wall before opening the abscess. He quite agreed with Dr. Manson that no damage resulted, as a rule, from the leakage of pus into the peritoneum.

MR. JAMES CANTLIE had used Dr. Manson's trocar in 34 cases in all and thought that its convenience was very great; very often the surroundings of such cases were very unfavourable. The danger of hæmorrhage from a hepatic vein was also obviated in this way. The drainage-tube should be an indiarubber one.

DR. W. G. ROCKWOOD had operated on upwards of 100 cases in 25 years. He had employed the method suggested by Dr. Manson many times. In his earlier cases he aspirated. He sometimes found it necessary to aspirate a second or third time. Lately it had been his practice to excise a portion of the rib.

MR. GODLEE, in reply, said he was bound to confess that he had not seen any very serious consequences from the escape of the pus into the peritoneum, but on one occasion the patient had some pain which might have been produced in this way when the liver was not stitched to the abdominal wall. As regards aspiration this suggestion had been made in cases of empyema, but sooner or later they always *needed a more complete operation.*

PATHOLOGICAL SOCIETY OF LONDON.

Infective Lesions of the Tongue, Stomach, and Intestines in Addison's Anæmia (Pernicious Anæmia).—Joint Lesions in Hæmophilia.—Congenital Atresia of the Small Intestine.—Fibrinous Cast of the Gall-bladder.—Hæmorrhage into the Adrenal Bodies.—Disseminated Carcinoma simulating Tubercle.—Annual General Meeting.

A MEETING of this society was held on May 20th, MR. W. WATSON CHEYNE, C.B., the President, being in the chair.

DR. WILLIAM HUNTER made a communication on the Infective Lesions of the Tongue, Stomach, and Intestines found in Addison's Anæmia (Pernicious Anæmia). This paper (which was illustrated by a lantern demonstration) was an extension of the researches previously recorded.[1] The present results were based upon 25 cases of pernicious anæmia which had come under his (Dr. Hunter's) observation during the past two years. In pernicious anæmia (the disease described by Addison in 1855) there was a hæmolysis which was not found in the numerous other varieties of anæmia described by various authors and which were attributed by them to a great variety of causes, such as poverty, ulcer of the stomach, ankylostomiasis, hæmorrhages, &c. Sepsis alone was incapable of giving rise to true pernicious anæmia, for in septic anæmia there was no evidence of hæmolysis in the liver. The evidence on which Dr. Hunter's conclusions had been based was of three kinds—(1) the prevalence of oral sepsis (gingivitis, decayed teeth, &c.) in connexion with the disease; (2) the existence in these cases of a subacute infective gastritis as one result of long-continued oral sepsis and mucoid vomit containing streptococcus longus; and (3) the occasional prevalence of infective lesions in the mucosa of the alimentary canal, probably having a similar origin. The present communication was based on the bacteriological and histological examination of the 25 cases recently observed. Necropsies had been performed on seven of these, from which 1145 sections had been made and some 250 cultures had been made. A peculiar form of glossitis had been found in every one of the 25 cases. Special observations had been made on the tongue, clinical and anatomical. There was great thinning of the mucosa which in places was quite wanting, so that the *lymphatics of the tongue* were practically in direct continuity with the buccal cavity. It was this thinning of the mucosa which produced the glossy condition of the surface of the tongue which Dr. Hunter regarded as quite peculiar to the disease. He had obtained pure cultures of streptococcus longus from the lymphatics of the tongue. These had been injected into mice and killed them in six or seven days. The only other disease in which anything resembling this condition of tongue was psilosis, but Dr. Hunter was not sufficiently familiar with the latter disease to speak definitely. In the *stomach* he had found an inflammatory condition of the mucosa extending down almost to the submucosa. The epithelium was thrown off in large quantity as mucoid vomit and in the final stage complete atrophy of the gastric mucosa occurred. Marked lesions in the intestines had also been found. The mucoid vomit which was vomited in the morning contained pure cultures of *streptococcus longus.* The conclusion which Dr. Hunter had arrived at was that there was a double infective process: (1) a specific infection, of which the chief evidence was a glossitis; and (2) a septic infection of the mouth, stomach, and intestine, of which the chief evidences during life were varying degrees of "oral sepsis" and "septic gastritis," the latter recognisable during life by the vomit and various symptoms of oral gastric and intestinal disturbance, and after death the conditions of gastritis, gastric atrophy, intestinal atrophy, erosions, or ulcers now and again found in the disease.

MR. A. LUCAS (Birmingham) exhibited an Unusual Variety of Joint Lesion in a case of Hæmophilia. The patient was a boy, aged 10½ years, who had been an out-patient under the care of Mr. Lucas for about four years, suffering from hæmophilia and who was accidentally drowned whilst at play. He had had repeated hæmorrhages into the knee-joints, more frequently into the right joint. There was much enlargement of this joint, the synovial membrane was thickened, and the ends of the bones also appeared to be enlarged. There were no adhesions; the synovial membrane was thickened and the fringes were hypertrophied and stained from the repeated hæmorrhages. The cartilages were slightly lipped at their free margins as in osteo-arthritis. The articular surfaces showed many irregular pits where in places the cartilage had entirely disappeared. This condition was most marked where there had been pressure of the cartilaginous surfaces, but there appeared to be no rubbing away of the cartilage.

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[1] THE LANCET, Jan. 27th (p. 221) and Feb. 3rd (p. 296) and 10th (p. 371), 1900.

Mr. LUCAS also communicated a case of Congenital Atresia of the Small Intestine which had occurred in a male child, aged three days, who was admitted into the Birmingham General Hospital with symptoms of intestinal obstruction including fæcal vomiting.

Dr. H. D. ROLLESTON showed a Fibrinous Cast of the Gall-bladder removed during Cholecystotomy by Mr. Herbert Allingham from a woman, aged 52 years. The gall-bladder was much enlarged and adherent to adjacent parts. It contained a large single gall-stone of the size of a walnut which was enveloped in a fibrinous cast. The cast was easily separable from the walls of the gall-bladder and resembled a dysmenorrhœic cast of the uterus. Histologically the membrane was composed of a fibrinous network inclosing crystals and bile pigment. The case was an example of fibrinous or membranous cholecystitis. This lesion was not analogous to that of mucous colitis where the intestinal casts were composed of coagulated mucus.

Dr. CLIVE RIVIERE exhibited four specimens of Hæmorrhage into the Suprarenal Capsules from cases occurring at the Shadwell Children's Hospital. The cases were characterised clinically by vomiting, diarrhœa, a purpuric eruption, and a high temperature, and ran their course to a fatal termination in from 12 to 48 hours. The condition of the suprarenals was different from that of circumscribed hæmorrhage since there was a diffuse infiltration with blood. Besides the suprarenal lesion in these cases there was swelling of Peyer's patches and mesenteric glands. It was suggested that the cause might be food toxins or a toxæmia due to a bacterial infection of the intestine. The former seemed unlikely from the insidious course of the early symptoms. The latter explained the condition most satisfactorily.

Dr. F. J. SMITH exhibited specimens from a case of Disseminated Carcinoma simulating Tubercle.

The annual general meeting was held at the conclusion of the ordinary meeting. The report of the council was read and adopted. The re-arrangement of the society's meetings had lead to a satisfactory increase in the attendance of members. A general index of the Transactions had been issued. Owing to the expense of printing the Transactions it would be desirable to adopt some means of retrenchment in the society's expenditure.—Votes of thanks were proposed and carried to the retiring President, Vice-Presidents, members of council, and secretaries.

The following officers and council were duly elected for the year 1902-3:—President: the Right Hon. the Lord Lister. Vice-Presidents: Mr. R. J. Godlee, Dr. W. D. Halliburton, Dr. E Klein, and Dr. F. W. Pavy. Treasurer: Dr. Sidney Coupland. General secretary: Mr. S. G. Shattock. Sectional secretaries: Dr. H. Morley Fletcher, Mr. A. G. R. Foulerton, Dr. T. Grigor Brodie, and Dr. A. E. Garrod. Council: Dr. R. Crawfurd, Dr. J. Fawcett, Dr. L. Freyberger, Dr. N. Dalton, Dr. G. F. Still, Dr. T. W. P. Lawrence, Dr. S. H. Habershon, Dr. F. W. Andrewes, Dr. W. Bulloch, Dr. John McFadyean, Dr. Allan Macfadyen, Mr. H. G. Plimmer, Dr. R. T. Hewlett, Dr. W. S. Lazarus-Barlow, Dr. J. R. Bradford, Dr. E. H. Starling, Mr. C. A. Ballance, Dr. F. G. Hopkins, Dr. V. Harley, and Dr. S. G. Hédin.

OBSTETRICAL SOCIETY OF LONDON.

Fibroid Tumour of the Ovary.—Lymphangitis Mammæ.—Exhibition of Specimens.

A MEETING of this society was held on May 7th, Dr PETER HORROCKS, the President, being in the chair.

Dr. JOHN S. FAIRBAIRN read a paper on Five Specimens of Fibroid Tumour of the Ovary, with Observations on their Pathological Anatomy. Attention was first directed to the descriptions of these growths as given in the text-books and monographs on the subject. The general statement was that these tumours were formed by hyperplasia of the whole stroma, so that the organ was converted into a hard tumour retaining more or less the original shape of the ovary. Five specimens, varying in size from a small growth of the size of a hen's egg up to a large tumour of over four pounds in weight, were described in detail. In all of them the new growth had arisen within the ovary and affected only a portion of the stroma, leaving a considerable part of the organ as a separate and easily recognisable structure. The microscopic appearances were also noted and a short clinical history of the cases from which they were obtained was added. After looking through a large number of recorded cases of fibroma and fibro-myoma of the ovary, some 15 or 16 were selected as similar to those described in the paper and a short abstract of them was given. When such specimens had been shown at societies they had given rise to some discussion from the unusual persistence of a portion of the ovary. The number of instances quoted, together with the five specimens under review, was sufficient to show that the descriptions usually given were misleading. While the difficulty of detecting unstriped muscle cells among fibrous tissue cells was acknowledged, the evidence of a comparative examination of sections from these tumours appeared to be in favour of their being considered fibromata. The sections provided a very good opportunity of contrasting the minute structure of the growth with the ovarian stroma from which they had originated; the results of such a study were adduced in favour of considering these firm hard growths of the ovary as simple fibromata and not as fibro-sarcomata. The question of these tumours arising from a chronic oöphoritis was discussed very briefly and the importance of the tunica albuginea in forming a strong covering to ovarian growths was pointed out. In conclusion, the fibromata of the ovary were divided into three classes for purposes of description. 1. The ovary was entirely replaced by the new formation. This occurred in small as well as large growths and therefore did not depend on the size to which the growth had attained. 2. A local growth of the stroma leaving part of the ovary unaffected, except by compression. The growth tended to remain within the capsule of the ovary. 3. Pedunculated fibromata like subperitoneal fibroids of the uterus. These might either have originated in the stroma and later been extruded or they might be growths of the tunica albuginea.—Mr. ALBAN H. G. DORAN maintained that the three specimens which he exhibited that evening in relation to Dr. Fairbairn's important paper implied that fibroma and myoma of the ovary were distinct diseases. The section of the large fibroma showed perfect wavy white fibre, as did the section of the little solitary fibroma not half an inch in diameter. The myoma, unlike the two fibromas, was closely related to the ovarian ligament, which included muscular tissue derived from the uterus. On section it showed plain muscle cells, precisely as seen in a section of a myoma of the uterus. Œdematous fibroids were once taken for sarcomas of the ovary; subtracting these suspected malignant growths from the malignant solid tumours of the ovary they would probably find that carcinoma of the ovary was much more common than sarcoma, as Martin had demonstrated, whilst fibroma, innocent even when looking malignant, was by no means rare. There were plenty exhibited that night. Mr. Doran noted how the tube and mesosalpinx often underwent little or no hypertrophy in fibroma, so that when the tumour was large it was rather difficult to get at the pedicle.—Mr. J. BLAND-SUTTON congratulated Dr. Fairbairn on establishing the fact that the encapsulation of the tumour could be relied upon as a generic and distinguishing feature. When the fibroid was of moderate size, as in the smallest specimen of his series, the disproportion between the ovary and the tumour was not so marked; but when the mass had a circumference of 10 or even 30 centimetres, or more, then the small bud-like remnant of the ovary at the uterine end of the tumour appeared to be very incongruous. The leading features of these tumours could be summarised thus: encapsulation, ovoid shape, intense hardness, and the whorled disposition of the tissue as displayed on the cut surface. These were a group of signs presented by no other tumour of the ovary and their clinical value was equal to their simplicity. There was an important feature by which ovarian fibroids were distinguished from similar tumours in the uterus. It was well-established that uterine fibroids did not arise after the menopause, whereas ovarian fibroids occurred in the aged, and on two occasions Mr. Bland-Sutton had successfully removed them at the ages of 64 and 66 years and the clinical histories indicated that the tumours had only been noticed two years before removal. The extreme hardness of these tumours was a valuable clinical sign and in one of the cases in Dr. Fairbairn's series Mr. Bland-Sutton was able accurately to diagnose the character of the tumour from this sign alone. The paper was a valuable one, even if only regarded from the point of view that its author had rescued a genus of tumours from a group notorious for containing members with extremely bad characters.—Dr. GRIFFITH fully agreed with the conclusion arrived at by Dr. Fairbairn in his interesting paper. He had endeavoured to show in the paper referred to by Dr. Fairbairn that all tumours of the ovary, whether cystic or solid, were in the main structure of their solid parts connective tissue derived from, and having the essential character of, the spindle-celled stroma of the normal organ. Corpora fibrosa were physiologically the ultimate stages of the corpora lutea and where they were enlarged their structure appeared to remain of the special character of the normal bodies and not spindle-celled.—Dr. H. BRIGGS said that amongst his original cases and amongst recent ones he had figured and noted circumscribed growths to which Dr. Fairbairn had paid conspicuous attention. The early writers were correct in alluding to both diffuse and circumscribed growths.' Dr. Briggs suggested that Dr. Fairbairn had shown a want of courage in selecting fibroids, and not fibromata, as the title of the paper founded on the five cases which he had described. Mr. Alban Doran's specimen exhibited that night, if not actually a myoma, was the nearest approach in its microscopical characters to a myoma of any he had ever seen. Dr. Briggs thought that that would be a general opinion which meanwhile, in the face of so much evidence to the contrary, might be held in reserve. The main danger had been, as Mr. Bland-Sutton said, in ascribing malignant properties to cellular structures without adequate clinical proof. In Dr. Briggs's experience this impeachment was not limited to gynæcologists. The proof of the innocence of cellular growths described as fibromata of the ovary had been substantiated by Mr. Alban Doran and himself in the published paper referred to by Dr. Fairbairn. Dr. Briggs cited the case in which he operated almost immediately after he had published his paper. In a girl, aged 17 years, there was a large, brain like solid growth of the ovary. The girl was still alive and was an active hospital nurse. The tumour was proved to be a highly cellular growth, a myxoma. The rarity, as alleged, of fibromata of the ovary was not justified by facts which had now accumulated. Dr. Briggs added that all his patients from whom he had removed these tumours still lived.—Dr. HERBERT R. SPENCER was surprised at the number of writers cited by the author who regarded ovarian fibroids as diffuse growths involving the whole of the ovarian tissue. His own experience was opposed to such a view, for out of five cases under his own care in four the growth was very definitely limited to a portion of the ovary, and in the fifth (a large tumour) he thought possibly the tumour was so limited, but without spoiling the museum specimen by a series of thin sections it was impossible to settle this point. Ovarian fibroids were certainly benign growths and had much in common with uterine fibroids. The latter did not involve the whole tissue of the uterus but sometimes displaced and compassed it to a remarkable extent. It seemed to him most unlikely that such a benign fibroid growth would invade and destroy the whole of the tissue of the ovary and, as a matter of fact, in the five cases alluded to and in several others he had seen it did not do so. A most interesting point in connexion with these growths not alluded to by any speaker was their origin. Two of his cases suggested, and a third, he thought, clearly demonstrated, the origin of an ovarian fibroid in the tunica fibrosa of a Graafian follicle. This mode of origin had been mentioned by Rokitansky, though he did not know upon what evidence. Patenko's corpora fibrosa were, as Mr. Alban Doran had pointed out, merely degenerated corpora lutea and were entirely different in structure from the fibroids.—The PRESIDENT pointed out that these tumours and also sarcomatous and malignant tumours generally differed from fibroids in that the cut surfaces remained flat, like a cut raw potato, whereas fibroids always became slightly convex on the cut surfaces immediately on being incised, and this convexity gradually increased owing to the shrinking of the elastic and muscular fibres. He considered that it was of great importance to be able to say that a given tumour was a fibroma and innocent, or a sarcoma and malignant, and he hoped the work of Dr. Fairbairn would assist in this direction. He mentioned a case which he had shown himself where equally competent observers had expressed diametrically opposite opinions regarding the microscopic sections. So far as he had gathered the chief distinction seemed to be that in fibromata the blood-vessels were much more clearly defined, but he wished to know if this could be relied upon in deciding.—Dr. FAIRBAIRN briefly replied.

Dr. RALPH H. VINCENT made a communication on Lymphangitis Mammæ, an affection of the breast arising about the tenth day of the puerperium, with well-marked clinical features. He brought forward the notes and temperature charts of six cases illustrating this condition. These cases showed the following clinical signs. There was a wedge-shaped area of inflammation, the apex being at the nipple, the base being at some part of the junction of the breast with the chest-wall. This wedge-shaped area was red, slightly œdematous, hot to the touch, tender, and indurated, the induration being distinctly outlined and definitely corresponding with the redness. The inflamed area was raised above the general breast-surface, but the inflammation was confined to the superficial structures and did not involve the mammary gland. During the development of this condition the temperature rapidly rose, the patient complained of pain in the breast and of headache, whilst constipation was frequently present. The treatment required was simple; the infant was taken from the breast, hot fomentations were applied to the inflamed part, and the patient was freely purged. Within about 48 hours the affection disappeared. He attributed the condition to an infection conveyed to the nipple from the lochia serosa.—Dr. AMAND J. M. ROUTH asked if Dr. Vincent was sure that some of his cases were not small mammary abscesses which had opened suddenly into one of the larger milk-ducts, thus accounting for the sudden cessation of all the symptoms.

Specimens of Fibroma and Myoma of the Ovary were shown by Mr. ALBAN DORAN, Mr. STANLEY BOYD, and Mrs. STANLEY BOYD, M.D.

Dr. W. F. VICTOR BONNEY showed a specimen of very early Twin Pregnancy with Fœtuses of different dates, also a specimen of Early Pregnancy.

Dr. TATE, having shown a Sarcoma of the Uterus complicated by Glycosuria and removed by Vagino-abdominal Hysterectomy, the case was discussed by the PRESIDENT, Dr. M. HANDFIELD-JONES, and Dr. MALINS.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

PATHOLOGICAL SECTION.

Continued Fever due to Gärtner's Bacillus.—Exhibition of Specimen.

A MEETING of this section was held on May 2nd, Professor E. J. MCWEENEY, the President, being in the chair.

Dr. JAMES CRAIG and Professor A. H. WHITE communicated a paper on a case of Continued Fever due to the Bacillus Enteritidis of Gärtner. Dr. Craig said that the patient was an unmarried man, aged 22 years, of temperate and regular habits. About Sept. 18th, 1901, he complained of not feeling well; on the 24th he had shiverings, felt worse, and during the next few days vomited several times; he had slight diarrhœa but felt no pain. On the 30th he visited the Meath Hospital, Dublin, where he came under Dr. Craig's notice. His temperature was 103° F., his pulse-rate was 100, and his respirations were 24; his tongue was furred with a creamy matter, though clean at the tip and along the margins, and when protruded it was seen to be ataxic. He was covered on the front and back of the trunk with rose spots and was suffering from diarrhœa, the stools being thin and yellowish. Typhoid fever was diagnosed and the man was admitted to hospital. The following day the temperature was 104°, his cerebration was slow, he was disinclined to talk, lay on his back, had an eruption of herpes labialis, and in the evening his temperature reached 104·6°. The rash became darker. Sir John Moore saw him in consultation and recommended his removal from the ward, as he looked on the case as one of typhus fever. Professor White examined the blood-serum and found that Widal's reaction took place with a 1 in 25 dilution. During the following days his condition became worse and the diarrhœa more frequent but without either pain or tympany; his spleen was distinctly enlarged. He now refused nourishment and became wildly delirious, having to be held down; he passed his fæces and urine under him unconsciously. He was given black coffee and hypodermic injections of strychnine but no alcohol. He died on the eleventh day after admission to hospital. The necropsy revealed an enlarged spleen and a condition of inflammation of the mucous membrane throughout the length of the small intestine but no enlargement or ulceration of Peyer's patches. Professor White said that the small intestine did not present the ordinary lesions of typhoid fever; the whole mucous membrane was inflamed. The spleen was enlarged and from it he obtained a pure culture of an organism which, though at first sight it appeared to be the typhoid bacillus, he now considered to belong to the bacillus enteritidis group. The organism was a motile bacillus which decolourised by Gram's process and did not liquefy gelatin or coagulate milk; it caused fermentation of glucose but not of glycerine. Professor White exhibited about 20 different cultures of this organism on various media and similar cultures of the typhoid bacillus, bacillus coli, and two known varieties of the bacillus enteritidis given him by Professor O'Sullivan. He had not immunised an animal against this organism but hoped to do so in order to determine, if possible, to which of the varieties of the bacillus enteritidis group this organism belonged. The blood serum from some typhoid patients gave a clumping reaction with this organism at low dilutions only, while the serum of this patient gave a reaction with typhoid bacilli at a dilution of 1 in 25 but not at 1 in 50. Professor White then recounted a number of outbreaks of serious illness following on the eating of meat containing these organisms, in many of which death resulted, and he gave an abstract of Durham's work on the subject. He considered the Gärtner group of micro-organisms to be distinct organisms, not aberrant forms. He looked on the present case as one not of typhoid fever but of fever due to a bacillus having all the morphological, cultural, and pathogenic characters of the bacillus enteritidis.—The PRESIDENT said that he inclined to the idea that the Gärtner organism occupied an intermediate position between the typhoid bacillus and the bacillus coli. The case in its clinical aspects had a striking resemblance to a series of six or eight cases brought forward by Dr. Chiari at the International Medical Congress held in Moscow. In these there were no typhoid lesions but splenic puncture yielded micro-organisms which produced typhoid infection. He looked on the case as one of typhoid septicæmia due to an aberrant bacillus.

Professor C. Y. PEARSON exhibited a Sarcomatous Osteo-Chondroma of the Femur removed by Disarticulation at the Hip on August 22nd, 1901. The patient was a man, aged 57 years. The tumour was of almost stony hardness and measured 31 inches in circumference at its widest part. It was a periosteal osteo-chondroma. The patient made a good recovery but returned in April, 1902, ailing with severe abdominal pain and was found to have a tumour with communicated impulse in the epigastrium.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on May 14th, Dr. James Ritchie, the President, being in the chair.—Professor A. R. Simpson showed (1) an Anencephalous Fœtus with Spina Bifida and Exomphalos; the condition was associated with hydramnios; (2) Dermoid Tumour of the Ovary; (3) Solid Fibroma of the Ovary; (4) Tumour of the Ovary containing Mother and Daughter Hydatids; and (5) Bossi's Dilator for the Cervix, which had four blades and was worked by a screw handle, an indicator showing the amount of dilatation produced; when used for the pregnant uterus rounded guards were slipped over the narrow blades and full dilatation of the cervix could be effected in half an hour without any tearing of the tissues.—Dr. D. Berry Hart showed a Uterus removed for Cancer of the Cervix, a Malignant Tumour of the Ovary, and a Hydrosalpinx.—Dr. F. W. N. Haultain showed (1) an Ovarian Cyst with Double Pyosalpinx which had Ruptured into the Intestine; (2) Probable Ovarian Pregnancy; (3) Uterus removed for Adeno-sarcoma; and (4) Double Monster with fused bodies, two heads, four legs, and three arms, one of which had two hands.—Dr. W. Fordyce showed a Solid Fibroid Tumour of the Ovary.—Dr. Hart, with the aid of diagrams, described the Development of the Amnion and Cord. The current view as to the origin of the amnion and cord, as in the chick, was discussed and the difficulties in accepting it were pointed out. The amnion did not cover the human cord and practically there was no allantois to fix the embryo to the chorion after it had been separated off by the hypothetical folds. From a consideration of Peter's ovum and a similar one in Dr. Hart's possession he concluded that (1) the amnion was formed by the central breaking down of an ectodermic plug as in the guinea-pig (so-called inversion of the membranes); and (2) it was formed early in the development of the embryo and prior to the formation of the cœlom from which the pleuro-peritoneal cavity is evolved.—Professor Simpson and Dr. J. W. Ballantyne made remarks on the subject.—The President read notes on a case of Acute Pyelitis in Infancy.—Dr. John Thomson read a paper on the Symptoms and Treatment of Acute Pyelitis in Infancy. He gave his experience of eight cases observed since Dr. Emmet Holt of New York wrote his paper in 1894. The condition could not therefore be rare. Undiagnosed it was an alarming illness but under proper treatment it was a very curable one. Dr. Thomson's patients were all girls and their ages varied from seven and a half to 20 months, but the disease occurred not uncommonly in older children also. In almost all the published cases the patients had been girls. In one of the eight cases the parents were rheumatic and in another there was a family history of gout. In six cases the previous health had been excellent and in two cases chronic dyspepsia and rickets were present. They had all been artificially fed. Two cases had shown symptoms of infantile scurvy, one severe, the other slight, and influenza had preceded the pyelitis in two cases. In all but one case there had been troublesome constipation; in some there had been occasional attacks of diarrhœa. In five cases at least there was a history either of soreness about the anus or pain during the act of defecation, or blood had been seen in the motions. The symptoms were ushered in generally with a rapid rise of temperature, so that pneumonia or influenza had often been suspected. In no case did convulsions occur, but in four of them there were one or more severe rigors or chills. This occurrence of rigors in an infant was very helpful in the diagnosis of the condition. Even in malaria well-marked signs were said to be rare under two years, though they did sometimes occur. Their place was generally taken by a convulsion. Apart from malaria Dr. Thomson could not find any account of a rigor in a child under two years of age without the presence of pus in the urine. Suppurative or other surgical conditions did not seem to be attended with rigors in young children. The temperature was frequently above 104° F. and its type was more or less remittent, so that the chart often looked like that of enteric fever. The effect of treatment on the temperature was very striking. Another very marked characteristic of the disease was the extreme restlessness and distress which the children displayed, though this was not a constant condition. The appetite was often well maintained and consequently the emaciation might not be rapid. There might be screaming fits as in colic. There might be only uneasiness or slight pain on micturition, but just as frequently there were no symptoms occurring with micturition. There was excoriation or fissure of the anus in five of the eight cases, and in two there was some soreness of the vulva. Tenderness on palpation of the kidney was distinctly evident in two cases. The urine was always acid, generally extremely so; in one case there was a peculiar fœtid odour. Albumin was always present in small amount, but in no case more than could be accounted for by the pus cells present; no tube casts could be found. Pus was always present in considerable amount; sometimes the urine was turbid with it. A few epithelial cells of different shapes were usually to be seen. Blood was only detected in one case where there had been scorbutic hæmaturia not long before. Bacteria were always visible in large numbers in the freshly-passed urine and cultures of the urine gave pure growths of the bacillus coli communis. No crystals were found during the illness but large quantities of uric acid and oxalates had been passed on former occasions. The cause of the disease was the bacillus coli communis and it might reach the pelvis of the kidney by the blood or lymph-stream or up the urethra. The great preponderance of females affected would suggest the last as the usual source. Together with the presence of the bacillus there must be a lowering of the vitality of the tissues. The diagnosis depended on the presence of pus and bacilli in acid urine, the occurrence of rigors (almost conclusive), and any local tenderness, together with considerable fever. The prognosis was favourable; under proper treatment the cases improved rapidly as regards the temperature and symptoms, but it was usually several weeks before the pus disappeard from the urine. The main and the only essential treatment consisted in rendering the urine neutral by the administration of alkaline remedies as speedily as possible. The results were most striking. Dr. Thomson used citrate of potash and it required to be given freely before the urine lost its acidity. 24 grains in the 24 hours might suffice in less severe cases but generally from 36 to 48 grains were necessary. This quantity of alkali was very beneficial but it usually caused depression. The temperature became subnormal and the child became flabby and nauseated. No harm arose, and relapse might occur when the potash was prematurely diminished or discontinued. Antiseptics given alone were not very efficacious but in combination with alkali were helpful. Salol acted well; urotropin seemed less active; creasote was found to be very useful by Baginsky. Holt tried very large doses of quinine with very little effect.—Dr. Ballantyne, Dr. J. Haig Ferguson, Dr. G. Keppie Paterson, Dr. Fordyce, and Dr. H. M. Church discussed the paper and the President and Dr. Thomson replied.

ULSTER MEDICAL SOCIETY.—A meeting of this society was held on May 8th, Professor W. Whitla, the President, being in the chair.—Mr. A. B. Mitchell showed a radiogram of a very Oblique Fracture of the Femur and the patient; also three patients operated on for Abscess due to Spinal Caries.—Dr. T. Houston showed a case of Pernicious Anæmia.—Dr. James Lynass showed a case of Double Talipes Equino-varus treated by excision of the astragalus and a case of extensive Epithelioma of the Lower Lip treated by excision and plastic operation.—In the discussion which followed Mr. A. Fullerton, Mr. R. Campbell, Dr. W. Calwell, Professor J. W. Byers, and Dr. A. Dempsey took part.—Dr. John Campbell exhibited a Myoma of the Uterus and an Ovarian Tumour removed by Abdominal Section.—Dr. J. K. Greenfield read a paper on Some Forms of Peritonitis and their Treatment, the cases being of various kinds, with an interesting account of the treatment employed.—Dr. John Campbell read a paper on the Treatment of Dysmenorrhœa. He approached the subject from the purely clinical standpoint and divided the cases into two main groups—viz., (1) those without pelvic lesions and (2) those with pelvic lesions. The former group included the anæmic and neurotic subjects who required general hygienic treatment and purgatives, tonics, or sedatives according to circumstances. Neurotic subjects were sometimes benefited by the constant electric current with the negative pole in the uterus and the positive on the abdomen, a current of from 20 to 40 milliamperes being used. The second group having pelvic lesions might all be treated by dilatation and curetting of the uterus, followed by the insertion of a gauze uterine drain. This gave good results in some cases and failed utterly in others. The important thing was to select the cases so as to avoid bringing the method into contempt by applying it in unsuitable cases or strongly advising it in doubtful ones. Accordingly cases of dysmenorrhœa with pelvic lesions might be subdivided into three classes—viz.: 1. Those with slightly enlarged or anteflexed or inflamed uteri and normal appendages which were improved by curetting and gauze drainage, which was essentially the treatment for them. 2. Those in which the uterus was approximately normal and the appendages diseased. Here curetting gave results in the main proportionate to the amount of involvement of the uterus. Unfortunately, the appendage mischief so overshadowed the uterine trouble that removal of the latter was hardly appreciated by the patient. The idea so much advocated by American writers that curetting benefited tubal disease was wrong. It benefited the uterus alone and results depended on the relative intensity of the disease in the uterus and tubes. 3. Those in which the uterus was displaced and more or less adherent, the appendages being also affected in varying degrees. Here curetting gave little hope of substantial permanent improvement and should only be done as an experiment when all else had failed. Removal of diseased appendages for dysmenorrhœa was not to be done unless other reasons than pain demanded their removal. Women with painful ovaries were liable to have painful stumps after operation. The breaking down of adhesions followed by ventro-fixation or vagino-fixation was very uncertain in its results. These operations should only be done as a last resource and the patient should not be led to expect too much from them, as they often failed to give her satisfaction. The treatment of bad cases of dysmenorrhœa remained unsatisfactory in spite of our advances.—Dr. C. Kevin spoke of the value of Dr. Campbell's paper to general practitioners.—Professor Byers said that the difficulty in defining what was dysmenorrhœa arose from there being no way of measuring pain. For teaching purposes the well-known aphorism might be accepted that, among the leisured classes a woman could be said to suffer from dysmenorrhœa if the pain was so great that she could not fulfil her social duties, while among the poor they might be said to have dysmenorrhœa if they were unable to work. They might divide the cases seeking treatment into those without, and those with, local lesions, and the latter class, if any operative interference was to be done, must be managed with the very greatest care. He referred to the curious group of cases where the pain was not at the menstrual periods but midway between them and discussed their pathology.—Dr. Dempsey spoke of those cases in which the rheumatic diathesis seemed to be a factor in causation.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on May 9th, Dr. S. Buckley, the President, being in the chair.—Professor C. J. Wright (Leeds) showed a series of Plaster Casts illustrating the Effects of Birth Moulding in Various Presentations upon the Shape and Diameter of the Fœtal Head. The presenting parts shown were: (1) the occipito-anterior vertex; (2) the occipito-posterior vertex; (3) the head following pelvic presentation; (4) the face; (5) the brow; and (6) the vertex after delivery through a flattened pelvis. The models were obtained from Berlin for teaching purposes.—Other specimens were shown by Dr. J. B. Hellier (Leeds), Dr. J. E. Gemmell (Liverpool), Mr. H. Littlewood (Leeds), Dr. H. Briggs (Liverpool), and Dr. A. E. L. Wear (Leeds).—Dr. W. Murray Cairns (Liverpool) related a case in which he had performed Craniotomy and Cranioclasm for Face Presentation with Impaction in a Contracted Pelvis. The patient was pregnant for the tenth time, six of the previous labours having been difficult and instrumental. Dr. Cairns saw the case when labour had been in progress for 13 hours. The os was fully dilated, the face presenting, and the head impacted at the brim. The liquor amnii had already drained away. The forceps was applied and failed and version was found impossible. The head was perforated through the anterior fontanelle and extraction completed with the cranioclast. Dr. Cairns was of opinion that with the improved modern methods of performing Cæsarean section the treatment he had resorted to in this case would only be justifiable in very exceptional cases.—Dr. Cairns also mentioned a case of Intra-uterine Strangulation. An extremely neurotic patient, aged 32 years, in her first pregnancy suffered great discomfort from the tumultuous movements of the fœtus in utero. The symptom was alleviated somewhat by bromide of potassium. For several days before premature labour came on at the eighth month the movements had ceased to be felt. The fœtus when delivered had evidently been dead some days. The cord was very short and was drawn tightly round the child's neck. The skin of the neck was marked by the pressure of the constricting cord.—The cases were discussed by Dr. W. J. Sinclair, Mr. O. Roper, Dr. Briggs, Dr. Gemmell, and Dr. J. Braithwaite.—Dr. Hellier (Leeds) reported a case of Vaginal Hysterectomy in which Secondary Hæmorrhage occurred on the fifteenth day. The patient, a multipara, aged 51 years, was found to have early cancer of the cervix uteri. The growth was limited to the cervix and had not broken down much. The uterus was removed by vaginal hysterectomy, the operation being easy and not prolonged. Progress was good until the fourteenth day, when the last ligature came away and there was trifling bleeding. On the fifteenth day violent secondary arterial hæmorrhage came on which could not be controlled by vaginal packing. The patient, who was almost pulseless, was placed in the Trendelenburg position and the abdomen was opened. By means of Doyen's retractor and the electric light the bleeding point was seen to be a branch of the right ovarian artery. The vessel was tied and a gauze drain passed from the pelvis into the vagina. The patient made a good recovery.—The case was discussed by Dr. Sinclair, Dr. Briggs, Dr. Braithwaite, Mr. Littlewood, and Mr. S. Rumboll.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—A meeting of this society was held on May 9th, Mr. Lennox Browne, Vice-President, being in the chair.—Dr. Wyatt Wingrave read the notes of a case of Otomycosis (aspergillus niger) and showed a microscopical specimen of the fungus.—Mr. Mayo Collier exhibited a patient, a man, aged 63 years, suffering from Chorea of the Larynx of 12 months' duration, preceded by similar twitchings of the muscles of the face.—Dr. P. H. Abercrombie showed a case of Left Frontal Sinus Disease of 13 years' duration, with frequent attacks of excruciating pain and great tenderness over the right frontal sinus, which later, on exploration, was found to be healthy. Operation, three months ago, had resulted successfully.—Dr. Abercrombie also showed two new instruments (one by Dr. Jakins and the other his own) adapted to the Enlargement of the Fronto-nasal Canal.—Mr. Lennox Browne showed a patient, a man, aged 22 years, the subject since four years of age of Suppurative Median Otitis in the Left Ear. There was granulation tissue to be observed springing from the anterior and superior part of the tympanic cavity.—The discussion on Dr. Dundas Grant's paper on the Diagnosis and Treatment of the Various Forms of Nerve Deafness, read at the last meeting of the association, was resumed by Dr. Greville MacDonald who remarked that there were many peculiarities in patients the subjects of nerve deafness. For instance, many were extremely hypersensitive to loud sounds and were fond of quiet places; they were very deaf in noisy surroundings but heard pretty well when all else was quiet. To such loud noises were actually painful and in some cases might even induce giddiness. Such patients were extremely sensitive to syringing the ear and any sudden shock, such as flashes of light or the rapid passing of one of the red mail-carts, had been known to upset the equilibrium. Patients with nerve deafness were very liable to attacks of migraine (especially occipital) and this increased the deafness for two or three days. He thought that Dr. Grant's division into anæmic and congestive was valuable and was a good guide to treatment. Nevertheless, cases of anæmia were seen presenting signs of congestion of the internal ear, a state of matters no doubt attributable to vaso motor debility. Depletion was of value to both anæmic and congestive cases and an aperient was usually beneficial. He considered that the improvement in hearing, after many intra-nasal operations, such as depletion of the inferior turbinal or removal of septal spurs, could often be accounted for as much by depletion as by the removal of nasal obstruction.—Mr. Lennox Browne said that he agreed with Dr. MacDonald's remarks as to the explanation of the occurrence of both anæmia and congestion in the same patient, as well as in the value of depletion, but he could hardly agree that this latter alone explained the improvement in hearing, following the removal of intra-nasal obstruction. He thought that purgatives and restricted diet constituted a better basis of therapeutics than nerve tonics and nourishment. He had not seen any good result from the administration of quinine in nerve deafness.—Dr. Atwood Thorne, Dr. Wingrave, and Mr. W. J. C. Nourse also took part in the discussion.

West London Medico-Chirurgical Society.—The eighth meeting of the session (ordinary meeting) was held on May 2nd in the rooms of the Post-Graduate College, West London Hospital, Mr. McAdam Eccles, Vice-President, being in the chair.—Mr. Stephen Paget read a paper entitled "Notes on a Case of Empyema where Washing Out the Cavity was followed by Epileptiform Convulsions and Death." He referred also to other similar cases.—Dr. Seymour Taylor read a paper on Gall-Stones and their Medical Treatment, followed by Mr. L. A. Bidwell with a paper on Gall-Stones and their Surgical Treatment.—Mr. Alban Doran advocated the employment of prolonged incisions in operation on these cases.—Dr. O. Grünbaum commented on the comparative uselessness of oil in the treatment of gall-stones. He pointed out that an examination of the blood as to leucocytosis and the number of platelets might prove of great value in the diagnosis of the presence of pus in the gall-bladder.—Mr. Rickard W. Lloyd related particulars of two cases that had lately been under his care.—Mr. John R. Lunn read a paper on a case of Strangulated Femoral Hernia treated by herniotomy and followed by death in seven hours from collapse following the perforation of an ulcer just above the seat of strangulation.—Dr. Taylor and Mr. Paget commented upon the case.

Glasgow Southern Medical Society.—A meeting of this society was held on May 15th.—Through the kindness of Mr. W. Quarrier members had an opportunity of visiting the Consumption Sanatoriums at Bridge of Weir, Renfrewshire. There was a large attendance of the society and Mr. Quarrier personally conducted the party over the grounds and buildings. A close inspection was made of the more recently built sanatorium, given by friends in the East of Scotland, which is appropriately called "The Door of Hope." With regard to the treatment at the sanatoriums at Bridge of Weir it was pointed out that the method employed was similar to that known as the "Nordrach" treatment, consisting of an abundant supply of fresh air, generous diet, rest, and personal surveillance during residence. In all febrile cases rest in bed was strictly enjoined until the morning temperature was normal and the thermometer registered the evening temperature as less than a degree above the morning temperature. The average residence for those discharged reached 141 9 days and patients were admitted in all stages of the disease. The results were most encouraging and satisfactory.

Pathological Society of Manchester.—A meeting of this society was held on May 7th, Dr. H. Ashby, past-president, being in the chair.—Dr. Ashby showed a Medulla containing a Softened Patch from a case in which death was caused by respiratory paralysis.—Mr. W. P. Montgomery showed a specimen of Prostatic Adenomata removed by supra-pubic incision after the manner of so-called complete prostatectomy. The position of this operation was discussed.—Dr. F. C. Moore described Stenosis and Obliteration of the Large Hepatic Veins and showed specimens.—Mr. J. W. Smith and Dr. A. E. Finney mentioned a case of Contusion of the Abdomen resulting in Rupture of the Intestine and showed the specimens.

Reviews and Notices of Books.

Traité de Bactériologie Pure et Appliquée à la Médecine et à l'Hygiène. Par M. P. Miquel et M. R. Cambier, Directeur et Sous-directeur du Laboratoire de Bactériologie de la Ville de Paris. Paris: C. Naud. 1902. Pp. 1059. Price 45 francs.

This work is a most exhaustive treatise on bacteriology. It contains a more or less detailed digest of the most important researches carried out since the infancy of the science, and the book teems with copious references to the original literature, to which the student can have recourse for fuller knowledge on any special line of investigation. It is essentially a book of reference, not only on account of the authority which the names of the authors naturally lend to it, but also on account of the extensive range of its subject-matter, and as such it should appeal alike to the student of medicine, human or veterinary, of hygiene, or of pure bacteriology. Thus, while a considerable portion of the book is devoted to an account of the pathogenic bacteria, no less than 300 of the 1059 pages are taken up with descriptions of the non-pathogenic bacteria, such as those of fermentation, the chromogenic bacteria, and those found respectively in air, water, and soil.

The book is divided into four parts. The first part deals with the general properties of bacteria, morphological and biological, and with the methods of isolation, cultivation, and microscopical examination. The classification adopted is the usual morphological one—into micrococci, bacilli, and spirilla. The bactericidal properties of physical and chemical agents are very fully discussed and an interesting account is given of the variations which bacteria may undergo in form and in biological properties when acted upon by certain of these agents in varying degrees of intensity. It is satisfactory to note that the practice of interrupted sterilisation by heating to 100° C. for a short time on three successive days is condemned—a practice which we have reason to believe is much in vogue on this side of the Channel and of the inefficiency of which we have only lately had too good proof. The method is based on the false notion that the spores escaping one process of heating develop into the adult form during the 24-hours' interval

As a matter of fact, several days are required for the spores to recover their vitality after submission to the first heating. The method advocated here is sterilisation by the autoclave with a temperature of 110° to 111° C. for half an hour or filtration as an alternative for such cultivating media as do not admit of this treatment.

The second part is devoted to a detailed description of the pathogenic bacteria and the diseases of man and animal which are ascribed to them. Under "hæmorrhagic septicæmia" are described 11 different infections of animals by micrococci. Throughout this part of the work the diseases of animals due to known organisms are discussed in much detail; on the other hand, some of the human infections are not always treated at such length as their importance would seem to deserve. The attempts at immunisation against pneumonia, for instance, receive scant notice and the work of Washbourn is completely ignored No reference is made to Koch's views in regard to the differences between human and bovine tuberculosis and the inoculability of man with the latter The last chapter of this part, on Susceptibility and Immunity, is very brief. Ehrlich's chemical theory of toxins and antitoxins is not even mentioned. The whole subject is treated in a somewhat superficial manner. The diagnostic differences between pathogenic and closely similar non-pathogenic organisms, as in the case of the diphtheria and typhoid bacilli and the cholera spirilla, are most carefully described and support is given to the view that such organisms may have a close relationship—that a given organism may, under certain conditions, develop pathogenic properties and other biological variations and may relapse again into an innocuous state with change of those conditions.

The third part contains an account of the non-pathogenic bacteria. These are ranged under the headings of Zymogenic Bacteria, Chromogenic Bacteria, and Common, Saprogenic and Unclassified Bacteria. 12 different bacteria are described capable of transforming urea into ammonium carbonate and over 70 chromogenic bacteria are dealt with in this part.

The fourth part treats of bacteriology applied to hygiene. Here is heard the voice of authority in clear tones, and the methods of research adopted and developed by the authors in their investigation of bacterial contamination of air, water, and soil are given fully and make very interesting reading

The study of micromycetes and protozoa is not included in this work and consequently the malarial parasites do not find a place, but in the preface the authors express a hope to complete their treatise by a fifth part dealing with pathogenic and zymogenic infusoria and fungi.

Like so many books of this nature published on the continent, this work is issued in the form of a most cumbrous and inconvenient volume with a paper cover; the text, however, is printed in large type and on good paper.

Elements of Medicine. By ALFRED H CARTER, M.D. Lond., M.Sc. Birm. Eighth edition. London: H. K. Lewis. 1901. Pp. 590. Price 10s 6d.

IN the eighth edition of his "Elements of Medicine" Dr. Carter has strictly adhered to the style and method which have made the previous issues so peculiarly successful That is to say, it still remains a simple and straightforward introduction to the study of practical medicine which has caught the spirit of contemporary medical thought without in any way yielding to the passing fancies of our prolific specialisation or to the complicated nomenclature of our modern pathology. The present-day student of medicine, struggling with the encyclopædic information collected for his edification in up to-date text-books, will turn with relief to Dr. Carter's unsophisticated account of the diseases which he will meet with in practice. The whole of the text has been carefully revised and large portions have been entirely rewritten, while the section on Diseases of the Skin is from the pen of a new contributor—viz., Dr. W. d'Este Emery who has contributed a very readable chapter on his special subject. The section of the book which deals with general diseases and which includes an account of rheumatism, gout, diabetes, and cancer is very good, in particular the description of gout is a sound epitome of the symptoms of a perplexing disease. Dr. Carter's account of the predisposition to slow and perverted nitrogenous metabolism which characterises the nutritional processes of the gouty subject and the unfolding of his argument of the associated occurrence of obesity, diabetes, and gall-stones enable us to form a vivid picture of the essential nature of gout. One of the first conceptions, and often the only one, of the essential pathology of gout which dawns on the mental horizon of the average student is an image of a uric acid crystal deposited at a special seat of election—namely, the articular cartilage of the great toe. If he reads Dr. Carter he will appreciate that this deposition of uric acid is due to a relative over-taxation of nutrition associated with a gross or feeble habit of body and will be able to approach more elaborate works with a good chance of fully understanding them. Again, in his account of acute rheumatism Dr. Carter gives evidence of a nicely balanced judgment. While admitting that the essential nature of the disease still remains unknown he refuses to endorse the microbic theory. Throughout Dr. Carter views the power for good or evil which belongs to microbic organisms in a thoroughly rational perspective. The diseases of the nervous system have necessarily entailed a full share of revision and this work has been carefully and judiciously done. We notice, however, that no attempt has been made to bring locomotor ataxy and general paralysis of the insane into pathological line. Indeed, so far as the student will be able to gather from the two independent accounts of these conditions they do not possess a single feature in common. In the account of the muscular dystrophies, which are classified as primary and pseudo-hypertrophic, the author does not give us the impression of being perfectly clear in his own mind as to the relationship which these diseases hold to one another or to other muscular atrophies of undoubted nerve origin. The chapters which deal with the specific fevers and the diseases of the alimentary tract show fewer alterations than do those to which we have already referred. But taking the book all round it is certainly an improved as well as a revised edition of a useful text-book. It must not be used to supersede all the larger text-books. Dr. Carter proposes to treat of the "elements" of medicine and expects his work to be used more or less as an introduction to the comprehensive treatises.

Buller's Campaign with the Natal Field Force of 1900 By E. BLAKE KNOX, B.A., M D. Dub., Lieutenant, Royal Army Medical Corps. With Maps and Illustrations. London. R. Brimley Johnson. 1902. Pp. 336. Price 10s. 6d. net

WE may say at once that we closed this volume with the feeling that we had been reading a notable book. The author has the qualifications that go to make up a military historian. He has a discerning eye for taking in a military situation, and for seeing and describing the natural and topographical features and the dispositions of the belligerents on the scene of an engagement. Then he writes freshly, clearly, and to the point in describing what he sees and experiences and as to the impressions which the events—some of them terrible enough—create in his mind. The book, we are glad to notice, is dedicated to Colonel Sir Thomas J. Gallwey, K.C.M.G., C.B., R.A.M.C., the principal medical officer of the Natal army, and to its officers, as an expression of appreciation of the good comradeship that existed between all ranks during the campaign. Field medical arrangements and dispositions necessarily form part of the narrative and observations connected therewith are interspersed in the course of it, and a note on the medical aspect of the Natal campaign is added in an appendix. But the volume consists for the most part of the military history of that campaign.

The book begins with a very brief prologue of events preceding the arrival of the Fifth Division at Estcourt and the story of the battle of Colenso does not come into the narrative, but the author was present at all the engagements that followed, up to the relief of Ladysmith, and subsequently during General Buller's advance through Northern Natal into the Transvaal. He was one of those who witnessed the battle of Thaba Myama which culminated in the terrible struggle that occurred at Spion Kop. The description of the march to the Tugela in the first chapter strikes us as being well done. We may notice incidentally that the author points out how khaki drill when wet in the presence of a breeze acts as a refrigerator and that this fact having been appreciated the issue of serge was in later operations of the campaign substituted for khaki Chapters II. and III. deal with the battle of Thaba Myama and Spion Kop, and these chapters, comprising some 70 pages, are well worth reading, for the narrative is clear and vivid. Since the publication of this book—and since we began our review of it—the Spion Kop despatches have been published. It is a gloomy and painfully depressing, as well as a somewhat perplexing, story. The only redeeming point about it is the heroic conduct of the regimental officers and men and even the recognition of this is saddened by the feeling that all their efforts were rendered futile and unavailing from causes which we need not detail. As it happened, according to the author of this book, the Boers thought the withdrawal of our troops from the hill the worst mistake which we had made during the war. They were, in fact, retreating down one side while the Boers were going down the other.

The succeeding chapters narrate the battle of Vaal Krantz, the engagements round Colenso, Hart's Hill, and the final operations, including the battles of Pieter's Hill—which is excellently described—Laing's Nek, and Belfast. Throughout the volume the author dwells forcibly and emphatically upon the extraordinary difficulties and obstacles that had to be encountered and upon the stupendous nature of the task which fell to the lot of General Buller to undertake. Without expressly assuming to be a defender of General Buller it is nevertheless very clear that the author shared the devotion, personal loyalty, and confidence in their chief with which the soldiers of the Natal Field Force were inspired. It is quite refreshing and inspiriting to read what the author has to say about the courage and conduct of the troops and about the devoted services of the Indian bearers and the men of the stretcher corps.

Numerous descriptions, allusions, and comments relating to the officers and men of the Royal Army Medical Corps, the hospitals, and the wounded, and incidents connected with them, are interspersed in the text throughout the volume. If we were to refer to all the tempting passages and points which we had marked for notice our review would altogether exceed the limits at our disposal. The work to be rightly appreciated requires to be read as a continuous record of the operations of the Natal Field Force and as a whole; it is, we should add, capitally illustrated with plates and plans, and "well got up." We strongly recommend all who are interested in the subject to read it

LIBRARY TABLE.

The Way of Escape. By GRAHAM TRAVERS (Margaret G. Todd, M.D. Brux.). Edinburgh and London: William Blackwood and Sons. 1902. Pp. 383. Price 6*s.*—This work is on a higher plane even than "Windyhaugh," which was the previous work of Miss Todd. It is the story of a very noble life, and Vera is a woman whom any man would be proud to have the right to call his friend. Like so many other women, she wrecked her life for a man who was a cad and a coward, although he did not go about like some men of his kidney and talk about "my honour." Vera's fall, her rising again, her purgatorial life, and her triumphant end make up a very excellent novel. Miss Todd possesses the somewhat rare power of being able to write truthfully about children, a faculty which she owns in common with the author of "The Golden Age" and "Dream Days"—works which, we gather from a chance remark upon page 150, she knows and loves. If we were to pick a hole in "The Way of Escape" we should say that the story is somewhat *décousu*, but that is a common fault with writers who are treating a subject which they know intimately themselves for those who do not know. For instance, we are rather uncertain as to whether Vera had a baby or not, why she suddenly appears in Book II. as a governess in Brussels, and why towards the end of the book she should have felt compelled to tell her brother Harold all about herself. Miss Todd, of course, knows the answer to these questions; we have our own ideas on the subject, but we think that a little more accurate "joining of the flats" would have done no harm. Still the book is a fine piece of work and one which will still further increase Miss Todd's reputation.

JOURNALS AND MAGAZINES.

The Journal of Hygiene. Vol. II., No. 2, April, 1902. Cambridge: University Press. Price 5*s.* net.—This number opens with a paper by Surgeon Walter Reed of the United States Army upon the recent researches as to the Etiology, Propagation, and Prevention of Yellow Fever. The author was President of the United States Army Commission appointed to inquire into the subject and his testimony is therefore of much value. We have recently commented in our columns upon this matter and hence it suffices here to point out that the paper is of the greatest epidemiological interest and that it deals—destructively—with the bacteriology of yellow fever, that it brings out the important fact that yellow fever can be produced by the injection of a small quantity of bacteria-free serum filtrate obtained by passing the diluted serum through a Berkefeld filter. It deals, too, with the remarkable and heroic experiments by which it was shown that infected fomites were powerless to convey the disease and that the bites of infected *Stegomyia fasciata* alone were the means of conveying the disease. Finally, it recounts the steps taken to stamp out yellow fever in Havana, to which we alluded in our leading article of April 12th. Major C. Birt and Major W. B. Leisham, R.A.M.C., describe a new acid-fast streptothrix pathogenic to man and animals, and Captain Leonard Rogers, I.M.S., records his experiments as to the disinfection of floors for plague. He finds that very much stronger solutions are required to effect such disinfection than suffice to kill the plague bacillus in the test tube. Dr. D. Noel Paton furnishes the results of his observations on the movements of polluted water in the Tyne estuary. According to these observations—too few, as the author himself points out—the Tyne on the flood is relatively pure and allows the passage of salmon, there being no concentration zone of sewage as is the case in the Thames. Among other papers is one by Dr. G. S. Graham-Smith on the Measures taken to check Diphtheria at Colchester and one by Dr. George Dean and Dr. Charles Todd on their Experiments on the Relation of Cows to Diphtheria. The authors state in the beginning of their paper that there has been for many years an "impression" among sanitarians that milk is capable of acting as a vehicle of infection in scarlet fever. We should have inclined to the view that

4 per cent., of the deaths in these eight towns were not certified.

The annual rate of mortality in eight of the principal Scotch towns, which had been 23·6 and 23·7 per 1000 in the two preceding weeks, declined again to 20·3 per 1000 during the week ending March 29th, but exceeded by 2·1 per 1000 the mean rate during the same period in the 76 large English towns. Among these Scotch towns the death-rates ranged from 12·1 in Edinburgh and 14·1 in Perth to 25·8 in Leith and 28·4 in Aberdeen. The 655 deaths in these towns included 22 which resulted from diarrhœa, 14 from measles, 13 from whooping-cough, six from diphtheria, three from scarlet fever, and one from "fever." In all 59 deaths resulted from these principal zymotic diseases last week against 85 and 83 in the two preceding weeks. These 59 deaths were equal to an annual rate of 1·8 per 1000, which was 0·3 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 17, 23, and 25 in the three preceding weeks, declined again last week to 22, of which 11 occurred in Glasgow, three in Paisley, two in Dundee, two in Leith, and two in Greenock. The deaths from measles, which had decreased from 19 to 11 in the four preceding weeks, rose again to 14 last week, and included 12 in Glasgow. The fatal cases of whooping-cough, which had been 20, 23, and 28 in the three preceding weeks, declined again last week to 13, of which six were registered in Glasgow, four in Aberdeen, and two in Leith. The deaths from diphtheria, which had been seven, six, and four in the three preceding weeks, rose again to six last week, and included four in Glasgow, where two of the three fatal cases of scarlet fever were also recorded. The deaths referred to diseases of the respiratory organs in these towns, which had been 230, 189, and 217 in the three preceding weeks, declined again last week to 173, but were 46 in excess of the number in the corresponding period of last year. The causes of 22, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·7 and 20·6 per 1000 in the two preceding weeks, rose again to 22·4 per 1000 during the week ending March 22nd. During the previous four weeks the death-rate has averaged 25·3 per 1000, the rates during the same period being 23·4 in London and 25·0 in Edinburgh. The 163 deaths of persons belonging to Dublin registered during the week under notice showed an increase of 13 over the number in the preceding week, and included six which were referred to the principal zymotic diseases, against 13 and eight in the two preceding weeks; of these, one was referred to each of the seven principal zymotic diseases, except small-pox. These six deaths were equal to an annual rate of 0·1 per 1000, the zymotic death-rates during the same period being 2·4 in London and 1·1 in Edinburgh. The mortality from measles and from scarlet fever was less than that recorded in the preceding week, while that from "fever" and from diarrhœa showed no variation. The 163 deaths in Dublin during the week included 25 of children under one year of age and 33 of persons aged upwards of 60 years; the deaths of infants showed a slight excess over the number in the preceding week, while those of elderly persons slightly declined. Five inquest cases and eight deaths from violence were registered; and 68, or more than one-third, of the deaths occurred in public institutions. The causes of eight, or nearly 5 per cent., of the deaths in Dublin were not certified.

The death-rate in Dublin, which had been 20·6 and 22·4 per 1000 in the two preceding weeks, further rose to 27·5 per 1000 during the week ending March 29th. During the 13 weeks of the quarter ending on that date the death-rate averaged 25·6 per 1000, the rates during the same period being 21·8 in London and 20·7 in Edinburgh. The 200 deaths of persons belonging to Dublin registered during the week under notice were 37 in excess of the number in the preceding week, and included seven which were referred to the principal zymotic diseases, against 13, eight, and six in the three preceding weeks; of these, two resulted from scarlet fever, two from whooping-cough, two from "fever," and one from measles. These seven deaths were equal to an annual rate of 1·0 per 1000, the zymotic death-rates during the same period being 2·6 in London and 0·2 in Edinburgh. The mortality from measles corresponded with that recorded in the preceding week, while that from scarlet fever, whooping-cough, and "fever," showed in each case a slight excess. The 200 deaths in Dublin last week included 30 of children under one year of age and 49 of persons aged upwards of 60 years; the deaths of infants and of elderly persons were respectively five and 16 above the numbers registered in the preceding week. Two inquest cases and one death from violence were reported, and 89, or nearly 45 per cent., of the deaths occurred in public institutions. The causes of 12, or 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

Royal Navy Medical Service.

Fleet Surgeon Robert William Anderson has been placed on the retired list of his rank. Dated Feb. 20th, 1902. Fleet Surgeon John Acheson has been placed on the retired list of his rank. Dated March 19th, 1902.

Imperial Yeomanry.

The undermentioned officers resign their commissions and receive new commissions subject to the provisions of the Militia and Yeomanry Act, 1901, each retaining his present rank and seniority.

Berks: Surgeon-Captain J. H. Waters. Royal 1st Devon: Surgeon-Lieutenant M. B. Steuart. Gloucestershire (Royal Gloucestershire Hussars): Surgeon Captain H. Bramwell. Lancashire Hussars: Surgeon-Major D. Harrison. Middlesex (Duke of Cambridge's Hussars) Supernumerary Surgeon-Captain (Honorary Major in the Army) C. Stonham, C.M.G. Northumberland (Hussars): Surgeon-Captain A. Brumell. Pembroke: Surgeon-Lieutenant-Colonel G. R. T. Phillips and Surgeon-Lieutenant J Wilson. Shropshire: Surgeon-Lieutenant-Colonel J. D. Lloyd. West Somerset: Surgeon-Lieutenant-Colonel S Farrant. Royal Wiltshire (Prince of Wales's Own Royal Regiment): Surgeon-Captain O. C. Maurice.

Volunteer Corps.

Royal Garrison Artillery (Volunteers):—Surgeon-Lieutenant D. L. Anderson resigns his commission. 3rd Middlesex: Charles Gordon Watson to be Surgeon-Lieutenant. *Rifle:* 3rd Volunteer Battalion the Norfolk Regiment: Surgeon-Captain C. R. Whitty to be Surgeon-Major; Surgeon-Lieutenant G. B. Masson to be Surgeon-Captain. 1st Volunteer Battalion the Duke of Cambridge's Own (Middlesex Regiment): The undermentioned Surgeon-Lieutenants to be Surgeon-Captains: W. N. Evans and G. A. Cohen. 2nd Volunteer Battalion the Manchester Regiment: Charles Christopher Heywood to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Durham Light Infantry: William Murray Mackay to be Surgeon-Lieutenant.

Royal Army Medical Corps (Volunteers).

The Woolwich Companies: Surgeon-Lieutenant-Colonel William Collingridge, late Militia Medical Staff Corps, to be Honorary Colonel.

Volunteer Infantry Brigade.

Leicester and Lincoln Surgeon-Lieutenant-Colonel R. B. Smith, 1st Volunteer Battalion the Leicestershire Regiment, to be Brigade Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade. Sussex and Kent Surgeon-Lieutenant-Colonel T. Joyce, 2nd (the Weald of Kent) Volunteer Battalion the Buffs (East Kent Regiment), to be *Brigade-Surgeon-Lieutenant-Colonel* whilst holding the appointment of Senior Medical Officer to the Brigade.

India and the Indian Medical Services.

The King has approved of the following promotions among officers of the Indian Medical Service made by the Government of India:—To be Surgeon-General: Colonel Benjamin Franklin, K.H.P., C.I.E., Bengal Establishment.

The King has also approved of the retirement from the service of the under-mentioned officers: Lieutenant-Colonel William Owen, C.M.G., C.I.E., Bengal Establishment; and Lieutenant-Colonel Augustus Napoleon Rogers-Harrison, Madras Establishment.

South African War Notes.

Lieutenant-Colonel R. Jennings, R.A.M.C., Major C. G. Woods, R.A.M.C., Lieutenant J. F. Whelan, R.A.M.C., epidemiologically the connexion had been demonstrated, the only outstanding point being whether the disease in man ever has its origin in a disease of the cow. In the outbreak here in question there was an eruptive disease on the teats of the cows furnishing the milk and the diphtheria bacillus was found both on the eruption and in the milk. The authors, however, give reasons for inferring that the bacilli were superadded by the milker, albeit the evidence on this point is largely hypothetical. The eruption on the *cow's udders was not, the authors think*, cow-pox. The number concludes with an interesting review of the current theories regarding immunity from the pen of Dr. James Ritchie which should be most helpful to those who have been unable to follow the recent work step by step.

The Medical Journal of the Italian Navy.—The April number of the *Annali di Medicina Navale* contains several interesting articles, notably an illustrated synopsis of Dr. Lucas Championnière's work on the treatment of fractures by massage and passive movement, the illustrations being reproduced by special permission from the originals, and also, under the heading "Casuistica Clinica," the report by Dr. Giovanni Petella of a case of recurrent ophthalmoplegia which was under treatment in Professor C. Reymond's wards in the University of Turin. As usual, a considerable portion of the *Annali* is devoted to extracts from foreign medical journals, French, German, English, and American; but we have been unable to find anything having especial reference to naval medicine, surgery, or hygiene.

The *Medical Magazine* for May contains a pleasant and instructive article by Mr. S. B. Atkinson of the Inner Temple on the Law of Negligence in Relation to Medical Men. Mr. Atkinson deals with questions constantly arising the legal aspect of which is often most unfamiliar to medical men, for whom, nevertheless, such aspects may easily at any time acquire an intimate interest. In another contribution the new Royal Warrant for the Army Medical Service receives warm commendation at the hands of a retired medical officer who declares that the future position of the officers in the Royal Army Medical Corps will be decidedly an enviable one. The writer singles out particularly what he considers to be one weak point in the warrant—viz., the absence of all *evidence* that the India Office, *under the ægis* of which a certain period of service is almost invariably borne by young officers, intends to amend its conditions conformably with the improvements contemplated by the War Office. An extract from Dr. Claud Muirhead's report in connexion with the mortality experience of the Scottish Widows' Fund Assurance Society bears out the general notion as to the increase of cancer mortality and the comparative diminution of deaths from consumption.

# Analytical Records
FROM
THE LANCET LABORATORY.

BEEF KARNOID.

(THE KARNOID LABORATORY, CATERHAM, SURREY.)

WE have already commented favourably upon this preparation.[1] It is pulverised beef with simply the moisture removed by a cold-air process and the excess of fat eliminated. The beef is thus preserved in a raw state, containing myosin albumin in the same condition as in fresh-killed meat. The preparation has been further improved since we examined the specimens first submitted to us. This improvement is obvious from our recent analysis which was as follows: water, 6·66 per cent.; fat, 6 per cent.; mineral matter, 6·65 per cent.; and nitrogenous matter, 80·69 per cent. The total nitrogen amounted to 11·55 per cent. Over 27 per cent. of the beef powder is soluble in cold water and over one-third of this is meat albumin which coagulates on boiling the solution. The cold-water solution gives the spectrum of hæmoglobin. The preparation is one that may be confidently recommended, since in it are preserved unaltered the entire constituents of raw meat. From it a juice containing meat albumin or a nourishing soup may very readily be prepared. It is obviously far superior to the ordinary meat extract.

FRIEDRICHSHALL MINERAL WATER.

(C. OPPEL AND CO., 10 AND 12, MILTON STREET, LONDON, E.C.)

The Friedrichshall springs are situated in a charming valley in Saxe-Meiningen, Germany. The waters have long been known for their mild alterative and aperient properties which, as our analysis shows, are due to the presence of sulphates and chlorides of sodium and magnesium. Considering the mineralised nature of the water the taste is not so objectionable as might be supposed, owing probably to the preponderance of chlorides. Our analyses gave the following results expressed in grammes per litre: magnesium (Mg), 3·15; sodium (Na), 3·22; calcium (Ca), 1·00; sulphate (SO_4), 9·34 per cent.; and chloride (Cl), 8·69 per cent. The total saline constituents therefore amount to a little over 25 grammes per litre. Its aperient action is not drastic and a course of the water is unattended with objectionable results.

(1) PURGATIN; AND (2) TRIFERRIN.

(B. KUHN, 36, ST. MARY-AT-HILL, EASTCHEAP, LONDON, E.C.)

1. Purgatin is described as a derivative of the series of oxyanthra-quinones, a class of bodies to which belong the active constituents of such purging drugs as aloes, cascara sagrada, rhubarb, and senna. In appearance it is very like curry powder but uniformly crystalline. A dose as a mild laxative is from seven and a half to 15 grains, while if it is considered necessary as much as 30 grains may be administered without, it is stated, harmful results. Its administration produces a red discolouration of the urine due to the product of decomposition, anthra-purpurin, but the compound is said to be without irritation to the urinary organs. 2. Triferrin is the iron salt of nucleinic acid and therefore contains organic phosphorus. The proportion of iron is 22 per cent. and of phosphorus 2½ per cent. Triferrin is a brown rust-like powder which is not soluble in weak acids and hence it escapes the action of the stomach and passes into the intestines unchanged where it is absorbed. Clinical trial has shown that triferrin has a marked action in raising the proportion of hæmoglobin in the blood. It has no disturbing action upon the gastric organs, as have ordinary iron salts. Triferrin is a powerful hæmatenic.

(1) SOLUTION ADRENALIN CHLORIDE; (2) CASCARA EVACUANT; (3) ELIXIR GLYCERO PHOSPHATES; AND (4) THERMOFUGE.

(PARKE, DAVIS, AND CO., 111, QUEEN VICTORIA-STREET, LONDON, E.C.)

1. The physiological effect of adrenalin is now well known and it is also recognised that the solution adrenalin chloride is the most suitable form for administering the active principle of the suprarenal gland. We have referred already in our columns to the isolation of this active principle (adrenalin) and to the preparation of its chloride by the Japanese chemist Takamine. The preparation may prove useful in some cases in which the control of hæmorrhage or bleeding is a desideratum. 2. Cascara evacuant is described as an active preparation of the unchanged bitterless glucosides of cascara sagrada. It possesses a distinct laxative or purgative action, according to the dose employed, without any griping or disagreeable effects. The preparation is a dark-brown fluid which is somewhat strongly

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[1] THE LANCET, June 1st, 1901.

aromatised. From 10 to 15 minims suffice for laxative purposes, while twice those quantities respectively are suggested when purgative effects are indicated. The agreeable taste is decidedly in favour of the preparation. 3. The elixir glycerophosphates is satisfactory as regards both purity and stability and contains the true salts of calcium and sodium. The indications for its use are well known. 4. Thermofuge is the basis of an excellent antiseptic poultice. It consists of a specially prepared clay worked into a paste with powerful and agreeable antiseptics. Its application promotes in the strictest sense cleanliness of the part to which it is to be applied whilst it is soothing and, as its name implies, antiphlogistic.

IRISH WHISKY.

(DUNVILLE AND CO., ROYAL IRISH DISTILLERIES, BELFAST, AND 239, SHAFTESBURY-AVENUE, LONDON, W.C.)

Two specimens submitted to us for examination proved to be good typical Irish whisky. The analysis of the "Special Reserve" was as follows: extractives, 0·20 per cent.; mineral matter, *nil;* alcohol, by weight 39·80 per cent., by volume 47·13 per cent., equal to proof spirit 82·59 per cent.; and acidity reckoned as acetic acid, 0·02 per cent. The specimen marked "V. R." gave the following results on analysis: extractives, 0 12 per cent.; mineral matter, *nil;* alcohol, by weight 40·30 per cent., by volume 47·67 per cent., equal to proof spirit 83·54 per cent.; acidity reckoned as acetic acid, 0·01 per cent. Both specimens were remarkably free from the ordinary impurities of whisky, they contained, practically speaking, no extractives and no sweetening matter, while they were without any appreciable degree of acidity. The flavour is characteristic of Irish whisky, "smooth," and delicately malty and the colour somewhat pale.

MALTOVA.

(THE MALTOVA FOOD CO., 11, NEW STATION-STREET, LEEDS.)

The combination of an active malt extract with raw eggs is an excellent idea. Such a preparation is calculated to contain all classes of material suited for the repair of the body waste. Moreover, the combination of course contains lecithin, that curious phosphorised principle of nerve substance, brain, &c. That maltova is a genuine preparation is obvious from the facts: (1) that it readily transforms starch into sugar, and (2) that it yields a coagulum of albumin on boiling. The preparation is one of undoubted merit and may be justly reckoned as belonging to the class of specially nutritious foods.

BANQUET CREAM.

(HERBERT FRANCIS AND CO., 8, ARTHUR-STREET WEST, LONDON, E.C.)

Though sterilised this cream on analysis presents a uniformity of composition. and its taste, while suggesting a "scalded" flavour, is quite acceptable. Our analysis was as follows: moisture, 62 81 per cent.; fat, 18·12 per cent.; curd, &c., 18·57 per cent.; and mineral matter, 0·50 per cent. We could trace no objectionable preservatives or any additions calculated to give consistence to the cream. The cream is in a liquid state and is suitable for all the purposes to which fresh cream is usually put.

THE ARMSTRONG BEEF AND MALT WINE.

(JAMES MURRAY AND SONS, 34, GREAT CLYDE-STREET, GLASGOW.)

We are prepared to bestow praise upon a wine which can be shown to contain any important amount of the nutrient matters of beef in solution. Never in our experience, however, have we met with such preparations, a fact which is hardly surprising since the nutritious portions of beef are incompatible with a fluid of the alcoholic strength of port wine. At most a solution of the beef extractives can be obtained and these are, as is well known, of little nutrient value. The analysis of the Armstrong beef and malt wine was as follows: extractives, 10·63 per cent.; alcohol, by weight 17·25 per cent., by volume 21·19 per cent., equal to proof spirit 37·13 per cent.; fixed acidity, calculated as tartaric acid, 0·33 per cent.; volatile acidity, calculated as acetic acid, 0·06 per cent.; and total nitrogen, 0·14 per cent. It is obvious from the total nitrogen that the wine contains practically no beef derivative. According to our experience the idea that beef can be combined serviceably with wine is a delusion. It would be better to recommend a glass of good port with an ordinary biscuit. A biscuit contains much more nutriment than it is possible to dissolve in a glass of port wine.

(1) TABLOID LIQUORICE COMPOUND POWDER; (2) TABLOID KINO COMPOUND POWDER; (3) SOLOID MICROSCOPIC STAINS; AND (4) SOLOID INDIGO TEST.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, LONDON, E.C.)

1. The tabloid liquorice compound is designed to meet the objection which patients exhibit to the ordinary powder. Each tabloid represents 30 grains of the compound liquorice powder. 2. A similar advantage is gained by the employment of the tabloid kino compound powder which besides is prepared with the purest drugs and may be relied upon to contain an accurate dose of the official preparation. The astringent properties of kino are well known, properties which have made it of service in the treatment of certain forms of diarrhœa and dysentery. 3. The convenience of possessing in the clinical laboratory a series of microscopic stains in soloid form is obvious since the soloid presents at once a standard amount of dye for preparing an aqueous or alcoholic solution. Time is saved and a solution in accordance with requirements is readily obtained. Since the soloids are prepared with dyes of ascertained purity much trouble is avoided and good uniform results are obtained, while their adoption dispenses with the necessity of keeping a stock solution in which state the dye is apt to deteriorate. 4. The soloid indigo test facilitates the detection of sugar in urine by the sodium nitrophenylpropiolate reaction. 10 mimins of the urine are mixed with three drachms of water. One soloid is next added and the liquid is boiled. In the presence of glucose the liquid will assume a blue colour owing to the formation of indigo. An important advantage of this test is that the reaction is not influenced by uric acid, creatinine, glycuronic acid, bile colouring, or by substances which may be contained in the urine after the administration of certain drugs.

SALUVINO CORDIAL.

(THE STANDARD WINE ASSOCIATION, 19, ST. DUNSTAN'S-HILL, LONDON, E C.)

This is a somewhat sweet red wine with a peculiar aromatic flavour. The wine basis is said to be red Médoc. On analysis we obtained the following results: alcohol, by weight 15·67 per cent., by volume 19·28 per cent., equal to proof spirit 33·79 per cent.; extractives, 18·13 per cent.; mineral matter, 0·16 per cent.; fixed acid, calculated as tartaric acid, 0·25 per cent.; volatile acid, calculated as acetic acid, 0·09 per cent.; and sugar, 7·7 per cent. As will be seen, the wine shows the alcoholic strength of port wine. "Saluvino" is an agreeable stimulant and cordial and is of some value as a tonic, such value being referable, amongst other things, to iron and certain aromatics and bitters.

DIGESTIVE LENTIL FLOUR.

(THE DIGESTIVE FOOD CO., PAISLEY.)

Lentil flour has been justly described as the beef of the vegetable kingdom owing to its high proportion of proteid. The sample before us has been specially prepared with a view to raise its digestibility. One effect of this preparation, according to our analysis, has been to increase the solubility of the flour. Thus, on shaking up with cold water and filtering the liquid it will be found to yield a distinct coagulum on adding alcohol. Analysis gave the following results: moisture, 7·90 per cent.; proteid, 29·92 per cent.; and mineral matter, 2·60 per cent., containing a notable quantity of phosphates. It will be seen that besides a remarkable proportion of proteids the lentil flour contains also a relatively large amount of mineral salts of dietetic importance. The "digestive lentil flour" may be recommended.

THE LANCET.

LONDON: SATURDAY, MAY 24, 1902.

Feeble-minded Persons and Crime.

THE fact is now generally recognised that an appreciable number of men and women are feeble-minded owing to congenital deficiency without being either imbecile or insane. The larger proportion of these persons are males, of whom some tend towards dependency from want of power to support and to protect themselves, while others tend to lead criminal lives or to become themselves the prey of crime. Among the poorer classes many such persons, being without resources of their own and unprotected, fall to vagrancy and pauperism. In the wealthier sections of society the men fail to take any useful or creditable position, and the women if married lead most unhappy lives and become the mothers of children feeble like themselves. Elsewhere we publish a paper by Miss DENDY, an active member of the Manchester School Board, giving the social history of many feeble-minded persons as ascertained by careful personal inquiry. The reports on their mental defectiveness have been verified by Dr. HENRY ASHBY and Dr. G. E. SHUTTLEWORTH and the facts given show plainly the strong tendency of persons mentally feeble to fall into a state of pauperism and crime if left friendless, untrained, and unprotected.

There is ample evidence, to which Miss DENDY's paper further contributes, to show that the offspring of feeble-minded persons, both men and women, usually inherit their defectiveness in some degree and that in this way the evil is perpetuated. But the inheritance of mental deficiency from one or both parents is not the only cause of the condition, and it is not safe to consider imbecility on a mere question of heredity. It is not uncommon to meet with examples where both the father and the mother of a feeble-minded child are above the average development of their respective families in mental ability, and a single case of defect among several intelligent brothers and sisters is often to be found; in fact, when there is marked evolution in a family there is often one instance of decadence, such misfortune appearing more often among the sons and frequently in the case of the eldest. Cases of congenital defect are more common among males, many of whom die in their first year, thus adding to the cases of infant mortality; and it is noticed that while the larger proportion of children born are males, after the first year girls predominate in numbers. Surviving cases of congenital defect form the subjects of grave social problems, for, uncared for and untrained, they tend to increase the criminal and pauper sections of our population. Special classes of instruction under the Defective and Epileptic Children Act provide day-school training for these unfortunate children up to 16 years of age, and a few educational homes have been established for the reception of children. There is no doubt an increasing feeling that more should be done for these helpless little ones. The Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded desires to found homes wherein cases that require continued protection may be received. We wish the society success in this work which may transform children apparently only a burden to themselves and the social scheme into more or less useful citizens. After several years of carefully planned training during school age feeble-minded children may be educated to be decent and self-helpful; intelligent speech and habits of orderliness and obedience can be acquired under control; moreover, their actions, movements, powers of seeing and of thinking may be *cultivated up to the full brain capacity of the individual* and thus their lives may be made happy and good. Defective brains may be much improved. Medical men of course know this, but we are laying a little stress on the fact here, as we hope that our readers will constitute themselves, when opportunity serves, the champions of the feeble-minded child. It is necessary to assure the public that the money required for the systematic training of these children is not thrown away. We do not attempt to deny that defective brains are always liable to lose the mental acquisitions gained under training. This, however, is not the case so much if the mind is kept alive by exercise. When the feeble-minded undertake industrial work they need to be taught to perform each process carefully and *methodically, stage by stage, so that by practice they may* be enabled to accomplish something towards their maintenance. Homes in which such graduated and well-ordered instruction can be given can never be really *self-supporting*, but they are greatly needed to save many women and men from a life of degradation.

The number of individuals who require this systematic attention from their early youth is undoubtedly large, but we think that Miss DENDY has put the figure too high. She states that "2 per cent. at least of our school-going population are in some degree weak-minded." The Departmental Committee of the Educational Board on Defective and Epileptic Children reports that "approximately 1 per cent. of the children of the public elementary school class appear to be feeble-minded." Dr. FRANCIS WARNER in his evidence before that committee stated that among 100,000 children he found 930 mentally deficient, but the schools which were examined included many under the Poor Law and Home Office where the percentage of feeble-minded *is higher than in elementary schools*. Among public elementary schools with 86,000 children actually in attendance (1892-94) 0·65 per cent. were stated, by the same observer to be feeble-minded. As a matter of fact a great deal of discrimination is required in order to ascertain these figures *with irreproachable accuracy*. Among 100 cases collected by teachers and visitors as "exceptional cases" and examined for the Charity Organisation Society Dr. WARNER reported 32 cases as "not exceptional,"[1] a fact which indicates that careful examination and diagnosis of feeble-minded children are necessary in all schemes designed for their care. The Elementary (Defective and Epileptic Children) Act, 1899, provides that "for the purposes of ascertaining whether a child is defective or epileptic within the meaning of this section, a certificate to that effect by a duly qualified practitioner approved by the Education Department shall be required in each case. The certificate shall be in such form as may be prescribed by the Education Department."

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[1] THE LANCET, Feb. 6th, 1897, p. 374.

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What is a "Cure"?

MEDICINE presents many problems to her faithful followers. One, however, may fairly be considered to be the greatest of them all, whether on account of the extreme difficulty offered to its solution or because of the fact that it arises in connexion with almost every case that the physician treats. This problem is to decide how far the effects of given therapeutic measures have resulted in a "cure"—a word that the medical man, knowing its full significance, seldom employs without reservation. It often enough occurs, happily, that treatment is given and disease disappears. How often can the medical man say with certainty that the disappearance is due to the remedy, that without it the disease would have persisted, and that nature could not quite as well have effected alone what medicine has accomplished with her aid? This question which must constantly recur to every thoughtful practitioner has formed the theme of a presidential address recently delivered in the Section of Medicine of the Intercolonial Congress of Australasia by Dr. JAMES JAMIESON, lecturer on medicine in the University of Melbourne. In Dr. JAMIESON'S address the crux of the question discussed was not, as might possibly be surmised, the temporary or permanent nature of the changes regarded as cure but whether this change is always simply brought about by nature's undoubted beneficent processes or whether therapeutic measures do considerably help, modify, or even actually cause these processes. The answer of modern medical opinion to the question, "Can we cure?" partakes strongly of the nature of modified scepticism. Medicine labours to be scientific and the essence of science is a sceptical attitude towards the unproven. It is the proof of real effects that is so hard to substantiate in the matter of therapeutics. Consequently medical men of scientific training necessarily start with a sceptical attitude even towards the results that they themselves apparently have achieved.

This attitude, however, as Dr. JAMIESON points out, is a comparatively new one among practitioners of medicine. Until the time came when medicine was founded on science medical men shared with the general public a blindly trusting faith in the efficacy of all kinds of empirical remedies. Not until the beginning of rational scientific medicine did it occur to men to doubt whether an illness which was recovered from when certain drugs had been administered could have righted itself without these medicines. Such doubts arise directly the administrator of drugs has an insight into the physiological working of the machine the disorders of which he seeks to rectify. Beholding the complexity, the adaptability, and the various nature of the component systems of the human organism he suspects in it an almost infinite capacity for readjusting disordered processes or for expelling injurious influences. Thus he is led away from a vigorous, often harmful, empiricism into a watchful, perhaps even a timid, attitude in the treatment of disease. According to Dr. JAMIESON, the physician's scepticism as to the potency of drugs is still quite unshared by laymen who, if they often blame a medical man for failure that is unavoidable, perhaps equally often give him credit for results due entirely to the operations of nature. It is not surprising that the ordinary individual should be slow to change his faith in the unerring efficacy of drugs when we remember that it is really only within the last hundred years or so that medical men have given up an equally rooted belief, the cherished tradition of centuries. Yet, further back still, in the time of HIPPOCRATES, we find a view of disease that is as rational if not so fully informed as that of the most cultured physicians of to-day. HIPPOCRATES scouted the notion that any disease came as an affliction from the gods and declared that all illness had its origin in natural causes. He laid great stress upon prognosis, which can be safely founded only upon a knowledge of the natural course of disease. Followers in the footsteps of HIPPOCRATES doubtless there have been among physicians in all ages, but till at least the early part of last century the medical mind, as a whole, was deeply, and honestly, impressed with the power of therapeutic measures to determine the course, and actually to bring about the cure, of all diseases. To-day we are obliged to regard as at present unknown the really curative agents for very many disorders, but happily together with this well-founded scepticism of therapeutic effect in many cases we have justified ourselves in the use of drugs and of therapeutic measures in other instances where the undoubted benefits that these bring are based upon a sure and scientific understanding of the etiology and pathology of the conditions successfully treated. Antitoxin in diphtheria, thyroid gland in myxœdema, and the nitrites in angina pectoris, are only some of the fruits of the scientific study of medicine that we may name in support of the well-founded, if limited, therapeutic faith that replaces in the mind of a modern practitioner the wide but ignorant credulity of his predecessors.

An interesting passage in the address which has inspired these remarks points out how the rise of homœopathy, mistaken though its tenets are, helped in the destruction of a blind faith in the curative powers of drugs. It was not that HAHNEMANN himself was sceptical but those who could not accept the fundamental doctrines of homœopathy, or its peculiar mode of practice, were at any rate obliged to admit that results equal to those from their own practice often attended a method of treatment which was tantamount to giving no drugs at all. Thus, inquiry was naturally stimulated as to the course of disease if untreated and as to the actual effect or importance of medicines hitherto regarded unhesitatingly as actively beneficial. The best physicians felt that very likely they could not do much in the way of directly curing disease and that the first thing was to try to understand it. Thus followed a general return to the Hippocratic standpoint. Men saw that they could not tell with any approach to certainty what the effect of treatment was, or might be, if they could not predict what the progress of a case would have been had the patient remained untreated. Upon an open-minded observation of disease follows some understanding of the means and processes by which nature contrives recovery. Disease is seen to be a disturbance of physiological processes. As the organism is subject to constant changes so diseases, too, to a greater or less extent, suffer variations. It is this variability, Dr JAMIESON points out, this constant waste and renovation of body-structures, that makes recovery or cure possible. It may have had a manifest external cause, but in its essence disease is only a modification of natural processes, and cure must be accomplished by similar processes. To say this is not to declare that art cannot intervene and by removing injurious influences give that turn to natural processes which determines the occurrence of cure. But it is only by knowing nature's own method of cure that we can find rational basis for our therapeutic endeavours. The first of these natural processes would seem to be removal of the cause of the disease. It often happens, *though, that*, the primary cause ceasing to act, the disease still continues. This may be through the evil intervention of other causes the influence of which the state of the organism induced by the primary cause has made potent. It is particularly in the recognition of these secondary causes and in the discovery of methods for removing and controlling them that modern medicine has made progress and is hopeful of still wider conquests.

The discovery of the bacterial origin of infective diseases must be regarded as a fine example of the recognition of cause in disease. Together with the constant endeavour to trace cause must go the physician's unwearying effort to recognise the signs of nature's own curative efforts. Otherwise he will find himself combating symptoms that are a necessary accompaniment of reparative processes. Moreover, without such observation of natural progress to recovery no imitation of natural repair can be intelligently instituted. Dr JAMIESON in his excellent address shows how such observation has in several instances made successful imitation of natural cure possible and his words leave us convinced that the modern scientific sceptical attitude towards remedies in general has already led to therapeutic discoveries of the highest importance and benefit and should *give us confident hope that more diseases will in the near* future come within the range of a rational system of healing.

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The Etiology of Typhoid Fever.

THERE are certain factors in relation to the etiology of typhoid fever which are now generally accepted as proved but in regard to others much difference of opinion and doubt still exist. That the organism first described by EBERTH holds a direct causal relationship to the disease is certain, although some of its characteristics and properties are still under investigation. Water is universally recognised as the medium through which the disease is most commonly and extensively spread but there are undoubtedly other means by which the disease may be contracted which are less recognised. Dr W. H. CORFIELD[1] in the Milroy Lectures which he recently delivered at the Royal College of Physicians of London gave an elaborate historical account of *typhoid fever*, full of interest as showing the various phases of thought through which medical observers have passed at different periods during the progress of medical science. He brought his survey up to the most recent times, thus presenting the profession with a most valuable *résumé* of the work which has been accomplished with reference to the origin and mode of spread of typhoid fever. Dr THOMAS CHERRY[2] in an address delivered before the sixth session of the International Medical Congress of Australasia, held at Hobart in February of this year, also made some interesting remarks on the same subject.

For the purposes of prophylaxis it is, of course, of the utmost importance to ascertain the length of time during which the typhoid bacillus may remain in the tissues of the body while still retaining its potential infectivity and *also the conditions under which the bacillus can exist outside the body*. Both the lecturers above mentioned referred to observations which had been made in order to obtain information on these points. Dr P. HORTON SMITH[3] in the Goulstonian Lectures delivered before the Royal College of Physicians of London in 1900 quoted cases in which it had been proved that the typhoid bacillus persisted in the body, especially in the bile, for three months *after the fever in one instance*, in another case for eight months, and in a third case after an interval of seven years. The most remarkable case of all, however, and one very carefully tested, is that recorded by Dr VON DUNGERN in which, fourteen and a half years after the attack of the fever, the bacilli were still present in pure culture "in the pus." Dr SIDNEY H. C. MARTIN found that the bacillus, when implanted in *organically polluted soil*, "*speedily increased and spread* abroad," whereas in an unpolluted soil from an uninhabited and uncultivated area "it languished and quickly died out" under like conditions of temperature and moisture. One of Dr MARTIN's most important conclusions is that the soils which are favourable to the growth of the typhoid bacillus are those which have been cultivated—more particularly *soils of gardens and the entourage of houses*. In these soils the bacillus was found to be alive and to have retained its vegetative properties for as long as 456 days, this being found true for sterilised soil which was moistened throughout with water. On drying this soil, even when it had become so dry that it could be made into a fine powder, the bacillus could still be obtained from it and had retained its vegetative properties. Virgin soils, sandy or peaty, were found to be absolutely inimical to the growth of the organism. Dr CHERRY quotes a case reported by Dr P. H. METCALFE which occurred in Norfolk Island (lying 1100 miles from both New South Wales and New Zealand). In 1863 there had been an epidemic "of some kind of fever" on the island. No further cases occurred till 1877 when a man was reported to have died from fever. In January, 1860, a typical case of typhoid fever occurred at the mission station in a man who had arrived in the island in the previous September. On investigation it was found that he was the only person in the island who drank the water from a well with a bad reputation. Dr. METCALFE thought that only two hypotheses to account for the fever were possible—either that the patient carried the contagion with him for fifteen months (i.e., since he left England) or else that the disease originated *de novo*. Dr. CHERRY adds three other suggestions, which he admits are all very difficult of acceptance: (1) that the typhoid bacillus may have been in the polluted well for several years; (2) that some of the islanders had been carrying it about in their bladders or intestines for a similar period; or (3) that the attack was caused by Gärtner's bacillus which existed in the well. Dr. CORFIELD and Dr. CHERRY further refer at some length to the various channels by means of which the fever may be spread. They both agree that water, milk, and food are chiefly to blame for its dissemination, but that in hot countries, at least, flies and dust have a considerable share in bringing about this contamination. Dr. CORFIELD also refers to a discussion which took place at the Epidemiological Society in 1900 in which, from the remarks of the different speakers, it was evident that there was great unanimity of opinion, not only among the inspectors of the Local Government Board but among medical officers of health throughout the country, that communication by direct contagion is a much more common cause of spread of typhoid fever than is generally supposed.

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[1] THE LANCET, March 22nd (p. 793), April 5th (p. 942), 12th (p. 1013), and 26th (p. 1156), and May 3rd (p. 1231), 1902.

[2] THE LANCET, April 19th, 1902, p. 1101.

[3] THE LANCET, March 24th (p. 821) and 31st (p. 910) and April 14th (p. 1060), 1900.

The above considerations suggest many indications as to the basis upon which preventive measures against typhoid fever should be founded. To quote the words of Dr. HORTON-SMITH: "Truly no longer can we say with Dr. BUDD that 'by destroying the infectious power of the intestinal discharges the disease may be in time finally extinguished.' So far, indeed, from the stools being the only agents by means of which the disease is spread, they are but one of a series of agents. So far, too, from the patient ceasing to be a source of danger after his restoration to seeming health, he may carry about in himself the seeds of infection for months and even years." Many public improvements in towns and country districts have coincided with a reduction in the prevalence of typhoid fever, such as the drying of the soil, reduction in the crowding of houses, and the substitution of an ample supply of good water for a scanty and impure supply. It is, however, as the late Sir GEORGE BUCHANAN pointed out, the purification of the atmosphere from decomposing organic matters that has been most uniformly followed by a fall in the prevalence of typhoid fever. This fact would bear out the suggestions that have been made as to the etiology of the disease which we have been considering—that although water is the most common medium for conveyance of the pathogenic bacillus yet other sources of contagion occasionally play a part, and it is therefore necessary to take all precautions to ensure not only that the water-supply of a town or district is pure but also that the disposal of sewage and waste organic matters of every kind is properly provided for.

CHELTENHAM GENERAL HOSPITAL.—The committee of the Cheltenham General Hospital has had the offer of an anonymous gift of £1000 to endow a bed subject to the condition that no anti-vaccinationist should be eligible to occupy it.

Annotations.

"Ne quid nimis."

FUSS AS A MARK OF MODERN CIVILISATION.

EVEN the dry text of a Parliamentary paper may afford material of more than purely political interest. The recently published report of the Committee on Shipbuilding for the Navy contains a suggestion which we cannot pass over without comment. It is that in which Sir Francis Evans condemns the present system of inspection in detail, a minute and vexatious process, and maintains that contractors of character and position should be frankly taken into the confidence of the Government and allowed a reasonable latitude and initiative as its collaborators in the national interest. There is an obvious good sense about this proposal which cannot be seriously discounted unless we are to admit a practical failure of intelligence and of commercial probity among the heads of a most important and peculiarly British industry. But the subject with which it deals is wider than any one field of manufacturing activity. Whatever the work to be done unnecessarily close inspection is more likely to act as a cause of obstruction and delay than as a stimulus to success. Where such intervention is official it is usually far from unintelligent but if needless and untimely it may do harm nevertheless. It is refreshing in these days of nervous overzeal to find a Parliamentary committee that is candid enough to admit this. There are other cases where supervision is gratuitous and irresponsible and can claim no excuse either in the obligations of office or in the possession of special knowledge. In such cases it is as far removed from intelligent criticism as it is nearly allied to meddlesome curiosity. It is to this kind of investigation that medical practice is at times particularly liable. A distinguished person is ill and forthwith every incident in his condition is focussed by industrious interviewers as if they acted for a jury of physicians. All that his countrymen wish to know is whether he is better or not. In addition to information on this all-important point they are treated to minute details of pulse, respiration, temperature, drugs, and perhaps of something approaching to sick-room gossip as well. Meanwhile his attendants, evidently not having enough on their hands already, are liable to be pestered with suggestions for treatment derived from all imaginable sources. All this does not make for recovery. Much the same thing happens when there is news of a reverse at the seat of war. We have only to invert the telescope in order to find the civilian from his writing-table at home carefully endeavouring to instruct the soldier in his duties regardless alike of military methods and of local conditions. Other examples of a like nature might be quoted but the foregoing will suffice to direct attention to a quality of mind which appears to be increasingly prevalent among a certain class of writers and talkers and which cannot be regarded as a sign of healthy social life. It is not vigilance or prudence or deliberate and considered judgment; it is not even a natural and rational anxiety, though it may exhibit itself in the guise of any one of these. It is mere fussiness. Serving in itself no profitable purpose, it mingles with and impedes every useful work, damping energy and discouraging initiative and the sense of responsibility in those engaged in it. All the while it may be preaching moderation, patience, and self-control. This neurosis is not confined to any people or part of the civilised world, though it seems to be more prevalent in some quarters than elsewhere. Wherever there exists a suitable soil in the form of an intellect equipped with the visual organs of education but without corresponding reflective power and self restraint there the morbid germ develops until it may even become epidemic over a wide area. We have already noticed some of its manifestations and have referred to the instability of will and the incoördinated action which are its natural consequences. In these circumstances its effective treatment is obviously most desirable. Fortunately it is a true functional disorder and there is no reason to regard it as incurable. If only the exciting cause be frankly recognised and grappled with much will have been done towards providing a remedy In order to arrive at a successful result, however, it is necessary to begin by admitting that scrutiny in technical matters, even by those whom it may concern, may be overdone. It matters little whether it be carried out by a subordinate Government official, by an over zealous pressman, or by a private individual more eager than judicious, if superfluous the effect is the same. To let well alone is an axiom synonymous with sound practice. To say that details of matters not belonging to the province of common knowledge should be left in the hands of selected and competent persons is another way of expressing the same truth. The contrary method, that of prying and open mouthed publicity, is incompatible with successful business, with the public service, and with the very desirable extinction of the alarmist neurosis.

NICETIES OF NURSING.

THAT a good nurse must have other qualities besides a sufficient knowledge of, and skill in, her profession is as plain to all who have had the misfortune of being "patients" as it is that similar advantages are necessary in a medical man if he is to be, not only a safe, but also a welcome, adviser For a nurse, indeed, these qualities, which we may take to be tact, sympathy, and the knack of doing the right thing with the least possible unpleasantness, are even more essential than they are in the practitioner s case, for he sees comparatively little of his patients, while the nurse is to a large extent constantly present. The modern nurse is such a vast improvement professionally upon her predecessor and her position in the sick room and in the hospital is so well established and generally so well filled that she is apt to overlook or to forget the great importance of being pleasant and considerate as well as professionally accomplished. The old fashioned nurse was of very little benefit to her patient in illness and the modern nurse seems sometimes to imagine that it is for her benefit that the patient is ill. She demands sometimes little attentions and consideration which really it is her duty to supply It is particularly, of course, in private houses that a selfish or a thoughtless nurse can make her presence a necessary evil instead of being a grateful source of ease to her patient. Many of the little extra points by attention to which a nurse can multiply many times the gratitude of those in her charge are given in an address on the "Little Niceties of Private Nursing" by Mrs. Emily F Stewart Brown, lady president of the Liverpool Hospital for Women. The address contains, moreover, some directions bearing upon small points in a nurse's actual duties of much importance but often neglected in private nursing where the conveniences of a hospital and the watchful eye of a superior may be alike absent. Mrs. Stewart Brown's advice is contained in a series of "Don'ts" and is based upon true instances. We pity the patient whose experience of nursing provided Mrs. Stewart Brown with this succinct prohibition, "Don't cultivate a love for the succulent onion." A wise injunction to nurses engaged in private houses is "Don't forget that illness upsets the routine of a household, and make things as pleasant as you can; if you don't your meals will be anything but elaborate and the attention you will receive very limited." Mrs. Stewart Brown is not in her address concerned with the other side of the question, or we can well imagine a series of "Don'ts" applicable to people who employ nurses and who are sometimes strangely inconsiderate in what they expect at a nurse s hands Sometimes there is a tendency to overlook the fact that a nurse needs food, sleep, and some comfort even as ordinary persons do—still more than other folks, perhaps, when engaged upon an arduous case To very many nurses, we are glad to know, most of Mrs Stewart Brown s prohibitions are superfluous, by none, however, can they be read with anything but pleasure and by most, we are sure, with very great advantage.

SUCCESSFUL TREATMENT OF PARENTAL NEGLECT.

REFORMATION rather than punishment has always been the aim of the National Society for the Prevention of Cruelty to Children. It affords protection to helpless children but it does more than this. It endeavours to awaken, if possible, in defaulting parents a desire to do likewise. Two cases mentioned in a recent issue of the society's periodical go to prove that its efforts in this direction have not been altogether unsuccessful In each instance a drunken mother had grossly neglected her duties to her family and had been sentenced to a term of imprisonment. Both women after their liberation abandoned the drinking habit, became industrious, maintained their children in sobriety and comfort, and eventually returned to thank the agents of the society for what it had done for them This, we are assured, is the kind of work which is being carried on throughout the country We believe the statement though we are also alive to the fact that actual punishment is not lightly resorted to. These cases are their own commentary They show that a penalty when judiciously employed may and does act as a stimulus to the parental sense of responsibility There must be few persons who do not join us in the hope that such work may continue.

THE THERAPEUTICS OF THE X RAYS

THE value of the light treatment in lupus and in certain cases of superficial malignant disease, particularly rodent ulcer, is now established But the permanency of the "cures" which have been obtained and the utility of the treatment in other forms of malignant disease and in other diseases remain to be determined. In the *Journal of the American Medical Association* of April 12th Dr Allen Pusey, professor of dermatology in the University of Illinois, has published a well reasoned paper which tends to show that the field of utility of the x rays is greater than that in which they have been employed in this country He describes 36 cases of various diseases, principally malignant, and gives 24 excellent illustrations showing the condition before and after treatment. His results therefore cannot be gainsaid. In lupus they are simply confirmatory the x rays cause the disease to disappear and yield white, soft, pliable scars which could not be less extensive under any other method. Even in the case in which the longest interval—18 months—had elapsed since recovery there was no sign of recurrence. Eight consecutive cases of "epithelioma" (most, if not all, of them appear to be cases which in England would be termed "rodent ulcer") were treated successfully, the ulcer being replaced by healthy scar One case "was beyond relief by any other method" and Dr Pusey with pardonable pride claims it as "unique" A man, aged 35 years, came under treatment. 11 years before a small nodule appeared on the right cheek below the eye. It gradually enlarged and after two years it ulcerated. Five years later a radical operation was performed; the ulcer and a large amount of the surrounding tissue were removed. The lower eyelid had to be restored by an extensive plastic operation. After a year recurrence took place and the orbit became involved. The disease was so extensive that a surgeon would not operate. The entire orbit, both eyelids, the side of the nose and the cheek were involved. The eyeball was shrunken and retracted in the orbit. Microscopical examination confirmed the diagnosis of epithelioma. The eyeball was removed but this did not relieve the severe pain. Exposures to the x rays were given almost daily until erythema and slight desquamation were produced. Within a week the pain ceased and the discharge diminished. The borders and the nodules shrank and the ulcer began to heal. The surrounding tissue became smooth, soft, moveable, and free from induration. After three months the ulcer was almost healed and the patient had regained health. Sections of the border of the ulcer made before and after the exposures demonstrated the effect of the treatment: the abundant downgrowth of epithelium was replaced by a degenerated, structureless, wavy substance. A very similar case has recently been recorded by Dr. G. Stopford Taylor.[1] In three cases of recurrent cancer of the breast remarkable benefit was obtained. Thus in one case the skin and subcutaneous tissue for an area six inches in diameter round the scar were infiltrated with cancer and there were ulcerating nodules. Four months after the treatment was begun all traces of cancer had disappeared. In three other cases, however, the treatment failed. In lymphadenoma exposure of enlarged glands to the x rays was followed by almost complete subsidence and improvement in the general condition—for example, the hæmoglobin in the blood increased from 50 per cent. of the normal to 80 per cent. Of course, the question whether the improvement in all these cases will remain permanent cannot yet be answered. But even if it does not the striking benefit obtained in the inoperable cases of cancer is sufficient to make the light treatment a valuable addition to therapeutics. Moreover, in case of recurrence it may yield in turn to the same treatment. Dr. Pusey's paper is all the more valuable because he does not attempt to claim too much. He points out that the advantages of the x-ray treatment are: (1) that it is painless; (2) that it destroys diseased tissue but leaves healthy tissue in its place; (3) that it leaves small scars; (4) that it can be used when the surrounding healthy tissue cannot be sacrificed (in operations about the eye and nose); (5) that it is applicable in inoperable cases; and (6) that it often relieves pain. With commendable caution he does not advise the use of the x rays for operable malignant growths except for "cutaneous carcinoma" (rodent ulcer). On the other hand, he thinks that the x rays should be used as a prophylactic measure in all cases of malignant disease which have been operated upon and should be tried in all inoperable cases—in which there are a probability of relieving pain and a possibility of inhibiting growth.

THE MEDICAL ORGANISATIONS OF FOREIGN ARMIES.

WE desire to call attention to a very useful little official handbook dealing with the medical organisations of foreign armies (chiefly for war) which has been compiled by Lieutenant-Colonel Frank Howard, Army Medical Staff (retired pay), and is issued by authority. A brief description is given of the army medical organisation of some 20 foreign countries. The information, which must have cost the writer much care and labour to get together, strikes us as being clearly and succinctly epitomised, and, setting aside any intrinsic interest attaching to the subject, the manual supplies a want on the part of army surgeons who will be required to show some knowledge of it in their future examinations for promotion. Readers of the handbook will naturally turn first of all to the medical organisations of the armies of Germany, France, America, Russia, Austria-Hungary, and Italy. Speaking generally, there is a great similarity, on the whole, in the army medical organisation, arrangements, and transport of the different military powers; they all recognise very much the same aims and principles, although there are, as might be confidently expected, some diversities of procedure—of ways and means and details—in carrying them out. The handbook is a little mine of compressed information which does not easily lend itself to review, but we may say that the sections devoted to France, Germany, America, and Japan seem to be full and precise. We should add that the price of the handbook is 1s.

THE LATE MR. BRAXTON HICKS.

WE regret to see the announcement of the death from pneumonia on Saturday last of Mr. Athelstan Braxton Hicks, coroner for the South-western District of London and for the Kingston Division of Surrey. Mr. Hicks, who was a legal coroner, was a son of the late Dr. Braxton Hicks, the distinguished obstetrician, and was, we believe, at one time intended for the medical profession and studied for some years at Guy's Hospital. He eventually, however, was called to the Bar and in 1883 was appointed deputy coroner for Mid-Surrey and subsequently deputy-coroner for the City of London, the Borough of Southwark, the City of Westminster, and Western Middlesex. In 1885 he became coroner for Surrey in succession to the late Mr. George Hull. On the passing of the Local Government Act and the formation of the administrative county of London his district was divided and he became coroner for South-west London and the Kingston division of Surrey. Mr. Braxton Hicks was at the time of his death Vice-president of the Coroners' Society; he also was, and had been for many years, secretary of the society and had a wide knowledge of the laws appertaining to the duties and position of coroners. We have frequently been indebted to him for information of this nature which was always freely and promptly placed at our disposal. As a coroner he performed good public service in many ways. He was largely responsible for the licensing of small boats and did much to bring about an alteration in the law with regard to the sale of carbolic acid. He also missed no opportunity of exposing the evils of baby-farming, and up to the time of his death was engaged in impressing upon the poorer classes of the public the necessity of the provision of fire-guards to protect their children from accidental burning.

A CASE OF ABNORMALLY HIGH BRAIN-WEIGHT.

AN interesting case of abnormally high brain-weight in a man who died at the age of 37 years in an asylum, but who, until the age of about 35 years, had his mental faculties practically normal, is published in the *Journal of Mental Science* for April last by Mr. John Sutcliffe and Professor Sheridan Delépine. The brain belonged to a man who was by profession an accountant and estate agent, a sober, steady, hard-working man, who had built up a good business. He had married at the age of 21 years and was the father of four children. He had had good health till the age of 22 years, when epileptic fits began to appear, one fit occurring at intervals of two or three weeks. When 25 years old he was assaulted and knocked down and remained unconscious for three days. Since then the fits became severe and frequent and he also suffered from headaches. For some months before admission to the asylum at Cheadle—viz., Feb. 6th, 1900—he had been suffering from delusions of poisoning and from excitement. The symptoms on admission were those of epileptic insanity but they passed away while under treatment and he was discharged as recovered. His malady recurred in January, 1901, and he was readmitted to the asylum. His condition was then grave, he had frequent epileptic attacks, his delusions were re-established, and there was optic neuritis. He died in a state of coma on July 22nd. Post-mortem examination showed that the brain was enlarged generally, and that the cerebral convolutions were flatter and broader than normal. The entire brain (cerebrum, cerebellum, and pons) weighed 69 ounces. The naked eye distinction between grey and white matter seemed to be obliterated in sections of the convolutions and microscopical examination showed diffuse hyperplasia of the neuroglia elements throughout the brain, the overgrowth giving rise here and there to masses of soft neuroglia. The case was one of so-called diffuse "hypertrophy of the brain"—really a hypergliosis—which accounted for the abnormal increase of weight. The heaviest normal brains hitherto recorded were those of Cuvier the naturalist, which was 64½ ounces, and of Abercrombie the physician, which weighed 63 ounces.

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[1] THE LANCET, May 17th, 1902, p. 1395.

THE DISTRIBUTION OF PLAGUE.

IN Cape Colony during the week ending April 26th, 11 cases remained under observation, all Europeans, 6 of whom were males and 5 were females. The distribution of plague throughout Egypt during the week ending May 11th was as follows: 1 case and 1 death at Alexandria, 4 cases and 2 deaths at Deshneh, 1 case and 2 deaths at Tala, 3 cases and 1 death at Maghagha, 10 cases and 2 deaths at Toukh, 1 case and 1 death at Shebin El Koum, 1 case and 1 death at Ashmoun, 7 cases and 2 deaths at Samalout, and 1 case at Menouf, making a total of 29 cases and 12 deaths. Cases have been reported from Kolosneh in the Markaz of Samalout, and at Minieh Moudirieh, which is not very far from Maghagha; 1 case was notified at Shebin El Koum and other cases at Syaffa, Tant El Gheziroh, Bir El Shems, and Kafr El Faranieh. All these are small villages situated close to others in the Moudiriehs of Galioubieh and Menoufieh. Our Brazilian correspondent, writing from Recife, Pernambuco, during April, says that the bubonic plague has broken out in Recife. He continues: "Plague was first imported into South America in 1899, when it appeared in the slums of Rio Janeiro. The present is its first appearance in the State of Pernambuco and it is supposed to have been imported by a Spaniard who travelled by train from Santos. This man's illness was notified as plague to the Public Health Committee on March 28th by Dr. Simões Barbosa. The patient was 24 years of age and died five days after the onset of the febrile symptoms. He had a bubo in the left groin and another in the right axilla. A microscopical examination of his blood was made by the Government pathologist and the Kitasato cocco-bacillus was found in it. The pus of both buboes was examined with negative results but some of the pus injected into a rabbit gave rise to all the symptoms of plague and killed the animal on the fourth day. Up to the present date 48 cases of plague have been reported and 29 deaths have occurred. The port is in quarantine by sea and land and everyone who wishes to leave Recife by ship or by train is obliged to undergo disinfection. The disinfection is thus carried out. The person lies for a quarter of an hour in a bath of formol solution, then he is washed down with a lather of corrosive sublimate soap, and afterwards dried. His clothes are put into an *étuve* and cleansed by dry heat. At first when the pest declared itself there was no place in which the sick might be looked after and properly isolated. They were left in their own houses, which were guarded by soldiers, and were visited only by the public health officials. The populace was in a state of panic just then and trained nurses could not be obtained. Nearly every one of the first 20 cases died. Later an isolation hospital was opened at Pina on a small island a mile distant from the town of Recife. Patients are now taken there in a specially appointed boat. On their arrival they are well nursed and cared for and a microscopical examination of blood and dejecta is undertaken in every case. One type of case has hitherto predominated and its course is as follows. After an incubation period of only two days there sets in a prodromal stage of malaise, rigors, vertigo, and dull aching at the seat of the future bubo. After two or three hours the first stage begins, with rise of temperature, staggering, prostration, intense thirst, and loss of voice. The face is haggard and terrified looking and the eyes are bloodshot, staring, and sunken. There are vomiting and much diarrhœa. Death occurs with a gradual weakening of the action of the heart and is preceded by much cyanosis. Hæmorrhages of all kinds are frequent. The fever lasts for about a week in favourable cases and defervescence is by lysis. In this epidemic all the patients who lived more than four or five days developed buboes. The swellings were generally in the glands of the femoral triangle and discharged pus and débris when incised. The resulting wounds, especially when septic and occurring in asthenic patients, took a long time to heal and formed large indolent ulcers. The treatment adopted here has been, and is still, mainly symptomatic. The chief antipyretic measure employed is cold sponging; morphine is given for sleeplessness and strychnine is given throughout. The buboes are incised early and are dealt with on ordinary surgical principles. There are several advertisements in the local papers inserted by medical men referring to the prophylactic inoculation for plague as practised by Haffkine. So far as I have been able to learn Yersin's serum, which was so successful in China and so useless in India, has not been tried in Recife. It seems that the plague is already slowly diminishing, but some of the conditions of life under which it started are much as they were before in spite of the efforts of an enlightened Public Health Committee. Just before the outbreak there had been a spell of extremely hot dry weather and the general health of the public was of a low standard. The soil and streets were abundantly saturated with animal and vegetable refuse; there were crowds of vermin, flies and mosquitoes, and rats and mice. The houses of the poor are ill-drained, ill lighted, and ill-ventilated. The people are careless, idle, ill washed, ill-fed, and ill-clothed. Their thoroughfares are narrow, unwatered, and stink of accumulated garbage. Dead rats, mice, and lice lie about the place. Quite recently the bishop spoke of this state of things from the pulpit and referred to the plague as a visitation of God. I beg to acknowledge my indebtedness to Dr. Alves Pontual of this town for most of the details here set down." For the week ending May 17th 31 cases of bubonic plague and 34 deaths have been notified at Hong Kong.

A CHILDREN'S AMBULANCE SERVICE.

THE crippled children of the poorer classes are in several respects entitled to our sympathy, for their prospects in life are not of the brightest. Not only does their physical infirmity restrict their choice of an occupation but it has the further disadvantage that during early life it seriously interferes with their attendance at school or may even render it almost impossible for them. In London, however, this difficulty has been surmounted by the thoughtful care of the School Board which has provided a service of well-equipped vehicles for the conveyance of these helpless ones to and fro between their homes and the schools. The word "ambulance" may perhaps at first sight seem to be not altogether appropriate in this connexion, but the designation is nevertheless quite correct, for the vehicles are fitted up with special invalid couches and have removeable stretchers on which pupils may, if required, be conveyed undisturbed from their own apartments to their places in the class-rooms. The vehicles are constructed to carry seven or eight children, together with the nurse in charge. They have a neat appearance, resembling that of a small omnibus.

ARTHUR MARTIN-LEAKE, V.C.

WE announced last week that His Majesty the King had awarded the much-coveted decoration for valour, the Victoria Cross, to Surgeon-Captain Arthur Martin-Leake, of the South African Constabulary. Surgeon-Captain Martin-Leake is one of the four sons of a well-known barrister, the late Stephen Martin-Leake, author of an excellent legal text-book. After leaving Westminster School he received his medical education at University College Hospital, the choice of hospital being dictated by the fact that his uncle by marriage, the late Sir John Russell Reynolds, who had a great regard for him, was consulting physician to the institution. When the news of the early disasters attending the South African campaign reached England Arthur Martin-Leake, who had served his time as house surgeon at University College Hospital, volunteered for service as a civil surgeon. The War Office, however, stated that no more surgeons were required for the forces—at that time such was the stereotyped answer given to medical men who offered help. He therefore went out as a trooper in the Herts Yeomanry. After a year's service he was given a civil post on the medical staff at Pretoria and again about a year later was appointed to the South African Constabulary, in which service he has literally covered himself with glory. Mrs. Martin-Leake, his mother, may well be proud of her family, for the wearer of the Victoria Cross is one of four sons who are actively serving the Empire. One is a captain in the Cheshire Regiment now serving in South Africa; another is in the Royal Engineers, and was in Peking during the *émeute;* and a third is in command of H.M.S. *Bramble* now in Chinese waters. We congratulate Surgeon-Captain Martin-Leake upon his splendidly earned distinction.

GAS AS A SOURCE OF POWER.

APROPOS of Sir J. Crichton Browne's vigorous denunciation of the smoke nuisance at the recent Sanitary Conference at Manchester an important resolution was passed at the last meeting of the City Council of that town reducing the price of gas for power purposes from 2*s.* 9*d.* to 2*s.* per 1000 cubic feet within the city and from 3*s.* to 2*s.* 3*d.* without the city, separate fittings being provided by the consumer. The reason given is the dread of the competition of Mond gas. It was stated by one of the members that the latter "could be produced at a tenth of a penny per horse-power per hour," and he thought that the corporation would do well to reduce the price for power to 1*s.* 6*d.* or even 1*s.* per 1000. Another speaker thought that the smoke pollution was caused mostly by cottages and that the encouragement of the use of "gas cookers" would tend more than anything to reduce the smoke nuisance. The small manufacturers who try "to get more power out of their machinery than their boiler-room would afford" were considered to be greater offenders than the larger ones, but when the great chimneys are pouring out their inky clouds we are reminded of the kettle calling the pot black. However the production of smoke is apportioned among these various agencies the total results are disastrous to the amenities of town life and depressing to the health and vigour of many hundreds of thousands in Manchester and Salford. But habit brings indifference, and it would astonish many to hear Sir J. Crichton Browne saying to them, "You are smothered in the products of combustion all the year round; in winter these settle down on you in fogs, grim and horrible. ...... A sable incubus embarrasses your breathing, a hideous scum settles on your skin and clothes, a swart awning offends your vision, a sullen cloud oppresses your spirits, and you quietly tolerate all this, apparently having come to regard it as inevitable and as a penalty inseparable from industrial prosperity"; and he then went on to show that this curse of the towns might be mitigated, if not entirely removed. It would be worth while to make little or no profit from gas if by its use the manifold injuries caused by smoke could be prevented.

DEATH IN THE POLICE CELL.

AN inquiry was held recently at Streatham concerning the death of a medical man in a cell at the police-station in which he had been placed because he had been found lying helpless in the public highway, so that the police were under the erroneous impression that he was drunk and incapable, and in which he died without medical assistance being summoned. The danger to members of the community owing to the confidence thus placed in the unaided diagnosis of the constable or the police-serjeant is frequently brought before our notice and we should have thought that by this time it would have obtruded itself upon the observation of the higher authorities responsible for the regulation of the police force. We concede that a large number of the persons brought into our police cells as drunk and incapable from the streets are in fact drunk and incapable and suffer no particular harm from being left in a recumbent position to "sleep it off" on a plank bed. We concede that in the case to which we are calling attention there may have been little in the symptoms readily observable to distinguish the case from drunkenness. We would, however, ask the consideration of the police authorities for certain propositions which seem to us pertinent, not only to the case of the medical man which we are dealing with quite apart from his connexion with the medical profession, but to a very large number of cases of illness and accident. Respectably dressed persons do not as a rule allow themselves to be overcome with drink in public places to the extent of having to lie down in the street without power to get themselves conveyed to their homes. Respectably dressed persons have usually documentary evidence of their identity about them and their friends can be communicated with. Nearly all persons picked up in the streets smell of drink because some are drunk, some on feeling ill have dosed themselves with spirits, and others have been in the hands of Samaritans whose first idea has been to pour alcohol down their throats, perhaps spilling a considerable quantity on their clothes. Many, if not most, of the class likely to be under the influence of drink are known to the police in the district in which they live. The man known to frequent a certain public-house and to get drunk there, if he is picked up insensible outside it, cannot complain if the policeman who takes him to the station forms an opinion as to the cause of his condition. But even in his case there is something to be said on the side of caution. Even the person who is under the influence of drink and drink only, or of a temporary seizure for which drink alone is responsible, should not be left to pay the penalty of his folly with his life, if his life is in danger. The person to decide the question whether there is such danger is the divisional surgeon and not the policeman, and the policeman should summon the surgeon, at any rate in all cases of insensibility. It is better that this should be done on some occasions unnecessarily than that life and Civil Surgeons Summerhayes, Cavanagh, and Hogg are on passage home.

ARMY MEDICAL SCHOOL, NETLEY.

The eighty-fourth session of the Army Medical School was opened on April 1st. The classes are attended by 37 surgeons-on-probation for His Majesty's Indian Medical Service. 33 of these gentlemen have entered the school by competing at the examination recently held, and four of them by the nomination of the Secretary of State for India. The nominees are medical men who have served on plague duty in India. The following is a list of these gentlemen:—

F. A. F. Barnardo.
J. McPherson.
W. O. Ross.
J. O. G. Kunahardt.
G. D. Franklin.
J. H. Gill.
R. A. Lloyd.
C. A. Gourlay.
E. A Walker.
F. Sime.
L. L. Hirsch.
H. Ross.
H. E. J. Batty.
G. J. Davys.
A. J. V. Betts.
H. Halliday.
F. E. Wilson.
B. B. Paymaster.
H. Crossle.
L. Cook.
J. Forrest.
L. B. Scott.
J. H. Ferris.
W. S. Patton
N. W. Mackworth.
W. L. Trafford.
L. Rundall.
E. C. C. Maunsell.
G. C. J. Robertson.
D. S. A. O'Keefe.
J. W. Illius.
W. C B. Smith.
J. P. Cameron.
H. Gloster.
J. H. Horton.
W. A. Justice.
H. H. G. Knapp.

THE LOSS OF THE SLOOP "CONDOR."

The loss of the sloop *Condor* and her crew having now been officially recognised, we regret to record the death of Surgeon T. S. Hartley, R.N., M.R.C.S., L.R.C.P. Lond., who was medical officer on board that ill-fated vessel.

QUEEN ALEXANDRA'S IMPERIAL NURSING SERVICE.

A Royal Warrant has been issued providing for the establishment of an Imperial Military Nursing Service to be designated "Queen Alexandra's Imperial Nursing Service," and notifying the amendments in the Regulations contained in the Royal Warrant of the late Queen, dated Oct. 26th, 1900. It has been framed, as anticipated, very much on the lines with which our readers are already acquainted.[1]

Correspondence.

"Audi alteram partem."

THE PROSPECTS OF THE GENERAL HOSPITALS OF LONDON IN THE PRESENT CENTURY.

To the Editors of THE LANCET.

SIRS,—There is no doubt that before many years of this twentieth century are past the very serious question of adequate hospital accommodation for the poor of London will be forced once more upon the public During the last 50 years vast changes have been taking place in the residential quarters of the poor, and now, on the eve of improved methods and greater facilities for the rapid transmission of the public between the centre and various points on the circumference of the great city, even greater changes must follow, for it is becoming obvious that the whole of central London must be given up to the requirements of professions and trades and there will soon be no space in this region for the residences of the poor. It may be as well if I define what is meant by the term "the poor." Firstly, there is the very large group of those who have no regular employment and who pick up a livelihood by odd jobs, both honest and dishonest. The greater number of these were herded together until recently in three or four "slum neighbourhoods" in the West Central district. One such area existed on the site of the present law courts; another (Clare Market) is now being demolished; another, round Endell-street, has almost ceased to exist; and the same may be said of that one which exists on each side of Theobalds road. These people have migrated chiefly to the north of King's Cross and to the Surrey side of the river, many having gone as far as Islington and Holloway. Secondly, there is a group of those who are out of work for the time being; they are the most difficult from the hospital point of view, for when in work they are often well able to pay a medical man and when out of work are practically destitute, for they never save money when they are in regular employment. It is these people who often abuse the hospitals most, for they come first when nearly destitute and go on attending when they could well afford to pay a medical man. Thirdly, there is the class of people who can afford private medical and surgical advice for small things, but are, nevertheless, proper cases for hospitals when they have any serious or long illness. This class often includes many people who are obliged to appear decently dressed and have to expend money on travelling to and from their work.

While, therefore, the poor have been steadily forced, and will be still more forced, from these central parts our great general hospitals have, without exception, remained where they were. The almost certain result must be that in a few years the poor who seek relief as in- or out-patients will have to travel from the circumference to the centre of the city before they can obtain it. It may be said that just as the facilities for cheap and rapid travelling become extended, so the journeys of the sick poor to the great hospitals will at the same time be shortened; but is this by any means a desirable state of affairs? Should not the sick poor be able to obtain relief near where they are living? I think there are few, whether they be committee men or professional men, belonging to the great general hospitals who would not admit that those seeking medical or surgical help ought, on all grounds, to be able to obtain it close at hand. Such being the case, there are only two alternatives: (1) to transfer our great general hospitals further away from the central regions of London; or (2) to build new general hospitals at the circumference. In the former case of course provision would have to be made for "emergency cases" occurring in the central regions of London by the erection of suitable receiving rooms and wards. There is also a possibility that some of the larger hospitals might join with some of the smaller general hospitals which now exist on the circumference of the great city—four or five miles from Charing Cross-road.

It may be urged that in the case of some of those hospitals within one and a half miles of Cambridge-circus the wards are kept well filled and the number of out-patients is still large, but what are the proportions of the patients coming from the immediate neighbourhood of these hospitals to those coming from a distance, and, in many cases, sent up from the country and elsewhere in order that they may be under the care of certain members of the staff? I may safely assert that in the case of more than one of these hospitals the material for teaching would be quite inadequate were it not supplemented by cases coming in, or sent up from a distance. Moreover, how many in-patients are there—mentioning surgical tuberculous cases alone—who are ofte kept in the wards for weeks because it is not possible t obtain sufficient orders for convalescent homes for them. How much better off would such cases be were they treated in a hospital in the outskirts, rather than in the centre of London.

From the point of view of relieving the sick poor the ideal plan would be to demolish many of the large hospitals now in the central districts of London and to rebuild them in the outlying districts to which the poor are now rapidly migrating. In many cases the money obtained from the sale of the extremely valuable land upon which these hospitals now stand would be nearly sufficient to pay for their erection elsewhere; then each hospital would be obliged to erect a small and compact casualty and out-patient department, together with wards for, say, 100 beds, close to its old site. Here urgent cases would be dealt with until fit for removal to the outlying hospital. This would entail the provision of horsed or motor ambulances such as are at present in use by the hospitals of the Metropolitan Asylums Board. When we consider how smoothly that system of conveying fever cases between their homes and the hospitals now works, and how extensively it is adopted, there can be no objection raised to its adoption in the case of other institutions. At the Pendlebury Children's Hospital, near Manchester, the receiving room is in Manchester itself, and this system has been at work for some years.

This brings me to the subject of Poor-law infirmaries. These institutions are acting now, to some extent, merely as receiving places for cases which the hospitals are unable to keep, owing to the continual pressure of serious cases upon should be sacrificed in the case of persons whose misfortune it has been to be taken ill in a public place and alone; while in the case of the drunkard a fine at the police-court in the morning, and not death in the cell over night, is the punishment which his transgression of public decency justifies.

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[1] Vide THE LANCET, Oct. 12th, 1901, p 996.

THE PREVALENCE OF SMALL-POX.

THE number of cases admitted to the institutions of the Metropolitan Asylums Board since Friday, May 16th, is as follows:—On Saturday, the 17th, 32 cases; on Sunday, the 18th, 22 cases; on Monday, the 19th, 57 cases; on Tuesday, the 20th, 54 cases; and on Wednesday, the 21st, 36 cases. The bi-monthly report issued by the Local Government Board of Scotland shows that the number of cases of small-pox notified during the period May 1st to 15th inclusive in the following counties was Forfarshire 1, Lanarkshire 18, Renfrewshire 2, and Roxburghshire 1, making a total of 22. In the county of Essex the number of cases of small-pox notified for the week ending May 17th was 32.

SENSATIONAL EXHIBITIONS.

THE papers have recorded this week the death of another victim of the craze for sensational exhibitions. At Owlerton, Sheffield, on May 20th, an unfortunate girl was killed when attempting a descent with a parachute, the parachute having failed to open when she jumped from the balloon which had attained a considerable altitude. Exactly similar accidents have happened before and probably exactly similar accidents will happen again. The victim's sister nearly came to grief on the previous day when the balloon was damaged, and yet another accident was narrowly averted at Bradford recently when a parachute came into contact with a church spire. We understand that there were several thousands of spectators of the incident at Sheffield, and they may, without much exaggeration, look upon themselves as accessories in a case of suicide. If a life were not at stake there would be no excitement about such exhibitions. No particular skill is required to make a descent with a parachute. If the parachute opens properly the performer drops gracefully to earth; if anything prevents it from opening the performer is smashed to pieces. Apparently the attraction to the sight-seer lies in the fact that he may witness a tragedy. It seems to us that the sooner such displays are rendered illegal the better it will be for the moral welfare of the community.

THE LOSSES OF WAR.

THE *Standard* of May 20th contains an interesting communication from its Odessa correspondent in which a comparison, based upon official returns and upon recent articles in the Russian military press, is instituted between the British losses from disease and wounds in the present war in South Africa and those suffered by the Russians in the course of their last Turkish war. In that war, which was of some 18 months' duration, whereas the Boer war covers a period of 30 months or about a year in excess of the Russo-Turkish war of 1877-78, the Russian forces of all arms numbered altogether 505,000 (twice as many as the British troops in South Africa). The Russian army was divided into two great wings, the right covering the Danube and the left striking from the Caucasus. The army of the Danube lost 51,000 men through disease and 16,000 from wounds, while of the army of the Caucasus 37,000 died from disease and 12,000 succumbed from wounds. The total loss was accordingly 88,000 from disease and 28,000 from wounds, or 116,000 altogether. The most severe losses, amounting in all to 31,000, on any single battle-ground were naturally those sustained before Plevna in the three Russian assaults on that garrison stronghold. The results of the comparison, so far as they go and so far as any comparison can be instituted between the Russo-Turkish campaign and that in South Africa, are, as will be seen, highly favourable to the British mortality returns of the present war.

PATRONYMICS OF MEDICAL LONDON.

A CORRESPONDENT has been making investigations with regard to the numbers of surnames having the same initial and included in the "London" section of the Medical Directory for 1902. He finds that the most frequent initials stand in the following order: B, 701; S, 587; M, 568; H, 514; C, 503; and W, 481 names. These initials thus account for 3354 names out of the 6292 names stated by the publishers of the Directory to be in the "London" list, so that one out of every two medical persons in London bears a family name with one of the above six initials. The most infrequent initials are: V, with 46 names; Y, with 25; I, with 19; U, with nine; Q, with five; and Z, with two, while X does not occur. It may be mentioned for purposes of comparison that for the "Provincial" list the sequence of initials is almost the same, while for "Scotland" and "Ireland" the predominating initial is M and for "Wales and Monmouth" it is J.

A MEDICAL HISTORY OF THE OPERATIONS IN CHINA, 1900-1901, BY THE PRINCIPAL MEDICAL OFFICER OF THE FRENCH EXPEDITIONARY FORCE.

THE whole of the *Archives de Médecine Navale* for March is devoted, with the exception of some half-dozen pages, to the first part of a medical report on the recent operations in Northern China by Dr. Jacquemin, principal medical officer of the French troops, with the collaboration of his staff officer, Dr. Bourns. It is an outspoken document and promises to be of considerable value not only as a faithful record of events but also for future guidance, should similar cases occur. It was not till July 20th, 1900, that the author received his orders to prepare the medical portion of the expedition. On August 10th he embarked at Marseilles, the intervening period of exactly three weeks having been spent in procuring an outfit almost *ab initio*, so unprepared was the medical department of the French navy for the demands thus suddenly made upon its resources. For his complex and indispensable *matériel* Dr. Jacquemin had to seek in various directions. The War Department lent him hospital requirements—furniture, beds, ambulances. From the Ministry of the Navy he procured drugs, dressing material, comforts, and clothing. Finally, he had to purchase in the open market such articles as filters, water-sterilisers, disinfecting machines, and all the appliances required for radiography and bacteriology. The report is divided into four parts under the following headings: (1) Organisation and Procedure of the Health Service; (2) the *Matériel* of the Service; (3) Medical Notes on the Foreign Armies in China; and (4) Statistics and Medical Matters. As far as it is possible to judge from the present instalment of his report Dr. Jacquemin seems to have met with unusual facilities in the execution of his important duties. "We were able," he says, "from the moment of our arrival to install at Tien Tsin, and also at Pekin, hospitals of 250 beds which had no cause to envy similar establishments at home." Elsewhere also he observes: "The General Commanding in Chief at one of his earliest conferences with heads of departments said, 'The health service should come before everything else. It is my desire that all the other services shall do their utmost to facilitate its task.' We are bound," continues Dr. Jacquemin, "to acknowledge with gratitude that these orders were carried out not only with exactitude but also with goodwill and rapidity. Staff officers refused us none of the sacrifices which we required of them—necessary credits, choice of quarters, *personnel.*"

A LETTER written on behalf of the council of the Sanitary Institute was published in the *Times* of May 17th inviting attention to the urgent necessity which exists for enlarging the premises of the Parkes Museum. It is estimated that a sum of £25,000 will be required for this purpose, towards which about £8000 have already been raised. The museum has now become a practical demonstration school for illustrating and teaching all matters relating to sanitation and hygiene and the available space is hardly sufficient for the increasing work that is being carried on. The museum receives no grant from any public funds and is maintained by the Sanitary Institute at a considerable annual cost. THE Duke of Northumberland, Vice-President, will preside at the Sanitary Institute Coronation Dinner to be held on Monday, June 2nd, at the Midland Grand Hotel. All communications should be addressed to Mr E. White Wallis, F.S.S., secretary of the institute.

THE general meeting of the British Balneological and Climatological Society will be held on Tuesday, June 3rd, at 20, Hanover-square, W., at 5 P.M. At 6.30 P.M. on the same day the annual dinner will take place at Pagani's Restaurant, Great Portland-street, W., and at 9 P.M. a conversazione will be held at 20, Hanover-square, W., when Sir Lauder Brunton, M.D., F.R.C.P., will deliver an address. Communications should be addressed to the honorary secretaries, Dr. Septimus P. Sutherland, 11, Cavendish-place, W., and Mr. H. Shirley Jones, Droitwich, who are inquiring for articles relating to balneology and climatology to exhibit at the conversazione.

THE anniversary dinner of the members of the Imperial Yeomanry Field Hospital and Bearer Company in commemoration of their capture at Roodeval will be held at the Criterion Restaurant on June 7th. Members wishing to attend who may not already have received notice are requested to communicate with the secretary, Mr. Oliver Williams, 116, Victoria-street, Westminster, S.W.

A DINNER of the Ophthalmological Society of the United Kingdom will be held on Friday, June 13th, at the Trocadero Restaurant at 7.30 P.M., Dr. Little, the President, in the chair. All communications should be addressed to Mr. Hall at 11, Chandos-street, W. The Bowman Lecture will be delivered on the same day by Professor Fuchs of Vienna, at 4.30 P.M.

A DISTRIBUTION of prizes gained by successful students at the Charing Cross Hospital Medical School will be made by Sir Frederick Treves, K.C.V.O., C.B., F.R.C.S., on Wednesday, June 11th, next, at 3.30 P.M.

THE Registrar announces that the next session of the General Council of Medical Education and Registration will begin on Tuesday, May 27th, at 2 o'clock P.M.

WE are informed that a rumour of the death of Professor Groedel of Bad-Nauheim which is stated to have obtained some currency is happily untrue.

OBSERVATIONS ON DIET.

BY HARRY CAMPBELL, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL; PHYSICIAN TO THE WEST-END HOSPITAL FOR NERVOUS DISEASES, WELBECK-STREET, W.

I.—QUANTITY OF FOOD.

THE question how much food it is advisable for an individual to consume is one of vast importance to the physician. He may sometimes save a life by entirely withholding food for a time; very often he may do great good by curtailing the diet of a habitual over-eater; in other cases, again, the opposite plan of gorging the patient may effect a cure.

At the outset it has to be decided what constitutes the normal allowance of food. Obviously no cast-iron rule, applicable to each and every individual, is available here. The decision will depend upon a variety of circumstances now to be considered. In my remarks on this head I shall assume that the various nutritive ingredients—proteids, fats, and saccharides—are correctly proportioned.

Circumstances influencing the Amount of Food required.

The quantity of food required is largely regulated by the rate of katabolism: the more rapid that this is the larger is the amount of food needed. The rate of katabolism varies with many circumstances, such as age, sex, idiosyncrasy, size, external temperature, and the amount of exercise taken; consequently these become determining factors.

Age.—The period of growth is characterised by great katabolic activity and a correspondingly large supply of food is demanded during it. This active katabolism is due partly to the fact (to be referred to later) that small animals katabolise, if I may be allowed the expression, more rapidly than large ones and partly to the abounding activity of the muscular system which prevails in early life, but chiefly to the rapid formation of new tissue. Why this latter necessitates very active katabolism cannot be explained. That it does so is evident: the large supply of food required by the constructive process is vastly in excess of the amount which is converted into, and retained as, new tissue. Evidently the construction of animal bioplasm involves a lavish expenditure of building material; for consider how small is the daily increase in weight as compared with the amount of food taken: the average yearly increase of weight from birth to the age of 20 years is about half a stone or less than a third of an ounce each day—a quantity represented by a moderate mouthful of food—and this quantity is so insignificant in comparison with the total amount taken daily as to be practically negligible. The abundance of food required by the rapidly-growing individual, say at puberty, is therefore to be explained by the activity of katabolism then prevailing, and not by the quantity actually laid down as new tissue.

The rate of katabolism and therefore the amount of food required remain much the same from the beginning of maturity till the age of 40 years or thereabouts, when they diminish in progressive ratio till the end of life; slowly from 40 to 50 years, more rapidly from 50 to 60 years, and still more rapidly from 60 to 70 years, until, when extreme old age is reached, katabolism has become so sluggish that a surprisingly small quantity of food is needed. That "old people bear abstinence well" is an observation dating from Hippocrates. To make the aphorism complete it should be added that they "bear excessive eating ill." This is one of the most important therapeutic truths that I know.

Sex.—The male Human needs more food than the female, not only on account of his larger stature but also because he is the more katabolic of the two. The man tends to expend energy and the woman to store it up in the form of fat: he burns the faster. This sexual difference shows itself in the very blood; the man has a larger percentage of chromocytes than the woman, showing that he needs a proportionately larger quantity of oxygen in order to maintain his more active combustion—a fact which one may associate with his comparative freedom from chlorosis; moreover, weight for weight, his pulmonary capacity is greater than that of the woman whose smaller respiratory need is further shown by the facility with which she can without discomfort diminish her breathing power by means of the corset. The great contrast between the metabolic activity of the two sexes was forcibly brought home to me by a military display given by a troupe of dusky amazons, with whom were also a few male warriors. The women, in spite of their daily exertions, were all rounded and plump, some very much so, no single muscle showing through the skin, and it was noticed that their movements, though full of grace, lacked energy and "go." The men, on the other hand, were spare, their muscles standing out plainly under the shiny skin, and they, in further contrast with the women, displayed a truly amazing agility, bounding about and whirling round in a most astounding fashion: the women, in short, were essentially anabolic and the men were katabolic. I may here draw attention to the fact that men are apt to be larger meat-eaters than women, just as they are, possibly in consequence of this very fact, more prone to drink alcohol and to smoke tobacco.

Idiosyncrasy.—Some individuals are so constituted as to require more food than others. This may partly be explained by peculiarities of digestion, some digesting and absorbing their food more completely than others and consequently requiring so much the less of it; but it is, I doubt not, chiefly referable to differences in katabolic activity. Some burn off the absorbed food more rapidly than others. Compare the thin, wiry, restless, energetic individual with his fat, phlegmatic brother. The one no amount of gorging will fatten and the other a starvation diet will scarcely make thin; in the one the metabolic clockwork is regulated to go fast, so to say, and in the other to go slow. As exaggerated examples of these two types take the subject of Graves's disease and of myxœdema. The heightened katabolism in the former case is due to an excess of (perverted?) thyroid secretion in the blood, just as the depressed katabolism in the latter disease is due to a deficiency of this secretion. Thyroid secretion, in fact, plays the part of a bellows, causing the vital fire to burn more fiercely and increasing the output of urea, carbonic acid, &c. One can scarcely doubt, in short, that the differences of katabolic activity among normal individuals depend to a large extent upon the activity of the thyroid gland; and we may be sure that there are many kindred influences affecting the rate of katabolism of which we are as yet ignorant.

Size.—Obviously the quantity of food required is largely influenced by the size of the individual. Those of large stature need more than those of small stature; per unit of body-weight, however, they require less, because in man, as in all other warm-blooded animals, metabolic activity tends to vary in inverse ratio to body-weight, for the smaller the animal the larger is its surface in proportion to weight and the greater, therefore, are the proportional loss of heat and the need for food to supply that loss: the mouse requires much more food in proportion to its weight than does the elephant.

External temperature.—The colder the weather the greater is the loss of heat and the more active is the katabolism in order to make good the loss and the greater is the demand for food in consequence. The Esquimaux are said to consume prodigious quantities of food, notably fat. By means of warm clothing man is able to lessen the loss of heat in cold weather and the more effectually that he does this the less will he need to increase his diet. In warm weather, on the other hand, katabolism tends to be depressed owing to the comparatively small loss of heat, and there is a correspondingly small need of food for the generation of heat. Possibly a bracing climate, apart from the influence of temperature, tends to stimulate metabolism; at all events it tends to increase the appetite. An open-air life has the same effect quite apart from the fact that it generally goes along with muscular activity. It is not easy to explain why this is so; possibly more oxygen is absorbed in the open air than indoors and it is probable that the mere impact of moving air against exposed parts excites katabolism by stimulating the cutaneous nerves and by augmenting the loss of heat. Certain it is that rapid motion through the air increases the appetite and in this connexion one recalls the fact that a horse travels better on a hot day against the wind than with it.

Muscle exercise.—Among the influences which determine the rate of katabolism, and therefore the quantity of food required, the degree to which the muscular system is exercised occupies a prominent place. When a person is kept quiet in bed he needs comparatively little food but when his muscles are doing laborious work, as in the case of a soldier on a forced march, he requires a large amount—as much, indeed, as his digestive organs can cope with,—so that it is difficult, if not impossible, for those regularly engaged in laborious work habitually to over-eat, as witness the rarity of obesity among them. The moral to be deduced from this is not only that those who exercise the muscles much need large quantities of food but also that those who eat liberally should take abundant exercise; and often the chief reason for insisting on exercise being taken is that the evils of an excessive diet may be counteracted. Those who lead sedentary lives should be constantly on their guard against excesses at the table. On the other hand, the evil effects of a sedentary life may be reduced to a minimum by a spare diet. Accounts are constantly read in the papers of some recluse who, after living for years in one room, finally dies at an advanced age; and in all such cases it will be found that the diet has been spare, oftentimes on account of a miserly disposition. Those, and they are many, who are compelled to lead a sedentary life may take comfort from this fact. It is the high living with little exercise that does the harm, not so much the little exercise itself, and it need scarcely be said that these remarks apply especially to middle and late life; not only is youth the period *par excellence* of muscular activity but also an excess of food is then most easily dealt with; in middle and late life, on the other hand, there is a growing tendency to sedentariness, while the tissues become less and less capable of coping with a redundancy of food.

CLASSIFICATION OF DIETARIES ACCORDING AS THEY ARE SUFFICIENT, INSUFFICIENT, OR EXCESSIVE.

Food may be sufficient, insufficient, or excessive in quantity. In judging whether a given dietary falls into one or other of these categories the physician cannot, of course, rely solely on the mere weight of the food consumed; for on the one hand, a diet which is considerable as tested by mere weight—such as a purely vegetarian one, for instance—may be deficient in some nutritive ingredient, and, on the other hand, a diet which is small in weight—such as a purely animal one—may be excessive in another; but, as already observed, I shall assume in discussing the subject of the quantity of food that the various nutritive ingredients are correctly balanced.

A Sufficient Diet.

By a "sufficient" diet I mean one just sufficient to maintain the normal body-weight; a diet which falls short of this is "insufficient" and one which goes beyond it is "excessive." It has, then, to be decided what the normal weight is. This cannot be done in the case of the growing individual whose weight is constantly changing, but here instinct affords a sufficiently accurate guide as to the amount of food that should be consumed, always provided—and the qualification is an important one—that it is plain and wholesome. If the food-supply is not sufficient there will be unmistakeable evidence of it in the shape of defective growth and nutrition, and if it is in excess, well, no great harm is likely to follow, except in the case of babies, to which reference will be made in due course. It is chiefly in the case of the adult that it is needful to have a precise test as to what constitutes a sufficient diet. Now the normal weight of an adult I take to be *the minimum weight consistent with the best health of which the individual is capable.* In order to ascertain this the physician, in the case of a stout person, curtails the diet and cautiously diminishes the weight until he is satisfied that any further reduction would be harmful; while, on the other hand, in the case of a thin person who is ailing, he increases the diet and the weight until he believes the highest level of health to be reached. When he has obtained the approximate normal it may be needful still further to reduce or to increase the weight and thus cautiously to feel his way to the actual normal. Some care may be required to get at the right result, as when, for instance, the weight is actually increased by cutting down a diet that has been excessive, an effect which I have more than once seen.

In deciding what is the normal weight due allowances must be made for age, sex, and idiosyncrasy. Middle aged people may be normally somewhat stout, just as the aged normally incline to leanness; young women are naturally stouter than young men; some, again, are by nature thin and others are stout irrespectively of age and sex and so on.

Actual quantity of food constituting a sufficiency.—It is often most useful to determine the actual quantity of food constituting a sufficiency for a given individual—i.e., the smallest quantity on which he can maintain his normal weight—for his health may frequently be greatly improved by raising or reducing, as the case may be, his diet to this level.

Such a bare sufficiency can never be reduced without causing harm and may often, in fact, be temporarily increased with advantage. Dr. R. Hutchison, indeed, argues that it is not advisable to supply the organism with a bare sufficiency and that a certain margin of excess should always be allowed.

While the actual quantity constituting a sufficiency in any given case can only be determined by experiment, it is yet useful to have a rough notion of what it is in different classes of individuals. Among those leading muscularly active lives a sufficient diet varies from three to five pounds per diem. A man doing a moderate amount of muscular work takes on an average about three pounds—i.e., 48 ounces—per diem. For a professional man taking little exercise 30 ounces a day constitute a fair average; this is the amount which Pavy gives as his own daily allowance, thus distributed: eight ounces for breakfast, six for luncheon, and 16 for dinner. The middle diet at Guy's Hospital totals up to 29½ ounces and this for patients who are taking little or no exercise. Some, of course, require much more than this and some appear to do very well on considerably less. These latter cases are valuable as showing on how little food some people can subsist but they must not be accepted as criteria for the many. Individuals of this class are evidently endowed with very efficient powers of digestion and in addition probably belong to the anabolic temperament, and, as would be expected, most of them are past middle life when metabolic activity tends to slacken and the food required is an ever-diminishing quantity. The miller of Billericay is said to have lived in vigorous health for upwards of 18 years on a daily allowance of 16 ounces of flour made into a pudding with water, and the celebrated Cornaro, who lived to be nearly 100 years old, limited his diet to 12 ounces daily (made up of yelk of egg, soup, meat, and bread) together with 14 ounces of wine. I have myself met with cases in which the daily diet has been no more than this. Thus a lady, aged about 50 years, has lived for years on a diet somewhat as follows: breakfast and tea, two thin slices of bread-and-butter and a cupful of tea; midday meal, a small plateful of meat and vegetables, a small helping of pudding, a small piece of bread, and a glassful of ale. This lady would probably enjoy more vigorous health if she ate more but she declares that this diet is all-sufficing. The following is the diet of a plump and cheery old woman aged 84 years; breakfast, two thin slices of brown bread-and-butter, and one cupful of tea; dinner, a thin slice of bacon and three or four potatoes; tea, two slices of thin bread-and-butter and a cupful of tea; and supper, a slice of bread about one-third of an inch thick and a piece of cheese of "about the size of a penny." She has always, she says, been a small eater and people often tell her that she does not eat enough "to keep her going," but the food she takes satisfies her and she never feels any craving. The most remarkably young old man whom I have ever met consumes every day about four ounces of bread, three ounces of bacon, two ounces of meat, two ounces of sugar, one ounce of butter, and half a pint of ale. He lives in London and his food and beer cost him about 8*d.* a day. Dr. Keith, who is so well known for his forcible advocacy of slender rations both in health and disease, has for breakfast two or three ounces of bread, a quarter of an ounce each of butter and preserve, and half an ounce of fish or a quarter of an ounce of bacon; for lunch a cupful of cocoa or chocolate or a small tumblerful of milk, two or three ounces of bread, and about a quarter of an ounce each of butter and preserve; at 4 P.M. a small cupful of tea and sometimes biscuit or cake; at 7 P.M. soup and three ounces of white fish with a potato and another vegetable (if no fish, one or two ounces of lamb, game, rabbit, or tripe, but often neither fish nor flesh), a fair helping of some sweet or, instead of the latter, celery, cheese, oatcake, and butter. "On this diet," writes Dr. Keith, "I enjoy the best of health, and for my age (78 years) am up for a fair amount of exercise, walking three to six miles daily in good and sometimes in bad weather, and usually part of this is up a steep road with a rise of 250 feet. . ... I never feel what can be called hunger, and have not done so for many years. I could omit a meal at any time without discomfort. This I have long looked upon as the best proof of a perfect digestion." Mr. van Someren[1] finds that he can maintain good health on a very small quantity of food and he has brought forward evidence to show that by thoroughly masticating and insalivating the food nutrition can be maintained on a smaller quantity than when mastication is imperfect. This one can well believe, for efficient mastication facilitates digestion and the more perfect the digestion the more economically are the nutritive ingredients dealt with by the organism. Other things being equal, the more perfect the digestion the less is the quantity of food needed; and, indeed, as Dr. Keith observes, when digestion is perfect a meal can at any time be omitted without discomfort. This helps to explain how it is that one can educate oneself to subsist on smaller and smaller quantities of food. If a person who has been accustomed to eat an excess of food suddenly diminishes his daily allowance he may complain that he is being starved, that he feels "faint for food," and that he needs more food "to support him." His entire organism, but especially his digestive system, has become so accustomed to a copious diet that it cannot quickly adapt itself to the sudden curtailment. Above all he misses the mechanical stimulus of a large mass in his alimentary tract, just as he misses the chemical stimulus of the food; the morbid craving for food which the excessive eater is so wont to suffer from is indeed rather a craving for this mechanical and chemical stimulus than for nutriment and is exactly analogous to the drunkard's morbid craving for alcohol and to that of the opium-eater for opium. But by education the excessive eater can overcome this craving and his system can acquire such habits of economy as to make comparatively little go quite as far as a superabundance. This economical disposal of food is doubtless chiefly effected by the digestive organs, though it does not seem improbable that the tissues generally may be educated into thrifty habits.

How to reduce a sufficient diet to the minimum.—The quantity of food constituting a sufficient diet varies, of course, with circumstances. Now there are occasions when it is necessary to reduce the dietetic requirements of the body to a minimum, as, for instance, in grave affections of the heart, the lungs, or the kidneys, when it is desirable to give the failing organs as little work to do as possible. For this purpose the physician seeks to obtain the completest possible quiescence of the muscle system and to reduce the loss of heat to a minimum. He keeps the patient in bed, tells him to lie quiet and to relax his muscles to the utmost; he maintains a warm temperature in the room, gives all food and drink warm, and covers the entire body, save the head, with some light, non-conducting material; it is necessary that it should be light so that it may not impose unnecessary work upon the respiratory muscles. Old age, the female sex, and a sluggish metabolic habit are most favourable for the reduction of diet.

An Insufficient Diet.

Evils resulting from an insufficient diet.—The evil results of an insufficient diet—and here I refer essentially to an all-round insufficiency of proteids, fats, and saccharides—are too well known to need more than a passing notice. They are emaciation, anæmia, indigestion, nervous prostration, and mental depression, with lowered vitality generally and diminished resistance to disease. It is well, by the way, to observe that the requirements of nutrition are not necessarily satisfied by an abundant daily supply of food; that supply needs to be properly distributed in time, otherwise there may be temporary starvation, for though the organism is capable of storing food so that it can draw upon it in time of need, the capacity for so doing is, except in the case of fat and that in certain individuals only, very limited. Most of the energy expended by the organism is, in fact, derived from the food recently taken and it is therefore desirable that the intervals between meals should not be too long. This precaution is above all needful in the case of proteids which admit of only a very limited storage, being rapidly katabolised and eliminated as urea and allied bodies. Suppose, for instance, that the bulk of the daily proteid is consumed at the late meal, say at 7.30 or 8 P.M., a large part of it is katabolised and run out of the body before the next day is reached, as shown by the rapid rise in the output of urea shortly after the meal; there is thus a deficiency of circulating proteid to start the next day with, and hence care must be taken that a fresh supply is obtained at breakfast and midday. The amount can then be reduced at the late meal and nutrition can be maintained on a smaller amount than is otherwise possible. It is somewhat remarkable, in view of the comparatively small storage power which the animal organism has for proteids, that the carnivora should subsist for the most part on one meal in the 24 hours.

Ability of the organism to withstand starvation.—But while recognising the limit beyond which insufficient diet becomes starvation the physician should ever bear in mind that life can be sustained for a considerable time without any food whatsoever—especially after maturity is reached—if only the individual is well nourished to begin with. The public have a great idea of "keeping up the patient's strength" and believe that the most effectual way of doing this is to cram as much food as possible down his throat. They fail to realise that a person, especially if kept warm and quiet in bed, can go on living for a considerable time absolutely without food and that this period can be greatly lengthened by giving very small quantities daily. One constantly sees patients living quite comfortably on nutrient enemata alone and although it must not be too readily assumed that such patients are being completely nourished—for they may, as Hutchison observes, be living to a large extent upon their own tissues—the fact remains that life may be sustained for quite a long time on a very small amount of nutriment. It is, in sooth, no easy matter to kill a patient by starvation. I have in mind the case of a middle-aged man who lived for three months on a pint of milk a day and that while he was up and about. It is well to keep this fact in mind when there are urgent reasons for curtailing the diet or, it may be, for withholding it altogether for a time. I sometimes smile at the alarm expressed both by the patient and his friends when I tell some overfed, elderly sufferer from bronchitis who is being suffocated by a superfluity of fat that he could live for some days—and that with advantage—without any food at all. Such patients do not die from starvation. How many do!

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[1] THE LANCET, August 10th, 1901, p. 389.

How long life can be sustained without food has been shown by the experience of professional fasters. Death from starvation does not generally occur until the body has lost one-third of its original weight—until, e.g., a 12-stone individual has been reduced to eight stones.

THE REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1900.[1]

First Notice.

We gladly welcome the appearance of these annual reports, for they are ably drawn up and not only embody much interesting information in regard to the diseases prevalent in India but they also afford a learned and excellent summary of the progress of medical research in Europe and other countries outside India in respect of those diseases which are more or less incidental to all climates alike. For this purpose the medical literature of all countries is laid under contribution and material which happens to be illustrative of any subject under consideration is drawn from various sources. The present report is of reduced size as compared with its predecessors, but it does not seem to us that this reduction has been attended with any sacrifice in the value of its contents. The report is signed by Surgeon-General Franklin, I.M.S., the newly-appointed Sanitary Commissioner with the Government of India, but it was written during, and refers to, a period prior to his assumption of office and the proofs were passed by the late Surgeon-General R. Harvey, C.B., D.S.O., his predecessor in that post. After a very brief summary of the meteorological phenomena of the year the different sections of the report, which as will be seen embrace a wide range, follow the usual order and are devoted to such subjects as the following: the European army in India, the native army, the jails of India, vital statistics of the general population with a history of the chief diseases, a general history of vaccination, sanitary works, and in conclusion there is a section in which a number of interesting and valuable points of information are grouped together under the heading of "General Remarks." The appendices to the report consist of various statistical tables and figures which, while they have little or no interest for the general reader, are nevertheless of value and importance to the medical statistician and to such as are bent upon making any special inquiry as to the prevalence of any given disease. Speaking generally we may say that the medical statistics for the British troops serving in India may be taken as being trustworthy, as well as may those perhaps for the native army and jail population. But this cannot be said of the figures relating to the native population. The mere registration of births and deaths is most defective and the results are untrustworthy and can be taken only as approximative at best. Still more is this the case as regards the nature of the diseases of which the native populations of India die, about which we really know but little.

To begin with the European army of India, we find that its health was better in 1900 than in the previous year as regards the amount of sickness, but the decrease in this respect was somewhat outweighed by an increase in mortality and invaliding. While the chief causes of admission were ague and venereal disease the chief causes of death were enteric fever and then hepatic abscess and cholera and the chief causes of invaliding venereal diseases, malarial fevers, cardiac affections, and pulmonary tubercle. Ague and venereal diseases caused respectively 27 and 26 per cent. of the total sickness. Enteric fever caused 33 per cent. of the total deaths, hepatic abscess 11 per cent., and cholera 10 per cent. It may be mentioned that the chief causes of admission in the China Field Force were ague, dysentery, venereal disease, and diarrhœa, and that the main causes of death were enteric fever and dysentery.

According to the report Madras was the most unhealthy of the four commands, Bombay coming next, and both being more unhealthy than in 1899. Bengal had the highest mortality from tubercle of the lungs, dysentery, and abscess of the liver; the Punjab from remittent fever, heat-stroke, and pneumonia; Madras from cholera, ague, and dysentery; and Bombay from small-pox, enteric fever, and diarrhœa. Passing over in the meantime such diseases as influenza and cholera we come to ague which gave rise, as we have said, to nearly 27 per cent. of the admissions from all causes. The greatest outbreaks were those at Ferozepore and at Fort Dufferin, Mandalay. At Ferozepore, we are told, the increase of the disease—much of it of a severe and grave type—became explosively sudden in October. At the same time mosquitoes (anopheles) were found to be unusually abundant and troublesome in barracks, bungalows, and hospitals. The women, children, and bandsmen returning from the hills were all attacked and from their cases it was judged that the incubation period of the disease is about 14 days. The whole wing of the Oxford Light Infantry being completely prostrated and incapacitated for duty the men were sent to Kurrachee. Other classes of the population also suffered. At Mandalay the men of the 2nd Durham Light Infantry stationed at Fort Dufferin suffered severely, while the artillery near Mandalay Hill were practically free. It is not at all satisfactory to be told that the infantry barracks are situated in a marsh and that the locality is so notoriously unhealthy that it was in King Theobaw's time abandoned by the Burmese. About 350 men of the corps were sent away to healthy stations and ultimately the whole regiment was removed to Wellington.

Following these statements regarding fever of an undoubted malarial nature and some remarks recording the finding of anopheles at numerous stations, the report, in continuation of a subject which is being carried on from year to year, enters upon a consideration of the nature and causation of various other forms of fever which occupy a prominent place in the nomenclature of disease used in the army medical returns of India. We allude to such diseases as remittent fever, simple continued fever, and enteric fever. There exists, no doubt, much diversity of opinion in regard to the exact nature and pathology of the fevers which prevail, or are alleged to prevail, in India and their differentiation from one another. As regards enteric fever, for example, modern views and researches in respect of its bacillary origin, the discovery and application of new tests—Widal's reaction for instance—and a more enlarged field of view, embracing a number of cases such as some years ago would not probably have been included as even coming within the category of enteric fever, have given quite a new standpoint from which to study this form of fever. The report of the Sanitary Commissioner for the year 1900 opens up some fresh and notable points for consideration in this matter, the discussion of which must for the present moment be deferred. The question of the liability of the native population to enteric fever, for example, is calculated to throw a new light on the spread of this disease in India. It will now, however, suffice to say that there was again a great decrease of both morbidity and mortality from enteric fever among the European troops. The admission-rate was the lowest that has been since that of 1888. Of the causes of decrease probably the most powerful were the almost complete absence of drafts from England and the freedom from field service, but the reduction is not so great as might have been expected had the prevalence of the disease been entirely due to the supply of fresh susceptible subjects. It is stated that statistical evidence shows that of late years men of higher ages and of longer periods of service have been attacked in higher proportion to their strength than formerly. Still, the report for 1900 shows, in accordance with all past experience, that the greatest liability in Europeans to suffer and to die from enteric fever is between the ages of 20 and 25 and in the first three years of Indian service. The months of its maximum prevalence for India as a whole are May, April, and August, but this maximum period differs in northern and in peninsular India.

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[1] Annual Report of the Sanitary Commissioner with the Government of India, 1900, with Appendices and Returns of Sickness and Mortality among European Troops, Native Troops, and Prisoners in India for the year. Calcutta: Office of the Superintendent of Government Printing, India. 1902. Price 3 rupees.

With regard to dysentery, diarrhœa, and hepatic abscess the conclusions set forth on pages 23 and 24 of the report are very much in accordance with those recorded in previous reports and are well worth reading. It is worthy of note that the mortality from abscess of the liver in 1900 was 31 times greater among European than among native soldiers, notwithstanding that the admission ratio from dysentery among European soldiers was to the ratio of the native soldiers as 1 : 1·95.

Touching the lamentable prevalence of venereal diseases among British troops serving in India, which a few years ago forced itself upon public attention, we are glad to notice that the year 1900 shows a decrease. The admission-rate for India for that year was 298·1 per 1000, as against 313·4 in the previous year and 362·9 in 1898. In other words there were 15 fewer admissions to hospital per 1000 for these diseases in 1900 than in 1899. This is satisfactory as far as it goes but it is not a striking decrease. The causes assigned for it are detailed on page 25 of the report but we need not enter into these. Although we gladly hail every attempt that is made to increase the moral tone and self-control of the soldier we nevertheless fear that these measures alone will prove inadequate and illusory and while we fully recognise all the difficulties which the subject involves we think that the evil can only be effectively dealt with by sanitary legislation of some kind.

THE METROPOLITAN WATER-SUPPLY: THE LONDON WATER BILL.

THE Joint Committee of the two Houses of Parliament appointed to report on the London Water Bill sat on May 12th, 13th, 14th, and 15th, and then adjourned until Tuesday, May 27th. The course of the proceedings has not been altogether a smooth one, and the greater the amount of time spent in considering the effects of the Bill the greater the number of the difficulties which become apparent. The space at our disposal will admit of nothing more than a general view of the proceedings of the Committee. The fact that in regard to essential parts of the Bill the most divergent views are held by members of the Committee is evident.

At the sitting of May 13th Lord BALFOUR of BURLEIGH explained fully the effects of the decision of the Committee in regard to the schedule which it had once decided to delete. This schedule is to be reconsidered line by line. When this is done if a question be put that such-and-such a line be deleted and the Committee does not agree unanimously, and if the members then vote on the question and there be an equality of votes, then according to the rule which presumes that an equality of votes means a negative the line will not be deleted. If, however, the amendment were put the other way—that is, to insert words, the rule would tell in exactly the opposite direction and an equality of votes would tell against the resolution. It was ingeniously suggested by Mr. BALFOUR BROWN that it might be competent for any member of the Committee to move that the resolution of May 12th should stand and that if there were an equality of votes on that motion the resolution of May 12th would go. Lord BALFOUR of BURLEIGH, however, said that as chairman he should probably rule that the proper course would be to move to delete a certain passage in the Bill. The position of chairman to a Joint Committee of the two Houses of Parliament evidently gives opportunities for a little *finesse*.

The sitting of May 14th was occupied chiefly in considering Clause 2 of the Bill. This clause provided that from an "appointed day" the Water Board should hold the undertaking of each metropolitan water company, exercise all the rights, &c., of the company, and be subject to all the duties and obligations of the company. On behalf of the water companies an amendment was introduced with the object of securing that some date should be fixed by the court of arbitration anterior to the commencement of the arbitration, and from which date any undertaking when it was transferred should vest in the Water Board as "a going concern."

Counsel for the Local Government Board objected to the words "a going concern," which seems popularly to indicate the propriety of some extra payment on the part of a purchaser. This, indeed, was practically admitted by Mr. DANCKWERTS, one of the counsel for the water companies, who said that the words were introduced into Tramway Bills, where there is a transference of these undertakings, and it was desired to get rid of the Shaw-Lefevre clause which was, he explained, the "old-iron" clause. The amendment was lost by seven to three.

On Sub-section 2 of Clause 2 amendments were moved by the water companies and by the London County Council. This sub-section provided that the Water Board should issue to each company in consideration for the undertaking so transferred such an amount of water stock created under this Act as may be agreed upon between the board and the company, or in default of agreement as may be determined by arbitration under the Act. The London County Council opposed this sub-section on two points. In the first place a newly constituted Water Board should, they argued, be prevented from coming to an immediate agreement as to the price to be paid for a water company's undertaking—the matter of price should in all cases be referred to arbitration. Briefly, the new Water Board was not to be trusted to act for the best in the interests of those whom it represented. The second point was that power should be given for the companies to be paid in cash.

On behalf of the water companies Mr. PEMBER, K.C., suggested that the words "as compensation for" should be used instead of the words "in consideration for,"

On behalf of the Local Government Board Mr. J. D. FITZGERALD, K.C., pointed out the advantages which Mr. Banbury had at a previous sitting clearly shown were likely to follow the method of payment by water stock instead of payment in cash.

The committee accepted the alteration suggested by Mr. Pember and further decided that payment for the undertakings should be made in cash. The sub-section was therefore amended as follows:—

> 1. Subject to the provisions of this Act as from the appointed day the undertaking of each of the metropolitan water companies shall be transferred to and shall vest in the Water Board, and there shall also be transferred from the company to the Water Board all liabilities with repect to any debenture stock or mortgage debt of the company and all other debts, liabilities, and obligations of the company then existing. 2. The Water Board shall pay to each company as compensation for the transfer of the undertaking such sum as may be agreed on between the Board and the company, or in default of agreement as may be determined by arbitration under this Act, but the sum so payable may, if the Water Board and the company so agree, be discharged wholly or partly in water stock; an agreement for the purposes of this section shall not be made except in pursuance of a resolution of an absolute majority of the whole number of the Water Board after 10 clear days' notice in writing of the meeting and of the intention to propose the resolution has been given to every member of the board.

The Committee decided that Ilford and Barking should not be dealt with in the Bill.

Clause 8 gave rise to a good deal of discussion. As originally drawn it dealt with supply in bulk to certain districts and persons. The places mentioned were Croydon and Richmond and the urban districts of Cheshunt, Enfield, Tottenham, and Ware, and the clause provided also for the supply by the council of any rural district situate wholly or partly within the limits of supply on conditions to be arranged between the Water Board and these authorities, or in case of disagreement on terms to be decided by arbitration. On behalf of the London County Council its statistical officer gave it as his opinion that these areas should either be definitely put outside the water area or should remain within it. No option in the matter should be given to the local authorities in the manner provided by the Bill.

In answer to Lord BALFOUR OF BURLEIGH counsel employed by the London County Council admitted that that council was not authorised to represent the rural districts in this matter.

Counsel for the Hertfordshire Council Council and for the rural districts of Essex said that these authorities were in favour of the Bill as it stood, and the Committee decided generally in favour of the clause after some amendments had been made.

Clause 9 deals with a financial matter—the substitution of water stock for irredeemable debenture stock.

Mr. BAGGALLAY, on behalf of the water companies, explained that it might be of advantage to the Committee to know that the question as presented was really a sort of triangular duel in which the three belligerents were the Local Government Board, the London County Council, and the water companies.

The committee decided that the clause should stand.

Towards the end of the sitting Mr. PEMBER, K.C., on behalf of two water company directors who were also Members of Parliament, said that they were aggrieved that counsel for the Local Government Board had, as he stated, said that the water companies were in league with the London County Council to wreck the Bill.

Lord BALFOUR of BURLEIGH asked whether the London County Council and the water companies were keenly desirous that the Bill should pass. Mr. PEMBER could not say that the companies were keenly desirous that the Bill should pass; they wished to assist the Committee to so amend it that it might become a just Bill (which being interpreted means that they should obtain a pecuniary compensation of large amount).

At the sitting of May 15th Mr. FITZGERALD, K.C., took exception to the strictures of Mr. Pember and stated that he had said that although the interests of the water companies and of the London County Council did not always agree they were agreed that this Bill should not become law. That was the inference he had drawn; the inference was, he was now told, incorrect. He therefore withdrew and would proceed on the assumption that both the water companies and the London County Council wished that the Bill should become law.

Lord BALFOUR of BURLEIGH said that they would take it that these two bodies desired to assist in improving the Bill.

The Committee then proceeded to consider the financial provisions proposed in regard to the expenses of the Water Board and Mr. BLENNERHASSETT, K.C., on behalf of the City of Westminster, proposed a clause providing that before any charge fell on the rates the Water Board should exercise to the full the powers of charging at present enjoyed by the companies whose undertakings were to be transferred to the Board. This clause, subject to some amendment, was accepted.

Clause 12, which deals with powers of borrowing by the Water Board, was agreed to.

Clause 13, which relates to the issue of water stock, was not fully discussed and a decision in regard to it was deferred.

Clause 14 (which makes provision as to discharge of loans), Clause 15 (which deals with accounts and audit), Clause 16 (which provides as to the borrowing power of certain local authorities), and Clause 17 (which deals with the application of capital receipts) were agreed to.

ANNUAL GENERAL MEETING OF THE MEDICAL DEFENCE UNION.

THE annual general meeting of the Medical Defence Union was held on May 15th at the registered offices of the union at 4, Trafalgar-square, London, under the presidency of Mr. M. A. MESSITER.

The PRESIDENT, in moving the adoption of the report of the council, congratulated the members of the union on the satisfactory condition of their affairs. Their financial position was absolutely sound, their work increased as their members increased, and so did their expenses, but correspondingly their income increased. At the end of the year they had in hand £1100 and that was a sufficient proof of the vitality of the union. They had had a quiet year but the work had been very important. The union had lost the services of Dr. W. S. A. Griffith as president through his resignation. The choice of president had fallen on himself which he accepted as a compliment to the provinces. The system of auditing their accounts had been altered and the auditor was paid a somewhat larger sum so as to ensure more perfect security against irregularities. The case of Martin v. Allen referred to in the report of the council was of great importance. It was a case in which a matron at a hospital in Belper had brought an action for libel against one of their members. After three days' trial the jury failed to agree as to a verdict. The case was re-tried and though the union gained a moral victory the case was lost by them. That case, however, was the only one lost during the year. In regard to the Consultative Institute of Birmingham and Dr. Irvine he did not think it necessary to go into details. That matter was absolutely closed. The Consultative Institute of Birmingham had come to an end owing to the action taken by the council of the union in charging Dr. Irvine before the General Medical Council. In consequence of what they had done it had been found impossible to get any medical man to take the appointment offered by the institute. Referring to the case of Dr. R. Rendall he reminded them that the General Medical Council had passed a resolution strongly disapproving of practitioners associating themselves with medical aid societies that touted for patients. That resolution did not carry anything penal with it but the union considered that it would be right to take before the General Medical Council a definite case and the results of their action in regard to Dr. Rendall had been in every way satisfactory. As a matter of fact, since the decision of the General Medical Council medical practitioners associated with these medical aid societies had resigned wholesale and so far as could be gathered from the reports which reached the union the societies involved would find it extremely difficult, if not impossible, to obtain men to fill the vacancies. He thought that case ought to be well known to all members of the medical profession, and he thought that medical men who remained associated with medical aid societies who touted for patients should sever themselves from those institutions. If they did not do so the union would consider the advisability of taking further cases before the General Medical Council. In regard to the expenses incurred for legal work 12 cases involved a total expenditure of £989 but in the remainder the expenditure was not heavy. He emphasised the fact that the Medical Defence Union was quite prepared to fight for, and to defend, their members and never compromised. They were able to do this regardless of what was paid for the defence of any particular member. He thought that that ought to be known because there were many members of the profession who were forgetful of the fact that at any time they might be involved in an action which they would have to defend for themselves. Their solicitor, Mr. W. E. Hempson, said that his experience was that the medical man of all professional men was the one almost invariably selected for speculative actions. Dr. W. T. Law, who successfully defended an action brought against him that was denounced by the judge as a ridiculous one, was in the end obliged to pay £700 for costs. Dr. Law was not a member of that union and appeals for help had appeared in the medical journals. He himself thought that such appeals were not right and it was his opinion that the general body of the profession were of the same opinion.

The motion for the adoption of the report was seconded by Mr. A. C. ROPER and carried unanimously.

Mr. T. GUNTON ALDERTON moved, and Dr. M. BEVERLEY seconded, the adoption of the accounts which was carried unanimously.

Dr. J. S. FENNIS proposed that £100 be paid to provincial members of the council *pro rata* for railway fares when attending council meetings.—This was formally seconded and carried unanimously.

Dr. W. A. Elliston, J.P., Mr. J. Roche Lynch, and Mr. V. A. Jaynes were re-elected members of the council, and upon the suggestion of Mr. P. ROSE, supported by Mr. R. F. TOMLIN, the PRESIDENT intimated that Mr. J. T. Macnamara would be elected a vice-president with a seat on the council.

Dr. H. W. LANGLEY BROWNE proposed the re-election of the auditor, Mr. L. Hardy.—This was seconded by Dr. W. RIGDEN and carried unanimously.

Mr. STAMFORD FELCE moved a vote of thanks to the solicitor to the union, Mr. W. E. Hempson, and to the general secretary, Dr. A. G. Bateman.—This was seconded by Dr. M. BEVERLEY and after being carried unanimously was replied to by the officials named.

A hearty vote of thanks to the President for taking the chair was accorded on the motion of Dr. W. S. A. GRIFFITH.

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

THIS annual exhibition, which was opened at Queen's Hall, Langham-place, on May 20th, continues to play a useful rôle inasmuch as it affords general practitioners, surgeons, hospital nurses, and others in London an opportunity of making acquaintance with the newest special foods and drugs and surgical and sanitary appliances. The organising committee may be congratulated on now having established an annual event which has secured for its *clientèle* a very fair proportion of the medical profession. The exhibition is distinctly instructive, although it is true that many well-established preparations, drugs, and appliances are on view again and again, yet there will invariably be found some novelties marking the progress of medical science in its various collateral branches. At any rate, the increasing number of physicians, surgeons, and the members of hospital staffs who attend must be a very encouraging fact to those concerned in organising the exhibition.

A feature of the exhibition this year was the number of electrical appliances shown. Thus, the exhibit of the General Electric Company, 67, 69, 71, 88, and 92, Queen Victoria-street, E.C., attracted a good deal of interest chiefly perhaps on account of the simple apparatus shown for the production of ultra violet rays in photo therapeutics. This company also showed a useful apparatus for obtaining a direct current when only an alternating current is available. Other apparatus for x-ray and high frequency treatment was shown, while simple and convenient apparatus for the production of ultra violet rays from a four-inch spark induction coil with a condenser was inspected by those interested in the execution of this treatment without involving cumbersome apparatus. Electric Baths were exhibited by the Electric Trading Company, 52, Leadenhall-street, E.C., the Dowsing Radiant Heating Company, Limited, 24, Budge-row, Cannon-street, E.C., and by the Sanitas Electrical Company, Limited, 7A, Soho-square, W. The last-named exhibited also a new lamp for the production of ultra violet rays. It is called the "Dermo" lamp and has iron for its terminals, giving what has now been called an iron light. Messrs. Harry W. Cox, Limited, 9, 10, and 11, Cursitor-street, Chancery-lane, E.C., showed their latest x-ray apparatus and a new improved electrolytic break. The electric current is utilised by Messrs. W. Bellack and Company, 147, Oxford-street, W., for actuating the "Muschik vibratorium," which is a rapidly-pulsating hammer which is brought in direct contact with the body, the exciting penetrating vibration stimulating the blood-flow and exercising a good effect, amongst other things, on stiff joints.

There was again a fair display of hospital sanitary appliances, Messrs. Doulton and Company's (Lambeth, S.E.) exhibit claiming, perhaps, first attention. They showed examples of a special metallo-keramic joint as applied to closets, a strong white glazed fire-clay mortuary table, white vitreous cast-iron baths (on wheels) for hospital use, bed-pan sinks, and lavatories. Messrs. George Jennings, Limited, 63 and 67, Lambeth Palace-road, S.E., showed similar examples of improved sanitary appliances adapted for general use and for hospitals and sanatoriums, &c. Their patent valves by which hot water cannot be turned on without first opening the cold valve and by which without any risk of accident to the patient any desired temperature of water can be obtained are well worth mentioning. Messrs. Defries, Limited, 146 and 147, Houndsditch, E.C., exhibited the Pasteur filter in various forms and the Equifex disinfecting and deodorising apparatus. The London Necropolis Company, 121, Westminster-bridge-road, S.E., exhibited photographs illustrating their methods of disposal of the dead and the cemetery at Brookwood, near Woking. This company undertakes the so-called "earth-to-earth" disposal in which the natural dissolution of the body is favoured by the action of the earth. Particulars were given also as to the conduct of cremation and its cost.

Disinfecting compounds were well represented, as were also special soaps. Messrs. Major, Limited, of Scullcoates, Hull, for example, showed a series of sanitary preparations comprised under the distinctive term "Eucryl," including a bath preparation, a toilet soap, an ointment, and a tooth powder. The Jeyes Sanitary Compound Company, Limited, 64, Cannon-street, E.C., exhibited their well-known Creolin compounds and Messrs. Newton, Chambers, and Co. of Thorncliffe, near Sheffield, decorated their stall with a large variety of "Izal" preparations. The feature of the exhibit of "Oowana," Limited, 205, Victoria-street, S.W., was a special toilet soap said to contain absolutely no animal matter or artificial colouring, the ingredients selected being of a specially pure description. Attention, it is stated, is also paid to the avoidance of alkaline excess without impairing the detergent power. The Berkefeld Filter Company, Limited, of 121, Oxford-street, W., submitted several examples of their new "tubor" improved germ-proof filter to the notice of the visitors.

As regards the section of special foods and drugs it may be said that this display was somewhat smaller in scale than in previous years, although very general interest was shown in the preparations of this class. We propose to deal with this section next week.

(*To be concluded.*)

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8648 births and 4919 deaths were registered during the week ending May 17th. The annual rate of mortality in these towns, which had been 16·6 and 17·2 per 1000 in the two preceding weeks, further rose to 17·3 per 1000 last week. In London the death-rate was 16·2 per 1000, while it averaged 17·7 in the 75 other large towns. The lowest death-rates in these towns were 7·2 in Walthamstow, 8·3 in Hornsey, 8·0 in Warrington, 9·4 in Devonport, 10·3 in Hastings and King's Norton, 11·0 in Bournemouth, and 11·3 in Aston Manor; the highest rates were 23·5 in Bolton, 23·7 in South Shields, 23·9 in Manchester, 24·9 in St. Helens, 25·7 in Middlesbrough, 26·3 in Wigan, 26·4 in Sunderland, and 27·0 in Bootle. The 4919 deaths in these towns included 516 which were referred to the principal zymotic diseases, against 534, 489, and 519 in the three preceding weeks; of these 516 deaths 144 resulted from measles, 126 from whooping-cough, 67 from diphtheria, 51 from scarlet fever, 49 from diarrhœa, 48 from small-pox, and 31 from "fever" (principally enteric). No death from any of these diseases was registered last week in Hastings, Rotherham, or West Hartlepool; in the other towns they caused the lowest death-rates in Brighton, Portsmouth, Norwich, Wolverhampton, Derby, Birkenhead, and Halifax, and the highest rates in West Bromwich, St. Helens, Barrow-in-Furness, Sunderland, South Shields, and Gateshead. The greatest mortality from measles was recorded in Bournemouth, St. Helens, Bury, Rochdale, Barrow-in-Furness, Bradford, Sunderland, and Rhondda; from scarlet fever in West Bromwich, Smethwick, Bolton, and South Shields; from whooping-cough in Walsall, West Bromwich, Wallasey, Bootle, St. Helens, South Shields, Gateshead, and Tynemouth; from "fever" in Merthyr Tydfil; and from diarrhœa in Northampton and Merthyr Tydfil. The mortality from diphtheria showed no marked excess in any of the large towns. Of the 48 fatal cases of small-pox registered last week 37 belonged to London, six to West Ham, and one each to Tottenham, Leyton, Birmingham, Newcastle, and Hornsey. The number of small-pox cases under treatment in the Metropolitan Asylums hospitals, which had been 1515, 1442, and 1419 at the end of the three preceding weeks, had further declined to 1360 at the end of last week; 233 new cases were admitted during the week, against 367, 250, and 248 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2207, against 2188, 2222, and 2212 at the end of the three preceding weeks; 270 new cases were admitted during the week, against 283, 258, and 256 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been

315, 240, and 231 in the three preceding weeks, further declined last week to 217, and were 41 below the corrected average number. The causes of 65, or 1·3 per cent., of the deaths in the 76 *towns last* week *were not certified*, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Salford, Bradford, Leeds, Hull, and in 42 other smaller towns; the largest proportions of uncertified deaths were registered in Hastings, Liverpool, St. Helens, Blackpool, Sheffield, Stockton-on-Tees, Gateshead, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined from 24·6 *to* 18·1 per 1000 in the four preceding weeks, rose again to 19·4 per 1000 during the week ending May 17th, and showed an excess of 2·1 per 1000 over the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 11·2 in Leith and 15·3 in Edinburgh *to* 21·6 in Glasgow and 25·0 in Perth. The 628 deaths in these towns included 25 which were referred to whooping-cough, 21 to measles, 19 to diarrhœa, four to diphtheria, four to "fever," and one to scarlet fever. In all 74 deaths resulted from these principal zymotic diseases last week, against 78 and 46 in the two preceding weeks. These 74 deaths were equal to an annual rate of 2·3 per 1000, which was 0·5 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 29, 28, and 16 in the three preceding weeks, rose again last week to 25, of which 10 occurred in Glasgow, seven in Aberdeen, and five in Edinburgh. The deaths from measles, which had been 15 and nine in the two preceding weeks, increased again to 21 last week and included six in Edinburgh, five in Paisley, four in Glasgow, three in Perth, and two in Greenock. The fatal cases of diarrhœa, which had been 17, 23, and 13 in the three preceding weeks, rose again last week to 19, of which 11 were registered in Glasgow, three in Edinburgh, and three in Dundee. The deaths from diphtheria, which had been four, four, and three in the three preceding weeks, rose again to four last week, and were all recorded in Glasgow, where two of the four fatal cases of "fever" also occurred. The deaths referred to diseases of the respiratory organs in these towns, which had been 161, 138, and 113 in the three preceding weeks, numbered 114 during the week under notice, and exceeded by 13 the number in the corresponding period of last year. The causes of 15, or more than 2 per cent., of the *deaths registered in these eight towns last week were not* certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 26·8, 24·9, and 22·6 per 1000 in the three preceding weeks, rose again to 24·8 per 1000 during the week ending May 17th. During *the past four weeks* the death-rate has averaged 24·8 per 1000, the rates during the same period being 16·5 in London and 16·7 in Edinburgh. The 180 deaths of persons belonging to Dublin registered during the week under notice were 16 above the number recorded in the preceding week and included 13 which were referred to the principal zymotic diseases, against 10, nine, and 12 in the three preceding weeks; of these, three resulted from *measles, three from diphtheria, three from whooping-cough*, two from "fever," one from scarlet fever, and one from diarrhœa. These 13 deaths were equal to an annual rate of 1·8 per 1000, the zymotic death-rate during the same period being 2·0 in London and 2·3 in Edinburgh. The fatal cases of measles, which had been two, three, and six in the three preceding weeks, declined again last week to three. The deaths from *whooping-cough, which had been one and two in the two* preceding weeks, increased last week to three. The mortality from diphtheria also showed an excess over that recorded in recent weeks. The 180 deaths in Dublin last week included 19 of children under one year of age and 41 of persons aged upwards of 60 years; the deaths of infants were 15 below the number in the preceding week, while those of elderly persons showed a slight excess. Four *inquest cases and three deaths from* violence were registered during the week; and 64, or more than a third, of the deaths occurred in public institutions. The causes of eight, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: W. H. Norman to the *Ariadne*; G. T. Broatch to the *Caledonia*: H. T. A. Levinge to the *Calliope*; and J. Shand to the *Agincourt*. Surgeons: J. W. Craig to the *Calliope*: C. J. E. Cock to Pembroke Dockyard; and T. T. Jeans and R. H. Mornement to the *Ariadne*.

ROYAL ARMY MEDICAL CORPS.

Major F. J. Greig joins at Aldershot and is posted to the Depôt for duty. Lieutenant F. Winslow joins at Aldershot and is posted to the Cambridge Hospital for duty.

Lieutenant-Colonel E. A. H. Roe, retired list, joins at Belfast for employment with the troops there. Lieutenant-Colonel D. F. Franklin, senior medical officer in charge of the Cambridge Hospital, Aldershot, holds himself in readiness to embark for South Africa.

Colonel Henry Comerford retires on retired pay. Dated May 17th, 1902.

Lieutenant-Colonel W. S. Pratt is granted the local rank of Colonel whilst acting as Principal Medical Officer at Gibraltar. Dated March 17th, 1900.

The undermentioned officers, on having relinquished their temporary commissions for service in South Africa, are granted honorary rank in the Army, with permission to wear the uniform of the corps:—To be Honorary Major: Major H. Wright. Dated Feb. 14th, 1901.—To be Honorary Captains: Captain C. E. Douglas, dated March 27th, 1901; Captain G. G. Oakley, dated Oct. 7th, 1901; Captain C. A. McMunn, dated Nov. 18th, 1900; Captain G. Black, dated Jan. 17th, 1901; Captain S. Linton, dated Feb. 27th, 1902; Captain F. W. Grant, dated Feb. 23rd, 1901; Captain E. J. G. Berkley, dated April 9th, 1901; and Captain R. Pollock, dated Feb 16th, 1901.—To be Honorary Lieutenants: Lieutenant J. W. Smith, dated Nov. 6th, 1900; Lieutenant R. W. Michell, dated July 7th, 1901; Lieutenant J. C. Taylor, dated Dec. 21st, 1901; Lieutenant J. K. Tomory, dated August 14th, 1901; Lieutenant A. H. McDougall, dated August 22nd, 1901; Lieutenant J. C. G. Macnab, dated March 27th, 1901; and Lieutenant W. Macrae Taylor, dated Nov. 29th, 1901.

IMPERIAL YEOMANRY.

North Somerset: Surgeon-Lieutenant-Colonel J. J. Saville resigns his commission, with permission to retain his rank and to wear the uniform of the regiment on retirement.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd East Riding of Yorkshire: Surgeon-Lieutenant T. Cameron resigns his commission.

Royal Engineers (Volunteers): 1st Devonshire and Somersetshire: Surgeon-Lieutenant A. S. Wohlmann resigns his commission. Edward Gaved Stocker to be Surgeon-Lieutenant.

Rifle: 2nd Cadet Battalion the King's (Liverpool Regiment): The undermentioned officer resigns his commission: Surgeon-Lieutenant F. H. Allfrey. 2nd Volunteer Battalion the East Yorkshire Regiment: Surgeon-Lieutenant J. Chestnutt to be Surgeon-Captain. 17th North Middlesex: F. H. Gervis to be Surgeon-Lieutenant.

VOLUNTEER INFANTRY BRIGADE.

Bedford: Surgeon-Lieutenant-Colonel D. Thomson, 3rd Volunteer Battalion the Bedfordshire Regiment, to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade.

VOLUNTEER INFANTRY BRIGADE BEARER COMPANIES.

Bedford: Surgeon-Captain E. F. Bindloss, *from* 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment, to be Surgeon-Captain, and to command under paragraph 55A Volunteer Regulations.

Seaforth and Cameron: The undermentioned gentlemen to be Surgeon-Lieutenants:—*David John Kelly and Roderick* McKenzie Grant.

SOUTH AFRICAN WAR NOTES.

Lieutenant Beatty, R.A.M.C., was reported to be slightly better on May 19th.

THE ROYAL MILITARY TOURNAMENT.

The present year will be a notable one for military spectacles and the coronation processions will, like those of the Diamond Jubilee of her late lamented Majesty Queen Victoria, serve to bring vividly before our minds the importance and vastness of our Empire. But the Royal Military Tournament has fulfilled this function, though in a smaller way, perhaps, for many years past and we trust that on this account, though not on this account alone, it will receive such support from the public as will make the tournament held in the year of the coronation of King Edward VII. a record one. Moreover, whilst the tournament serves to educate the public and encourages and develops skill at arms, the military charities may at the discretion of the Commander-in-Chief benefit greatly. Judging from the rehearsal which took place on Wednesday, May 21st, at the Agricultural Hall, Islington, and also from the programme of the following day, when His Majesty the King was present, there can be no question of the excellence of this year's tournament. There are, of course, the usual competitions of skill between the various arms, lemon-cutting, heads and posts, tent-pegging, &c., but the "displays" show several novel features. The display by the seamen of H.M.S. *Excellent*, always one of the most popular, draws forth deafening rounds of applause, while that by the Royal Marine Artillery is an exhibition of remarkable smartness and is highly appreciated by the spectators. The musical drive by the Royal Artillery, the musical Double Ride by the Royal Horse Guards, and the Display by Indian soldiers are items of the programme which are watched with keen interest, while the Historical Ride by the 2nd Provisional Regiment of Hussars, which this year takes the place of the "Pageant," is a spectacular performance quite equal to any of its predecessors.

MEDICAL AND SURGICAL AID FOR SICK AND WOUNDED OFFICERS.

The second report of the Duke of Abercorn's committee, dealing with the year 1901 from January to December, has been just issued. The fund has for its object the relief of sick and wounded officers. Of the cases which have been considered, the majority of which received assistance, 70 were in need of medical care and 77 were surgical cases. The report says: "In addition to officers of the regular army, officers of the Royal Marines, the Imperial Yeomanry and the colonial forces have again benefited by the fund. The committee has also been able to extend the advantages of the society to army nurses invalided home. Dr. Donald Hood and Mr. Morgan have continued to place their invaluable and unremitting professional services gratuitously at the disposal of the committee and the patients, and the King has marked his appreciation by conferring upon these members of the committee the Companionship of the Victorian Order. It is largely owing to their almost daily attention that it has been possible to successfully administer the business of the fund. ...... The places of Dr. Hood and Mr. Morgan were most kindly filled during August and September by Dr. A. Elliot, Dr. G. Johnston, and Mr. T. H. Kellock. ...... The assistance which the executive committee continue to receive from the hard-worked leaders of the profession in their special departments has been invaluable. These services have been freely and ungrudgingly bestowed. ...... Sir Sydney Waterlow again offered free accommodation at Cannes to cases recommended by the committee and his generous help has been of great value. Colonel J. Stacpole, C.V.O., has continued to render valuable service to the fund at Southampton and the committee is also much indebted to Lieutenant-Colonel H. Charlesworth, R.A.M.C., Lieutenant-Colonel E. J. Erskine Risk, R.A.M.C., and Captain G. B. Stanistreet, R.A.M.C." On Dec. 31st, 1901, the funds in hand did not amount to £500. Since that time they have been further depleted, and the commitee makes an earnest appeal for funds.

We are glad to see that the Director-General of the Army Medical Staff has put before his officers a proposal which has for its object the establishment of a fund for perpetuating the memory of distinguished officers of the Royal Army Medical Corps. The memorial, it is suggested, should be placed in the headquarters mess. The medical department has contributed many distinguished officers to the army and a lasting memorial to their memory is deserved.

Obituary.

WILLIAM MILLER ORD, M.D., F.R.C.P. LOND.,

CONSULTING PHYSICIAN TO ST. THOMAS'S HOSPITAL.

WE deeply regret to announce the death of Dr. William Miller Ord, consulting physician to St. Thomas's Hospital, which occurred on May 14th at the Hall, Salisbury, the residence of his son, Dr. W. W. Ord.

Dr. William Miller Ord was born on Sept. 23rd, 1834, at Brixton-hill, Surrey, and was therefore in the sixty-eighth year of his age. He was the son of Mr. George Ord, F.R.C.S. Eng., who had long been in practice at Brixton. He received his education at King's College School and at St. Thomas's Hospital, and commenced his professional work as assistant to his father. His intention to enter upon general practice was, however, altered by circumstances—circumstances which enabled him to earn wide fame as a scientific physician and a clinical teacher. For it is a fact that Dr. Ord enjoyed for many years the first reputation in London as a clinical teacher. In the multiplicity of schools which the metropolis possesses a clinical teacher may be brilliant and yet not receive the due recognition of his worth and abilities. In the northern universities this does not happen. There, if a teacher be successful and attractive his fame is known far and wide; it is spread by his students and pupils. In this respect, therefore, London is at a disadvantage compared with, say, Edinburgh. The brilliancy of a man's teaching in a London school of medicine is shed on a comparatively small field. Dr. Ord suffered from this defect, if it may be so called. But that he was a clinical teacher of the first rank all who have been privileged to sit under him will readily admit, and as far as it is possible for a London teacher to earn fame in other schools than his own Dr. Ord accomplished the same. Wherein did his strength as a teacher exist? It existed in the personality of the man himself. Gifted with a most retentive memory, with the faculty of taking infinite pains in all that he undertook, and with great greed for knowledge, he was always, from his boyhood to his final retirement from active work, a hard-working student. He won many prizes at his school, he gained medals during his career at his hospital, and he won distinctions at the University of London. After a brilliant studentship at St. Thomas's Hospital which culminated in the usual house appointments, he was subsequently appointed surgical registrar and afterwards demonstrator of anatomy.

Then his father required the help of his able son to meet the demands of a large circle of patients. Dr. Ord left the hospital and went to his father's assistance, where he enjoyed that best of all trainings for a physician—viz., a large and varied general practice. Many of the ablest physicians have laid the foundations of their subsequent success as consultants in a busy general practice and Dr. Ord was one of these. But he never severed his connexion with the hospital which he was later to adorn. Notwithstanding all the calls on his time which such an occupation demanded he accepted, when it was offered to him, the chair of zoology at his old medical school, at that time situated in its temporary home in the Surrey Gardens. And he had his reward. For when the new hospital was opened in 1871 by Her Majesty Queen Victoria Dr. Ord, having previously taken the Membership of the Royal College of Physicians of London, was appointed one of the assistant physicians to St. Thomas's Hospital, and relinquishing his private practice, to the great regret of his many patients, rich and poor, he began to practise as a consultant in Upper Brook-street. Nor was consulting work long in coming to him. It will always be a marvel to those who intimately knew his private life how he found time to see the people who came to consult him at home, to attend the hospital out-patient rooms, and to prepare and to deliver his lectures on physiology, to which chair he had at about this time been appointed. Yet his punctuality at the hospital and in the lecture-room was proverbial and his lectures were models of simple clearness, showing signs of exhaustive care in their preparation.

In 1877 when he became full physician to St. Thomas's Hospital he attracted the more advanced and the deeper educated students. His method of bedside teaching was peculiarly his own. It was not based so much on the style of Hughes Bennet and Murchison, so distinctive their beds. Those who have worked in hospitals well know that patients who are suffering from affections which prevent them from doing work, such as severe burns, fractures, inoperable malignant disease, &c., are, after a short stay in a hospital, sent on to one of the infirmaries; in fact, it is well known that the infirmaries are obliged to take in destitute cases which the hospital resident staff do not wish to keep; in other words, the hospitals are not large enough or sufficiently numerous to do the work which they should do; the hospitals, which are supported almost entirely by voluntary contributions, are quite unable to cope with the sick poor, and the infirmaries, supported out of the rates, have to come to their aid. Now the infirmaries have nearly all migrated from the centre to the outskirts of the metropolis. They have receiving-rooms and wards in the midst of the city and large buildings on the outskirts, and they convey their patients from the one to the other just as I have suggested the hospitals will soon have to convey their patients. Surely it is time to amalgamate hospitals and infirmaries. Let us still have our hospitals each keeping to its traditions but rebuilt on a much larger scale in the outskirts of London, and let each receive a certain proportion of the rates from the district of London which it serves. Will the public withhold voluntary contributions because the hospitals have migrated and are aided by the rates? I believe that the public will support them more freely than is the case now when it is realised that their scope has enlarged so greatly. As regards out-patients proper, it has been urged that hospitals have no right to treat those who are destitute and that these people should obtain Poor-law outdoor relief. Many of us know how very inadequate this system of relief is. How much better would it be if all these pauper cases were to receive the necessary medical and surgical treatment at our hospitals aided by the rates as here proposed?

But the matter must be looked at also from the point of view of medical education and it is here that one of the real difficulties in removing the hospitals seems to lie. In the first place, I think that it must be accepted that those who wish to receive a medical education must go to the places where the sick poor are, and not expect the poor to come to them from afar off. The same must be said of the physicians and surgeons who are attached to the hospitals and who have to teach the students. At the present time a student rarely enters the wards or out-patient department until he has passed his second examination—namely, the examination in anatomy and physiology of the university or examining board as the case may be. This being so, each hospital on the outskirts of the city would have a residential college attached to it and here the clerks, dressers, and resident staff would live. Then it would be necessary to have a resident physician and a resident surgeon who would be the two junior members of the staff or, at any rate, the two next to be elected on the honorary staff. The question of the attendance of the members of the honorary staff offers another difficulty. The out-patient staff would attend one day a week and see and demonstrate upon the cases of interest, the others being attended to by the resident officers. Then the in-patient physicians and surgeons would also each devote one afternoon a week to operating and to visiting and leave their cases very much in the hands of the senior resident physician and surgeon respectively. All this, of course, sounds impossible at the present day, but we must realise that with "tubes," light railways, and motor-cars the process of getting out of the city will be quite different from what it is now and we shall be able to get from the centre of London to its outskirts in one-fourth of the time which it is now necessary to expend. The two senior physicians and surgeons would, perhaps, be relieved from hospital work and would give clinical lectures and demonstrations in the receiving-rooms in the city only, and cases for them to lecture upon would be sent up in ambulances, horse or motor.

Perhaps the greatest difficulty of all in the realisation of such a scheme as above presented is the question of money. I would not for one moment suggest that all the hospitals should be under one controlling body or that they should all be managed in exactly the same manner. Each would still have its own committee or board and there should be that same system of rivalry as now exists in each one doing its utmost to excel. Without wholesome rivalry there can be no advance in medical and surgical art and practice. Nor would I suggest, as some have done, that the honorary staff should receive payment for their work. The work which the visiting physicians and surgeons perform in hospitals could not be adequately paid for, and, of course, partial payment is out of the question. A most strict inquiry system would have to be adopted in each hospital so as to insure that none but patients unable to pay a private medical man were admitted. I only wish that such a system were generally adopted in all the existing general hospitals. A few of them have proved that it can be done, not perfectly perhaps, but nearly so. As our general hospitals are now situated there seems no possibility of preventing the absurdly large amount of double work which is being carried on by the Poor-law infirmaries and by the hospitals, but if the latter were once removed to the outskirts of London—a few wards being kept for casualties in the city—there might be at any rate some hope of combination in the future.

I am, Sirs, yours faithfully,
PEYTON T. B. BEALE, F.R.C.S. Eng.

March 29th, 1902.

SEA-SICKNESS.

To the Editors of THE LANCET.

SIRS,—I have read with interest your notice of the Calliano belt for sea-sickness in THE LANCET of Feb. 15th, p. 459, and I am reminded that there is comparatively little published about this distressing and common complaint. During 15 years I have had experience in all sorts and conditions of boats—huge Atlantic liners and small tramp steamers, 30-knot "catchers" and torpedo-boats, and yachts of all degrees, from ocean cruisers to racing machines. On all these designs sea-sickness, like "*corroding care,*" steps aboard and refuses to be left behind.

I do not wish to disparage the Calliano belt—it may in some cases give relief, but I cannot believe in any such mechanical contrivance as being a cure for sea-sickness, the origin of which is a disturbance of the nervous system. Vomiting is by no means its worst symptom—indeed, those who vomit early and without much effort are usually the first to recover—but there are many cases of intense vertigo and giddiness and sometimes alarming syncope where sickness is quite subordinate. In these instances patients will explain that they feel as though the whole earth was sinking away from them and then experience the terrible feeling of falling through space. A Scotsman once put it vividly to me that he would "cling mother-naked to a whin- (gorse-) bush for support."

Many inventions and much money have been brought to bear on the prevention and cure of sea-sickness, but hitherto without any enduring benefit, and unless treatment is directed to the central nervous system I do not think that any is ever likely to accrue. I take it that it is the inability of this system to adapt itself to its surroundings which is the primary cause of the complaint. Vomiting follows from reflex action on the abdominal organs, causing an excessive flow of bile, intestinal, and gastric secretions. But vomiting is only a symptom; more important though less obtrusive symptoms in arriving at the origin of the complaint are coldness of the extremities from diminished peripheral circulation and the faintness and giddiness already referred to which point to an anæmic condition of the brain. Further proof of nervous origin may be found in the effect that strong emotions have on sea-sickness. In this respect intense fear is the emotion brought into play beyond all others. The imminent danger of shipwreck has a most extraordinary effect in arousing the torpid and apparently almost lifeless sufferer to a state of energy that no known medical treatment can compete with. News of great joy it has not until recently been possible to receive at sea, but with Marconi's wireless telegraphy the prostrate passenger with miles of tossing waves still separating him from dry land may now receive a message to inform him of sudden fame or fortune and straightway leave his berth and walk the quarter-deck. Hitherto it has only been my fortune or misfortune to see the results of fear, and this, though generally imaginary, I have frequently seen to arrest suddenly the course of sea-sickness. The writer once experienced this sensation in his own person when he was not as now, from long practice, immune from the nauseating effects of rough seas. After an attack of typhoid fever he was convalescing on a steam yacht in the Mediterranean when phlebitis supervened in the right leg, followed by a blocked femoral vein and possibly external iliac too. After keeping the yacht for a month in harbour he felt so acutely the disappointment of others on board that he

of Edinburgh teaching, as on the model of the Paris schools. The report of a case having been read out by one of his clinical clerks Dr. Ord would, after verifying or correcting the physical signs, give a clear and concise verbal picture of the patient's condition, he would predict the possible complications which might occur, and would give his reasons for every remedy which he proposed to employ. And withal his diction was so polished and his store of information was so vast that he would charm the students who came to his wards from Oxford and Cambridge by his classical methods and language, at the same time impressing all with his clinical acumen and knowledge. Dr. Ord's gift of clear and eloquent exposition doubtless came to him as the result of his accurate practical work. He had a first-hand experience of the difficulties that beset the path of the student and knew in what direction they required removal. How hard he worked at the microscope in his endeavours to elucidate the varying forms which urinary crystalline bodies may assume in the presence of colloidal or other media he has himself recorded. How he studied minute points in pathological anatomy, and made his students study them also, all those who worked under him will remember. For Dr. Ord the microscope was an aid to diagnosis and the treatment of his patient rather than for the verifying of a diagnosis after death. Much as the profession owes to Gull for the discovery of the disease known as myxœdema it still remained for Dr. Ord to work out the pathology, to fill in the picture of signs and symptoms, and finally to give it the stamp of nomenclature. And his painstaking work deserved the recognition that it has everywhere received.

But besides being an able physician and teacher Dr. Ord was a man of the broadest education. As a classical scholar he could hold his own. His knowledge of English literature embraced the writings of the earlier English dramatists and of the great compilers of British naval and military history He was familiar with every plant in the field, common, or hedgerow, and he had a close grasp of geology, as well as of the laws governing the forces of nature.

Personally, he was the warmest of friends and a most genial acquaintance. His generosity, too, so long as he knew that there was real distress, did not stop at the placing of his great skill at the disposal of the sick, but he gave freely from his purse. "Many have been the weekly doles which I have seen him bestow on people who though poor had no other legitimate claim on his benefactions" writes one of Dr. Ord's colleagues to us, and his experience is the same as our own. Though it may probably be said that no single man is necessary in our great profession, yet it will be felt by most of us that William Miller Ord's death has left a gap which will take many years to fill.

Dr. Ord was twice married, and his second wife survives him. He leaves one son, Dr. W. W. Ord, and four daughters.

JAMES SCARBOROUGH LOE, M.R.C.S. ENG., L.S.A.

MR. J. S. LOE, who died at his residence in Chapeltown-road, Leeds, on April 20th, had held for a great many years a very prominent position in that city. He was born at Stony Stratford, Buckinghamshire, and when six years old was taken to Leeds where his father was a well-known medical man. Having resolved to follow his father's profession Mr. Loe studied both in the Leeds School of Medicine and at Guy's Hospital, obtaining the diploma of L.S.A. in 1852 and that of M.R.C.S. Eng. in 1853 His professional life, therefore, covered a period of nearly 50 years, the whole of which was spent in Leeds, where he had a large practice and held several public appointments, including those of medical officer to one of the Poor-law districts, surgeon to the town mission, and honorary surgeon to the fever hospital. Mr. Loe took an active part in municipal life and both as a city councillor and an alderman his professional knowledge enabled him to render important public services when chairman of the City Hospitals Committee and deputy chairman of the Sanitary Committee. In the former capacity he was the means of effecting great improvements in the infectious diseases hospital and he was a warm supporter of the scheme for providing adequate hospital accommodation at Manston, together with a small-pox hospital at Killingbeck. Mr. Loe had a long connexion with the volunteer force. He entered the Leeds Rifle Corps as a private in February, 1860, before the regiment had completed the first year of its existence, so that he had little short of 40 years' service when he retired in 1899 with the rank of brigade-surgeon-lieutenant-colonel. The deceased, who was in his seventy-first year, was twice married and has left a widow.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced :—Dr. Julius Bruck, Professor of Odontology in the University of Breslau, at the age of 61 years.—Dr. Hans von Hebra, Extraordinary Professor of Dermatology in Vienna and son of the distinguished dermatologist. He was president of the Austrian Temperance Society and had of late years interested himself considerably in questions of municipal hygiene.—Dr. Johann Habart, a well-known Austrian military surgeon whose experiments on small-bore rifle wounds have attracted considerable attention.—Dr. Voskresenski, *privat-docent* of Midwifery in Kieff.—Dr. F. Fusci, Professor of Surgical Anatomy in Naples.—Dr. Theodor Rompler, author of several works on phthisis.—Dr. Florian Beely, a well-known Berlin orthopædic surgeon, at the age of 56 years.—Dr. Möller, chief medical officer of the Danish army—Dr. Friedrich Leopold Goltz, the well-known Strasburg physiologist. He was born in Posen in 1834, and after studying medicine in Konigsberg taught physiology there and at Halle until the foundation of the German University of Strasburg, when he was selected for the chair of Physiology, which he filled until little more than a year ago, when he was obliged to retire on account of failing health. His researches on the functions of the brain and spinal cord are well known in all countries.—Dr. Meredith Clymer, formerly Professor of Nervous Diseases at the Albany Medical College.—Dr. N. Kalindero of Bucharest, foreign correspondent of the Paris Academy of Medicine.—Dr. F. Trautmann, Extraordinary Professor of Otology in Berlin.

Correspondence.

"Audi alteram partem."

REMOVAL OF SMALL-POX PATIENTS.

To the Editors of THE LANCET.

SIRS,—With reference to your annotation on page 1335 in your issue of May 10th, *re* removal of small-pox patients, an inaccuracy appears in the second line of the first paragraph. The conviction of Quelch did not take place until May 10th and not on May 2nd as stated. The divisional court was moved to quash by *certiorari* the justice's order to remove Quelch to the small-pox hospital, which order was granted on application before Mr. T. F. Jones, one of the justices for Surrey. A short statement of the *facts* of the case is that on March 2nd I was asked to see the first case in consultation with *Dr. Graham Morris* of Wallington, on which date I was unable definitely to say whether Quelch was suffering from small-pox or not On the following day I saw him early in the morning and found it to be a well-marked case. In consequence of the refusal to allow the patient to be moved I was obliged to obtain a justice's order. It was after this that Mr. T. R. Allinson saw the patient I would point out that my contention that the house was *not suitable for the* treatment of small-pox cases was justified by the fact that a fortnight later the father contracted small-pox.

I am, Sirs, yours faithfully,
C. M. FEGEN,
Medical Officer of Health.

Croydon, May 13th, 1902.

LARGE DOSES OF STRYCHNINE IN SURGICAL SHOCK.

To the Editors of THE LANCET.

SIRS,—Dr. Gordon Sharp's single case is of interest in showing the possibilities as opposed to the probabilities of large doses of strychnine in surgical shock. The favourable results of large doses of strychnine having been thoroughly established by many independent observers, surgeons who have had repeated personal experiences of these results are not likely to be deterred by occasional cases such as that of Dr. Sharp from giving a collapsed patient the chance of life which strychnine given in ultra-pharmacopœial doses can alone afford. To allow a patient to die from shock without the chance of recovery obtainable from large doses of strychnine, because such doses had in rare instances produced severe spasms, would be about as reasonable as to decline to open the abdomen of a patient dying from internal hæmorrhage because operation had failed to save every case and had occasionally even expedited the fatal issue.

I am, Sirs, yours faithfully,
Plymouth, May 18th, 1902. C. HAMILTON WHITEFORD.

LEFT-OFF CLOTHING FOR OUR SOLDIERS.

To the Editors of THE LANCET.

SIRS,—May I again appeal through your columns for left-off clothes for soldiers as the stock is about exhausted? Through the generous response to my last appeal we have been able to provide clothing for over 300 who have returned from the war without which they would have been unable to obtain employment, and the number of men returning is on the increase and will no doubt be so for some time.

Parcels should be sent to Captain Holmes, 70, Victoria-street, S.W., who will acknowledge their receipt.

I am, Sirs, yours faithfully,
HERBERT F. EATON, Major-General,
May 20th, 1902. Chairman Soldiers and Sailors' Help Society.

WHAT IS SCROFULA?

To the Editors of THE LANCET.

SIRS,—In the "Revised Classification of Causes of Death in the National Records," published in THE LANCET of May 10th, 1902, p. 1340, for the guidance of medical practitioners I notice among general diseases the antiquated term "scrofula." It would be interesting to learn from Dr. John Tatham, under whose sanction the above list has appeared, what is meant by this term, how it can be regarded as a cause of death, and why, as it has now become obsolete, the term should have been retained in a classification purporting to be official and authoritative.

I am, Sirs, yours faithfully,
May 19th, 1902. PES.

ERRATUM.—In the letter from Mr. F. Bolton Carter published in THE LANCET of May 17th, 1902, p. 1427, under the heading "Large Doses of Strychnine in Surgical Shock," the writer was made to say that the largest dose given without any after-symptoms was 30 minims during an operation for perforated gastric ulcer, the patient recovering. The number should have been 50, not 30; the error was ours.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Epidemic.—Changes of Policy with Results in Bombay City.—Prayers by Hindoos in Calcutta to stop the Plague.—The Latest Famine Returns.

A DECIDED improvement is shown in this week's plague mortality. The total for the whole of India has declined from 24,380 to 19,419 and the diminution is general. The Punjab still continues to be the most affected area. The figures just published for the past week are: Bombay city, 658 deaths against 696; Bombay Presidency, 2045 against 2093; Karachi, 136 against 137; Madras Presidency, 60; Calcutta, 588 against 603; Bengal, 760 against 925; the United Provinces, 773; the Punjab, 14,145 against 16,281; Mysore, 131; Rajputana, 37; and Berar, 79. The disease seems to be at its worst in Karachi and is commencing the down grade in Calcutta and Bombay. Another case has been imported into Rangoon but so far the disease has not spread.

The report of the municipal commissioner for Bombay during the year ending May 31st, 1901, shows the effects of changes in plague administration. All compulsory measures for that year except for disinfection were withdrawn. The health camps were continued but admission was voluntary. The features to be noted are that the mortality from plague showed a considerable increase and that inoculation was much less resorted to. The increase of plague may not have been due to alterations in plague measures, but the decline of inoculation from 150,000 in 1900 to 7000 in 1901 must certainly be ascribed to the changed policy. There was a large decrease of persons admitted to the health camps. On the other hand, it is said that concealment of cases was much less resorted to and that a better feeling existed amongst the people. It is argued also that a larger proportion of cases came under notice. Lastly (and this is apparently a great point), there was a very considerable saving in expenditure.

To illustrate native views of the plague it may be mentioned that the Hindoos of Calcutta have fixed upon May 26th for a special *puja* to be offered to the goddess Kali to propitiate her and to pray for her intervention to stop the plague. There will be chanting of humiliatory and supplicatory hymns for six hours—from six to midnight. An enormous congregation is expected to the famous shrine. I have not heard of any other steps being taken by the native community to assist in the control of plague and disinfection of premises is now the one and only measure adopted by the authorities. The natural course of an outbreak of plague can be well studied in Calcutta and Bombay city where it is now showing a clinical course undisturbed by treatment.

The famine returns still indicate widespread distress. There are now 370,000 persons under relief.

April 25th.

PLAGUE PRECAUTIONS AT MARSEILLES.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

A Visit to the Quarantine Island of Frioul.—The Modern and Improved Disinfecting Station.—Infected Bones from Bombay.—How the Passengers and Crews are Disinfected.—An Admirable Establishment Insufficiently Manned.—Savants in Quarantine.

ON the port sanitary authorities of Marseilles rests a heavy responsibility. Marseilles has often been described as the door of the East and to-day, from the East, plague-stricken ships make for the port of Marseilles. If the danger of this traffic was occasioned only by human beings it would be comparatively easy to take precautions giving a good prospect of success, but there is also the merchandise and, worse still, there are the rats. In one respect, however, Marseilles is fortunately situated. There are islands a few miles out at sea where there are good anchorage and shelter for ships and where quarantine and disinfection can be carried out at a safe distance from the port. For this purpose the island of Frioul was selected many years ago and time enough has elapsed for this quarantine station to acquire an unenviable notoriety. But to-day more intelligent methods are applied and the complaints are not so frequent. Some 15 years have elapsed since last I visited this quarantine station and I am now able to bear witness to very great improvements. When last I was at Frioul the chief structure consisted of a broad and lofty shanty. Within its bare walls there stood a number of counters or tables. On these tables merchandise, bales of rags, and the like, taken from ships were spread out. Under the tables a certain amount of sulphur was burnt. The shed was so large and the crevices were so numerous that the fumes soon became diffused throughout the surrounding space and escaped. It was found that the fumigation even failed to kill the fleas. Yet this was called disinfection. All is altered now and the fear of plague has very materially contributed to the improvements effected. As a suitable beginning it may first be noted that a landing-stage has been built. Though it is but a rough and hastily-erected structure it greatly facilitates the loading and unloading of ships. Down the centre of this jetty there is a high wooden palisade. On one side of this barrier the infected goods are landed and on the other side they are placed on board the steam launches and barges that convey them back to the ships at anchor after they have been disinfected. A Decauville narrow-gauge railway line has been laid on each side of this partition and it saves much labour and loss of time. One line leads into the disinfecting station; the other line starts from the back and the outside of the station and takes the disinfected goods back to the pier, but before reaching this landing-stage there is a third line, a loop line which goes to a great storehouse or dock where the goods can be stored for some time.

Thus a ship need not wait at Frioul till its cargo has been disinfected but can proceed to Marseilles and land its passengers and the goods can be safely stored till such time as it may be convenient to remove them.

A more rational process of disinfection is now practised. Fumigations are carried out on board ship where an accurate estimate of the cubic space to be dealt with can be obtained. The rule is to burn 20 grammes of sulphur per cubic metre. On shore there are two sorts of disinfection practised—that which is applied only to the outside of boxes, bales, and cases, and the through-and-through disinfection of body-linen, clothes that have been worn on the journey, bedding, &c. For the former process a very ingenious system of hydrants has been established. At the further end of the disinfecting station there is an engine-room. Here there is a cistern filled with a solution of creolin. A pump is attached and worked by the engine. The disinfecting solution is pumped into a copper cylinder which will stand a considerable pressure and the disinfectant is forced along the pipes to the hydrants. There are a number of these hydrants in the largest disinfecting room which are placed at a distance of a few feet from each other. To these a flexible hose is affixed. The nozzles are so arranged as to produce a fine spray and with this the disinfectors play upon the goods exposed, just as a fireman plays with water upon a fire. But as the amount of disinfecting fluid and the number of hydrants in use vary from time to time, while the engine continues pumping at the same rate, an explosion from over-pressure might occur. To meet this a safety-valve has been cleverly contrived by which when the pressure is too great an aperture is forced open and the disinfectant is poured back into the cistern instead of being propelled along the pipes to the hydrants. Thus the system is worked automatically and there is no need of skilled labour to watch over this machinery.

Apart from these hydrants there are a number of the portable spray-producers of the type which is known as the "Dose-métric Mélangeur Laurens." This is a hand-pump that can be wheeled along or lifted and carried by two men. It can thus be conveyed on board a ship or to any place where it may be needed and which is beyond the reach of the hydrants. The proportion of disinfectant mixed with the water used is automatically regulated and the apparatus can therefore be worked by an unskilled attendant and the required dose will be mechanically supplied with mathematical precision. The pressure can be obtained to produce the spray by turning a wheel, or simply by water-pressure if there is a water-main sufficiently near at hand to establish a connexion. This system of disinfection was first applied to some 2000 tons of broken bones imported from Bombay. These are the bones of small young cows held sacred by the Hindoos but exported by Mahomedans, and they often come from plague-infected districts. Many of these bones are forwarded to Lyons where the gelatin is extracted and *noir animal* is manufactured for the sugar refineries and for the making of wax. It was thought that such bones might convey the germs of plague, particularly if they were overrun by rats; hence the care which is taken to disinfect them with a spray delivered with great force and so finely subdivided that it spreads itself all over the bones

When a ship arrives from a country where plague or yellow fever prevails it must stop at Frioul. The passengers are then medically and very carefully examined. The chief danger is with the natives—Indians, Lascars, and others—and they are made to strip. On one recent occasion, though it was thought that everyone on board was in good health, two natives were found with buboes due to plague infection. In such a case—that is, when there is actually plague on board—10 days of quarantine are imposed. If, on the other hand, there is no illness of this description on board, all the linen that has not been disinfected during the journey is, according to the now well-established rule, removed from the ships. But as nearly all the ships carry disinfecting stoves it is only such personal table- and bed-linen as has been quite recently in use that has to be landed at Frioul and there disinfected. Without waiting for the conclusion of this operation the ship may be allowed to proceed to Marseilles with at least its first-class passengers who may land on arriving More rigour is displayed towards emigrants and steerage passengers generally.

Starting from the landing-stage the little railway line penetrates the first and largest compartment of the disinfecting station. Here merchandise and passengers' luggage are placed on counters and played upon with the disinfecting spray from the hydrants. The trucks that are loaded with the bedding, mattresses, table-linen, and body-linen travel further on to another and smaller compartment. Coming through the wall of this compartment there are four disinfecting stoves, two Blanc stoves, and two Geneste and Herscher stoves. The former are larger and better suited for mattresses and cumbersome articles. The stoves, of course, open at both ends. One end is on the infected side where the goods are inserted, and they are withdrawn on the other side of the wall and at the other end of the stove after they have been disinfected. Here another line with other non-infected trucks serves to convey the purified bedding, &c., back to the landing-stage. The disinfection is produced by steam under pressure which is occasionally discharged so as to secure the penetration and even distribution of the heat inside the mattresses. Each stove is fitted with what is described in slang but graphic parlance as a *mouchard*. This is a thermometer that records the internal temperature of the stove on a drum that revolves by clockwork. The director keeps in his pocket the key of this detective, which gives in a tracing a record setting forth how long each operation has lasted and to what amount of heat and what fluctuations of heat the disinfected articles have been exposed. This is a very valuable method of control and it dispenses with the necessity of constant personal supervision. It obviates, also, all errors While luggage and bedding are thus being disinfected the passengers and crew are led to another department. Here there are 20 compartments, each having three subdivisions made of corrugated iron partitions. These compartments consist first of a little cabin where there is a seat and here the person to be disinfected takes off all his clothes, makes a bundle of them, and affixes thereto a metallic number that has been given to him. The bundle is at once taken off to the disinfecting stove. The passenger or sailor then enters the second or central portion or cabin. Here he finds some soap and on pulling a string, receives a warm or a tepid douche. After he has thoroughly washed himself he proceeds to the third subdivision of his compartment where he finds a wrap, dries himself, and awaits the arrival of his bundle of clothes, which is brought to him from the stove after it has been disinfected. He then goes out from the opposite side to that by which he entered and either returns to his ship or, if he is to be detained, proceeds to the quarantine quarters Still further on there are other compartments where instead of douches there are warm baths and one of these is most luxuriously fitted up. Sometimes as many as 250 passengers have thus been disinfected in one morning, taking 20 at a time, the operation lasting about a quarter of an hour for each person. Passenger ships arriving at seven in the morning can very generally start for Marseilles by noon. But if there are many immigrants these are sent on to Marseilles later in the day by tugboats, while the mail-steamer leaves earlier with its first-class passengers. If the ship is suspected disinfectants are poured into all the dirty places. Sulphate of copper is used where the cattle have been and it is put down the drains.

The disinfecting station is an oblong building divided longitudinally, the right portion on entering being the infected side and the left being the disinfected side. In the partition wall glass panes—not windows that can be opened—have been fitted at different intervals, so that it is possible to see through without coming into contact with infected things or persons. Consequently, the disinfectors can be watched from the safe side while they are at work, and there is telephonic communication throughout. At the furthest end there is the engine-room where a considerable amount of work has to be done. There is the pumping of the disinfectant solution to supply the hydrants already described. Then there are the boilers to warm the water for the douches. This warm water and also cold water from the cistern outside have to be pumped up into large tanks overhead so that they may be delivered by gravitation wherever they are required. As the only supply is that of the rain-water, which is collected in a large underground system, this is apt to fall short, especially when there is much work to be done. Consequently an apparatus for the distilling of sea-water has been fitted up in the engine-room to make up for this deficiency Then just outside the engine room, but in the infected part of the building, there is a trough which has to be supplied with boiling water and here linen stained with pus or blood is soaked before it is put inside the stove.

If this were not done the linen would be stained and spoilt. For the stoves, engines, &c., full printed instructions are posted on the walls which are very useful when extra and inexperienced workers have to be engaged. On the day of my visit *La Provence* had just arrived from Buenos Ayres. There were 448 passengers on board and of these only 57 travelled first or second class. The rest consisted, for the most part, of disappointed Italian emigrants returning home. The ship had left eight days before cases of plague were reported from Buenos Ayres. The rule stipulates for 10 days and therefore, some precautions were taken. Through the glass partitions I saw some of the mattresses arrive and, plague or no plague, it seemed to me a very good thing that they should be disinfected. They were very filthy, which is not surprising considering the class of persons who had used them.

In all its details, by reason of the precautions enforced, the ample space devoted to the purpose, the ingenious mechanical appliances employed, and the care taken to disinfect the persons and the clothes of the passengers and the crews, and of the disinfectors themselves, this establishment commends itself to all who are interested in such matters and especially to port sanitary authorities. So far as the structure is concerned and the manner in which it has been planned the authorities are to be congratulated and it would be difficult to suggest any improvement. In thus expressing so favourable an opinion I am but repeating what Professor Koch of Berlin said when last he visited Frioul. There is, however, a weak side The staff of assistants is absolutely insufficient. It consists for the most part of old men who are paid only £36 a year. For this small sum they must live with their families a dull isolated life on the island. It is true that their wives get a little washing to do and that this adds to their income, but still they are so poor that it cannot be a matter of surprise if they occasionally accept bribes. When they are sent on board a ship to fetch away linen or luggage to be disinfected they may be bribed to leave certain objects behind them or, to oblige passengers who are in a hurry, they may stamp luggage before it has been disinfected so as to get it through more rapidly. Consequently it may happen that "suspects" are not watched strictly enough. When, however, it is not merely a question of suspicion but there is positive danger all the superior officers are on the spot, the underpaid attendants are carefully watched, and the precautions deemed necessary are enforced with great rigour. Even if all the attendants were properly paid difficulties would still arise in consequence of the great irregularity of the work that has to be done. Sometimes there is absolutely nothing to do, while at other times it is necessary to employ a great number of extra hands and these are very difficult to obtain.

The most notable case in point was that of the ship *Sénégal*, which gave rise to a somewhat acrimonious debate in the French Academy of Medicine. The *Revue Générale des Sciences* had organised a pleasure cruise in the Mediterranean and 174 passengers embarked at Marseilles on Sept. 14th, 1901. Their ship, the *Sénégal*, had arrived at Marseilles on August 28th, coming from Alexandria where cases of plague had been notified. According to Article 5 of the international agreement the passengers and crew were carefully examined and were all found to be in good health. The linen, bedding, luggage, &c., were disinfected. Events proved that this did not suffice, for, with all these precautions, no account was taken of the rats. Four days after the *Sénégal* had left Marseilles with its distinguished passengers on board, and after visiting Ajaccio, one of the crew fell ill with plague. The ship at once returned to Marseilles and landed its passengers at Frioul. Now the number of first-class passengers detained at Frioul during the 10 years from 1891 to 1900 only amounted in all to 119. But here, in one single day, there came 174 passengers all clamouring for first-class accommodation. An ex-Cabinet Minister, leading men of science, and other influential and distinguished persons composed this very exceptional body of travellers. The confusion, the inconvenience, and even the hardships that ensued were graphically described in various papers and by one of the victims, Dr. Bucquoy, at the Academy of Medicine. Though every effort was made to reinforce the staff it was impossible to obtain sufficient attendants. Nor were those who did volunteer for this service at all competent. To extemporise a large hotel staff is no easy matter, particularly when each person who volunteers conceives that he is incurring the risk of contracting plague. When the *Sénégal* arrived at Frioul there were but eight attendants besides the medical staff. 18 others were immediately engaged. But this was insufficient. There were not hands enough to carry the personal luggage from the disinfecting station to the dwelling-houses which are situated at a considerable distance. Many essential necessaries were wanting. On listening to these many complaints it occurred to me that the staff of a quarantine station such as that at Frioul should be recruited much on the same principle as the British army. Men should be engaged, sent to Frioul for a few months, and after having been thoroughly instructed they should be drafted into a reserve corps. A small retaining fee or pension should be paid to them on the understanding that they should hold themselves ready to resume active service for full pay whenever they were called upon. In this manner and in the course of time a competent and numerous reserve would be at the disposal of the sanitary authorities. Nevertheless, though this does not exist at present, I feel it only fair in regard to this controversy to quote the concluding passage of the speech delivered at the Academy of Medicine in reply to Dr. Bucquoy by M. Henri Monod, Councillor of State and Chief of the Sanitary Department of the Ministry of the Interior. M. Monod said: "A second fact, to which M. Bucquoy has not alluded, is worthy of the attention of the Academy. Let us turn our eyes away from the arid rock of Frioul and look towards France. We sympathise, as we are bound to do, with the annoyances endured by the very distinguished passengers of the *Sénégal*, but as no one of them suffered in health we may without hardness of heart view the question in its more general aspect. For more than five years and a half we have been threatened with the plague and this menace increases with formidable rapidity. The number of ships coming from plague-stricken countries and entering French ports amounted to 11 in 1896, to 80 in 1897, to 209 in 1898, to 368 in 1899, and to 655 in 1900. In all there were 1348 ships and of these 801 arrived at Marseilles. During these five years our sanitary services, and especially that of Marseilles, were face to face with a new and alarming peril, for the modern achievements of science are so far uncertain that they have not sufficed to efface the terrible recollections of the past. The plague seems to have established itself in Egypt. There has been plague in Portugal. There have been cases of plague in Italy, some cases in Scotland, others in England; up to the present moment there has not been a single case on French territory. This is a fact which we must bear in mind; it is without precedent; and this entitles many of our agents, but more especially Dr. Catalan (the port medical officer of Marseilles), to receive the expression of public gratitude."

But the precautions taken and thus publicly and gratefully acknowledged are now admitted to be insufficient, and this in spite of their so far successful effect. The danger is with the rats and new and important measures are now enforced to meet this risk. They will form the subject-matter of my next contribution.

(To be continued.)

BIRMINGHAM.

(From our own Correspondent.)

A Question of Labels.

THE distribution of medicine to out-patients at hospitals and dispensaries is a matter of routine that is generally carried out with a proper sense of responsibility. But errors will sometimes happen and a patient gets the wrong medicine or mistakes the directions given to him concerning it. The wonder is that in the circumstances mistakes are so few and that so little harm is done. It has lately been suggested that the name of each patient should be written upon the label affixed to his bottle. But this would entail an amount of labour of which the author of the suggestion probably knows nothing and the reform would not always prove successful, for bottles, names, and patients might afterwards get mixed. A patient at a local dispensary lately complained, he and his wife being recipients of medicine, that no names were placed upon the labels. The man drank the wife's medicine and the wife took that from the husband's bottle, fortunately without ill results to either. As a rule it is the plan for the patient to take his prescription to dispensary where it is made up and handed to him. The ponsibility of remembering its appearance so as to be le to identify it thus remains with him. Bottles contain- poison are always prominently labeled as such and the nted directions for dosage, &c., ought to be sufficient en the medicine is handed directly to each individual lent. It is evident that no other sort of directions can be en to hospital and dispensary patients, for time would allow of their being written. At a certain hospital ently *marking-ink was administered instead of meat-juice* wo scarlet fever patients. On investigation the committee nd that a bottle similar in shape to that used for meat-juice been in use for nine months as a receptacle for marking-ink. iously this was a gross indiscretion and it was recognised the committee in the proper condemnation and punish- *t of the offenders.* But *if hospital nurses* can make such mistakes how much more liable to do so must out-patients at hospitals and dispensaries be.

Midland Counties Asylum.

Formerly known as the Midland Counties Idiots Asylum this institution continues its usefulness and activity. Lord Leigh presided at the thirty-fifth annual meeting of the subscribers on April 25th. The report showed that during the past year the admissions were 12 in number, the average age not being over nine years. In dealing with the feeble-minded one difficulty of the committee had always been the inability to get the patients sufficiently young. The provisions in the United Kingdom generally for the education of such children were stated by the report to be totally inadequate. The committee consider that owing to the want of proper facilities thousands of poor children are unable to receive treatment in special institutions. A shoemaker's, a tailor's, and a carpenter's shop have been fitted up at the institution and an appeal is being made for more funds, the advantages of technical training being pointed out. It is, of course, now generally recognised that the feeble-minded when taken in hand while young are capable of improvement and that many, if taken in time, may be saved from drifting into lunatic asylums or prisons.

Sanitation and Cookery.

The Birmingham Ladies' Association for Useful Work have set themselves a laudable programme. For 30 years they have been endeavouring to inculcate the principles of sanitation in the poorer parts of the city. They are now providing *for the teaching of cookery in the slums.* Whether this teaching will be received in the same spirit with which it is being offered remains to be seen when the experiment has been sufficiently tried. The provision of lady sanitary inspectors in different districts of the city has made the work of the society less urgent from this point of view. Yet there is *still abundant room for the exercise of thrift and knowledge* in the ordinary transactions of domestic life among the lowest stratum of our society.

May 20th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Mersey and Irwell Joint Committee.

DURING the last 10 years much has been done to prevent the streams in the watershed of the Mersey and the Irwell from becoming fouler. In many cases great improvement has been made but much more must take place before sea-trout and salmon frequent these rivers as of yore. In his annual report of the work done by the joint committee Mr. A. Tutton, the chief inspector, gives some facts showing the great extent of its jurisdiction, consisting as it does of seven county boroughs, 14 non-county boroughs, 61 urban district councils, and 12 rural district councils, with a total population of 2,456,723 and a rateable value of £11,986,609 On the rivers Irwell and Roach there are 285 manufactories; on the Irk, once known for its excellent trout-fishing, 46; on the Medlock, 15; and on the Mersey, 99—a total of 445. Into all these streams the manufacturers used to throw, or allowed to be washed in, their waste ashes as a matter of course, but there have been no serious cases of pollution by solid matter during the past two years, though action has been taken in several small cases. In 1892 26 urban authorities had no scheme for preventing pollution, but now all except one urban authority and two rural authorities have such a scheme. The biological filter method of treatment is being adopted more and more and is of great value where suitable land cannot be obtained, though Mr. Tutton thinks that it can never take the place of first-rate land treatment as far as efficiency is concerned. Manufacturers *now generally recognise the necessity* for, and the justice of, treating their trade waste, and legal proceedings have not been required for four years. The result of all this is that considerable improvement in the condition of the streams has been brought about, though much remains to be done, "more especially by the sanitary authorities." *One suburb, Moss Side, practically a part of* Manchester, remains outside and independent of the city and its dealing with its sewage is not satisfactory. There is a sewage farm that is often complained of, which is not remarkable seeing that its area is equal only to about one acre per 1000 of the population, but even Moss Side promises *to do better.*

Diphtheria at Darwen.

The recent report of Dr. S. W. Wheaton of the Local Government Board on a serious epidemic of diphtheria at Darwen is a severe indictment of the sanitary condition of the town and by implication of the town council. The general unwholesome conditions prevailing in the town are considered responsible for the extensive prevalence of sore-throat, which after its introduction facilitates the spread of diphtheria. Dr. Wheaton recommends increased isolation accommodation, thorough overhauling, and where there is insufficient fall relaying of the sewers. The town council are also recommended to endeavour to replace the pail-closets by water-closets or slop-water-closets.

Suicide in Salford.

Is suicide becoming more common? One would say yes if the state of things which was disclosed the other day at the *Salford Borough Sessions were typical of the whole country.* Mr. J. M. Yates, K.C., congratulated the grand jury on the light calendar. Although there were only 11 cases for trial no fewer than six were charges of attempted suicide. In two only was any cause assigned but in these it seems to have been poverty. In one case a girl, aged 15 years, had for some *time assisted her mother* who is a *dressmaker*, but work was scarce and she was told to try to get work elsewhere. Having failed to find any she tried to drown herself. She pleaded guilty and was sentenced to one day's imprisonment. The next case was that of a woman, 54 years of age, who was deserted by her husband *some months ago*, and had found great difficulty in providing herself with food and lodgings, so she tried to drown herself. "Her own and her sister's recognisances in 40*s*. were taken." A joiner, 52 years of age, had a day's imprisonment for attempting to drown himself. The cause was not stated. A woman, whose age was not given, for a similar offence was bound over to come up for judgment "if called upon." A girl, aged 18 years, was sentenced to one day's imprisonment, but in this case neither the manner nor the reason for the attempted suicide is given. The severest punishment was inflicted on a man, aged 63 years, who had tried to cut his throat. He gave himself several severe gashes with a razor which but for prompt medical aid would have proved fatal. He was sentenced to 14 days' imprisonment "in the second division." It seems difficult to discover the principle regulating the punishment for attempts at self-murder. One can understand the feeling of depression produced by unsuccessful efforts to get work, the vision of the future rendered all the more hopeless from the physical exhaustion brought on by want of food. In many cases, however, especially in young girls, mere petulance and momentary ill-temper seem to be the only assignable causes for suicide; in others, of course, disappointed *love*, or what passes for it, is held to be a sufficient excuse for the throwing away of life. Has our system of education any influence, and if any what influence has it *on the ideas prevalent* as to the sacredness of human life? It almost seems as if ill-disciplined, ill-regulated minds were in the ascendant.

May 20th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox at Swansea.

THERE have been 55 cases of small-pox in Swansea since the beginning of *the epidemic* in December last and until recently there has been experienced no difficulty in [illegible] patients in the small-pox hospital. On May 12th

[illegible] Library
[illegible] Medical College

however, the medical officer of health (Mr. Ebenezer Davies) applied to the borough justices for an order to remove two children who had contracted the disease and who were residing in one house where there were four other persons. The entire household was said to be unvaccinated. The order was made but has not been complied with and the children's father, who is a stallholder in the public market, is to appear before the magistrates on May 22nd on a charge of obstruction. Since the order was made the mother of the children and a maid-servant have been attacked with the disease. The latter has been removed to the hospital.

The Royal Alexandra Children's Hospital, Rhyl.

Rhyl has always been a popular resort for the inhabitants of the great industrial centres of the Midland counties and of Lancashire, so that it is not at all surprising to find that the majority of patients treated in the Royal Alexandra Children's Hospital come from these counties. In 1901 they numbered 474 of the 710 patients taken into the wards. Of this total 58 were medical, 69 were surgical, and the remainder were convalescent cases. The institution was first established upon a very small scale in the year 1872, but 20 years later the demands upon its resources were so great that in 1894 it was decided to erect an entirely new building and Messrs. Alfred Waterhouse and Son prepared designs including a convalescent home to accommodate 100 patients, a central administrative block for a staff of 25 nurses and a hospital for 60 patients. The foundation stone was laid by Queen Alexandra in 1894 and the central block was formally opened by the Prince and Princess of Wales on May 12th. The hospital has been in use since 1900 and the convalescent wing is to be erected when sufficient funds are forthcoming. The hospital, which has an uninterrupted sea frontage of 266 feet, contains four wards on two floors to accommodate 15 beds in each and on two sides of each ward are balconies on to which beds can be wheeled. There are also recreation rooms, single bed wards, an accident ward and an operating theatre. The walls of the wards are lined with a glazed brick dado, above which is adamant cement and all corners are rounded and ledges avoided. The sanitary offices are at the angles of the wards with cross ventilating passages. The whole building is lighted with electric light and the passenger lift is worked by electric power. In the administrative block are sea-water baths, and a Finsen lamp and Roentgen ray apparatus have been installed. In the beautiful little chapel there is a window given by his widow in memory of the late Mr. Murray Browne, formerly Local Government Board Inspector for North Wales and who for some years was honorary treasurer and secretary to the hospital.

Death under Chloroform.

A man, 42 years of age, died at the Swansea General Hospital on May 16th while under chloroform. He was about to be operated upon for ununited fracture of the arm but the operation had not been commenced at the time of his death.

Payment for Patients treated at the Pasteur Institute in Paris.

Several persons who had been bitten by rabid dogs in Pembrokeshire have been sent for treatment to the Pasteur Institute in Paris and so far with the best results. The expenditure involved was borne provisionally by the county council and it has now been sanctioned by the Local Government Board which requires that the county council shall formally approve the expenditure after receiving medical reports of the cases particularly concerned.

Public Slaughter-house for Bristol.

The Bristol Health Committee, after having had the question under consideration for some time, has at length passed a resolution recommending that a scheme shall be brought up providing for the erection of a public slaughter-house. There are altogether in the city about 120 private slaughter-houses, but a large proportion are quite unsuitable for the purpose to which they are put.

The Medical Officer of Health of Barton Regis, Bristol.

Upon many occasions THE LANCET has insisted upon the undesirability of medical officers of health visiting cases of infectious disease notified to them and the Local Government Board has frequently expressed the same opinion in communications addressed to sanitary authorities. The Barton Regis Rural District Council having passed a resolution calling upon its medical officer of health, Dr. Edward Crossman, to make a detailed report upon every infectious case notified to him received a letter from the Board in the terms above indicated, and upon Dr. Crossman declining to fulfil the requirements of the district council, which were in direct opposition to the instructions of the Board, he has been called upon by the council to send in his resignation. It will be interesting to see whether Dr. Crossman will receive the ultimate support of the Board, though there is no doubt that he has the sympathy of his colleagues in his endeavour to uphold the traditions of his profession.

Children's Convalescent Home at Weston-super-Mare.

The convalescent home at Weston-super-Mare in connexion with the Bristol Royal Hospital for Sick Women and Children is apparently conducted upon economical lines, for during the past year 322 patients were treated in the institution at a total cost of £480, although there are only 28 beds in the home. Patients are sent to the home, not only from the Bristol hospitals, but from the public elementary schools and by the Bristol Board of Guardians.

Vaccination Expenditure.

At the meeting of the Okehampton (Devon) Board of Guardians held on May 10th it was reported that the vaccination fees for the past quarter amounted to £75, whereas under the old regulations the annual cost for vaccination was £35. Several of the guardians considered that it was very hard on the ratepayers that several prominent residents of Okehampton should be revaccinated at the expense of the rates, but it was pointed out to them that all persons were entitled to free public vaccination. The finance committee reported that one of the public vaccinators had been revaccinated by his assistant and had charged 2*s.* 6*d.* for the operation. The committee, however, was of opinion that as the assistant was not engaged by the guardians the auditor of the Local Government Board would surcharge that amount.

The Winsley Sanatorium.

At the meeting of the Bristol City Council held on May 13th it was decided to contribute a sum of £1000 towards the cost of the Winsley Sanatorium and to give an annual donation of £260 towards the maintenance of the institution, conditionally that four beds be reserved exclusively for Bristol cases.

May 19th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

General Council of the University of Edinburgh.

THE statutory half-yearly meeting of this body was held on May 7th. The only matter of medical interest was a report on the medical curriculum, in which it was pointed out that the fifth year had been added to the curriculum with a view to give the student in the end of his course more time for the clinical subjects. This expectation, the report holds, has failed entirely. At the same time the report somewhat illogically says that difficulties have arisen in connexion with the hours for systematic lectures because an additional hour, namely from 11 to 12, is wholly taken up with hospital teaching. The fact is that this extra hour of clinical instruction has been a great gain to the student and it is in virtue of the additional year that he has been able to take full advantage of it. The question of the rearrangement of class hours is dealt with and a workable time-table is added to the report. The report further suggests that the academic year should be divided into three terms of 10 or 11 weeks each and that the winter session should begin for all classes on Oct. 1st. It is also proposed that examinations shall be held three times during the year, and, save under strict regulations, no student who has failed to pass an examination shall be allowed to attend the succeeding classes of the course. The order in which students are to take out their classes ought to be prescribed. The meeting agreed to this report and ordered it to be sent to the University Court. The proposals are eminently practical and many of the professors and teachers have long held that alterations ought to be made in the directions indicated. It is to be regretted that the Court seems to be so unwilling to carry through any considerable modification of the existing order of things. It probably dislikes general council agitation, but it would be wise to carry out recommendations of this kind, for they embody the experience and the mature opinion of a large body of teachers. The question is one deeply affecting the interests of the student and there is no selfish interest involved or rival interest of extra- and intra-mural school.

Examination of Clinical Morbid Products in Edinburgh.

The latest phase of the relations between the Royal College of Physicians of Edinburgh and the Edinburgh Town Council is the circulation of a letter to medical practitioners in Edinburgh in which it is intimated that in consequence of the decision of the town council to transfer to the *Usher Institute* of Public Health the reporting on morbid products received by the medical officer of health from practitioners in the city the College has resolved to cease to issue reports on such products received through the medical officer of health after May 15th. As, however, it is the wish of the College to place the resources of its laboratory freely at the service of the medical profession, in the interest of the citizens, the College has instructed the superintendent of the laboratory to receive morbid products directly from practitioners in the city and to report thereon without fee. It is hardly necessary to say that there is a difference of opinion regarding this action and as to its exact significance.

The Proposed Psychiatric Clinic at the Edinburgh Royal Infirmary

This matter is still under the anxious consideration of the board of managers, which body has applied to the members of the staff for their opinion. As I intimated some weeks ago there is still considerable diversity of opinion regarding the scheme. Of course the alienists are running a big scheme for all its worth and with an interesting and curious optimism as to the depth of the public pocket. Meanwhile the stern fact faces the managers that their annual ordinary expenditure exceeds their ordinary revenue by something like £16,000 and that for the last quarter alone it exceeds it by £10,000. Many shrewd people hold that there is a limit to public giving for any one charity, no matter how deserving it be. This view is based partly upon what happened during the time that war funds were being raised, for it was then found that many persons merely transferred their giving from one charity to another Another factor which is to be also borne in mind is that the need of providing suitable establishments for patients suffering from tuberculous disease of the lungs is deeply impressing the public mind and will tend to divert money in that new direction.

Aberdeen University

At a meeting of the University Court on May 13th a letter from Professor Trail was read intimating gifts by himself of two sums of £100 each, to be named the Dickie Fund and the Nicol Fund, the income of which is to be used yearly for giving prizes to students in botany and zoology, "to encourage students to acquire skill to fit them for research, to promote a fuller knowledge of the flora and fauna of Scotland, to induce students to aid in the equipment of the university for teaching and research in these sciences, and in the work of societies and institutions (especially in Aberdeen and in the north of Scotland) organised to promote a fuller recognition of the interest and value of the biological sciences in education and otherwise; to connect these objects with the names of his teachers (Professors Dickie and Nicol) in botany and zoology, and to express in a slight measure his sense of what he owed to their instruction and example."

May 20th

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal City of Dublin Hospital

THE "Gigas" bazaar in aid of the Royal City of Dublin Hospital was, as its name implied, an immense undertaking. After running several days it was brought to a conclusion on May 19th and notwithstanding the very unfavourable weather which prevailed it seems to have proved a financial success On its last day it was visited by several of the captains and officers of the German squadron, including those of the flagship *Kaiser Wilhelm II* The foreign visitors were received by the medical staff of the hospital and the members of the committee.

The Coronation Celebration in Dublin

A large and influential meeting of the citizens of Dublin was held in the Antient Concert-room on May 10th in furtherance of the movement for celebrating the coronation in Dublin. Sir Christopher J Nixon, President of the Royal College of Physicians of Ireland, addressed the meeting and in the course of an interesting speech suggested that the occasion might be celebrated by the establishment of some permanent monument of charity, such as an addition to the present deficient accommodation for sufferers from consumption in Dublin. Mr Thomas Myles, President of the Royal College of Surgeons in Ireland, expressed himself in favour of the establishment of a fund for the widows and orphans of the fallen Dublin Fusiliers.

Surgeon-Captain T J. Crean, V.C

The annual dinner of the Royal College of Surgeons in Ireland took place on May 10th at the College buildings in Stephen's Green and was preceded by a very interesting ceremony Immediately before the banquet the President of the College, Mr Myles, in the presence of the Lord Lieutenant and a distinguished company, presented the diploma of the honorary Fellowship to Surgeon Captain Crean, V.C, recently decorated by his Sovereign for personal gallantry in the field. On Dec. 18th, 1901, at Tigerskloof, he attended the wounded in the fighting line, was twice wounded, and only desisted when it was thought that the second wound was likely to prove fatal. Surgeon Captain Crean, of the 1st Imperial Light Horse, is the fourth of those holding the diploma of the Royal College of Surgeons in Ireland who has received the much-coveted honour of the Victoria Cross. After the dinner His Excellency warmly congratulated the new honorary Fellow of the College.

Royal Medical Benevolent Fund.

At the annual meeting of the Belfast branch of this fund held on May 15th it was reported that the state of the funds was satisfactory, although 52 members of the profession in Belfast did not subscribe. Professor W Whitla was elected President, Dr H. L. McKisack secretary, and Dr R. Purdon treasurer

The Royal University of Ireland

At a meeting of the Senate of the Royal University of Ireland held in Dublin on May 15th a report was received from the Medical Committee (at which it appears there were only three members present) recommending the names of certain candidates as "extern" examiners and, notwithstanding the recent senatorial election, three out of the four suggested were medical men living in Dublin. The Senate declined to take action on such a report and wisely decided to refer the whole matter back for further consideration. Not only was the meeting of the Medical Committee at which these recommendations were made a small one, but two out of the three members present were Dublin senators. Further, a motion, of which notice had been given by the President of Queen's College, Cork (Sir Rowland Blennerhassett, D L.), was passed directing the attention of the Standing Committee to the inadequate representation of the various Queen's Colleges on the examination boards of the Royal University. There will never be any confidence in this question of examiners until the only examiners from Dublin in the university are those connected with University College, Stephen's Green, which is affiliated with the Royal University, and the other provincial schools in Cork, Belfast, and Galway must be fully represented. To appoint "extern" examiners from Dublin would only accentuate the present agitation. Dublin men should surely be content with examinations in Trinity College, the two Royal Colleges (Surgeons and Physicians), and the Apothecaries' Hall; but the provincial medical men who teach in the medical schools of Cork, Galway, and Belfast must be represented on the university with which their colleges are so closely connected. "Extern" examiners can be appointed, if required, from England and Scotland, and in this way the practice of other universities will be followed.

Londonderry District Lunatic Asylum

At the meeting of the committee of management held on May 15th it was reported that during last year 581 patients had been under treatment, the daily average being 488, as compared with 475 for the previous year At present in the asylums in Derry and Gransha and in the Derry and Limavady workhouses there are 491 patients, against 469 at the same date last year

Queen's College, Belfast

The chair of Physiology at Queen's College, Belfast, is now vacant owing to the resignation of Professor W. H. Thompson on his appointment as professor of the Institutes of Medicine in the School of Physic of Trinity College, Dublin, and the chair of Natural History which has been filled by Dr.

R. O. Cunningham since 1870 will be vacant at the end of the present summer session owing to his resignation, a source of deep regret to his colleagues and the large number of students whom he taught.

May 20th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Cocaine Anæsthesia.

AT the Society of Surgery on May 7th M. Chaput read an interesting communication on the indications for local cocainisation, spinal cocainisation, and general anæsthesia respectively. In his opinion local cocainisation in combination with inhalation of ethyl chloride is the best method of producing anæsthesia for small operations; it is indicated whenever possible in the case of diabetics and patients to whom the idea of general anæsthesia is alarming. It may be used in superficial laparotomy and in operations for hernia. It is contra-indicated in the case of children, excitable persons, and complicated laparotomies. Spinal cocainisation is to be recommended for operations on the lower limbs, the anus, the rectum, and the genito-urinary organs of both sexes. It is applicable to superficial laparotomies and to operations for hernia. It is indicated for operations on the thorax and for difficult laparotomies when general anæsthesia would be dangerous. General anæsthesia is the only method available for children, for excitable persons, and for complicated (supra-pelvic) operations. It is the best method when operations of moderate or considerable extent are to be performed on the supra-pelvic region in individuals whose general condition is satisfactory, but it is contra-indicated in the case of timid patients and those whose general condition is bad.

Administration of Chloroform.

At the meeting of the Academy of Medicine held on May 13th M. Laborde said that in his opinion the system followed in the administration of chloroform ought to be in accordance with the teachings of physiology. The danger at the commencement of the anæsthesia lay in the arrest of the cardio-respiratory reflex consequent on irritation of the termination of the trigeminus; to this cause was due the primary syncope which was so serious. The danger might, however, be averted by the preliminary injection of a solution of morphia or, still better, a solution of narceine. It was, for instance, a good plan to inject a cubic centimetre of a solution consisting of hydrochlorate of morphia, 10 centigrammes; sulphate of atropine, one centigramme; sulphate of sparteine, one gramme; and distilled water, 10 grammes. The morphia might be advantageously replaced by narceine which was very soluble but the dose of which must be doubled or tripled, making 20 or 30 centigrammes for the above prescription. It was also useful to paint the nasal and pharyngeal mucous membrane with cocaine. Finally, the employment of the forceps for making rhythmic traction of the tongue averted all the dangers of syncope. The forceps might even be placed in position when the administration of the chloroform was commenced, for on the least alarm a few tractions sufficed to restore respiration and circulation. M. Laborde did not attach much importance to the use of mixtures of definite strength; he thought that what he had already recommended was in most cases a sufficient safeguard in the giving of chloroform.

The Public Health Laws and Epidemics of Typhoid Fever in Country Districts.

At the same meeting of the Academy of Medicine M. Fiessinger pointed out some defects in the public health laws which, he said, could never be made effective since the mayors were placed in a position subordinate to the prefects. A prefect is an official personage and may lose his appointment if he does his duty. The intention of the public health laws was good, but a mayor who was an influential politician could render the greater part of them inoperative. In support of this view M. Fiessinger gave some details of an epidemic of typhoid fever which had been raging for eight years in a small country town. Up to the present time there had been more than 800 cases and about 80 deaths. The infection arose from the spring which supplies the town becoming polluted by infiltrations from a distance. The spring issues from the base of a hill and is fed by an underground stream which comes from a high tableland and sinks into the earth near some houses where typhoid fever is prevalent. M. Chantemesse said that he was able to confirm these statements but that the relations existing between the public health service and the authorities gave rise to difficulties which had hitherto proved insurmountable.

May 20th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Rights and Privileges of the Medical Chambers.

AT the recent meeting of the Medical Chamber of Berlin and the Province of Brandenburg the proceedings took an unexpected turn owing to some remarks made by the representative of the Government. Readers will remember[1] that the Lichterfelde Hospital is boycotted by the medical profession of the district in which it is situated, for the local practitioners will not send patients to be under the care of Professor Schweninger, the chief medical officer of this hospital. One of the incidents arising out of this was that at a recent meeting of the District Council of Teltow to which the hospital belongs the district president (Landrath) Herr von Stubenrauch, said that in boycotting the hospital the medical men were influenced solely by personal animosity to the chief medical officer and that they were acting against the interests of the patients. These utterances of an influential Government official were naturally resented and at the last meeting of the medical chamber Dr. Heyl of Schöneberg proposed a motion to the effect that the chamber regretted that Herr von Stubenrauch had made erroneous statements with regard to the medical profession, but when the matter came on for discussion Herr von Bethmann, the president of the province of Brandenburg, who was acting as the representative of the Government in the medical chamber, rose and said that the chamber was not entitled to pass a resolution of that kind. The medical chambers, he said, were bodies holding official positions subject to the authority of the State and were possessed of jurisdiction only over the medical men of the district, but by passing a resolution of that kind the chamber would have the appearance of assuming jurisdiction over the Landrath, which would be contrary to the law. If the chamber believed that it had a grievance against the Landrath the proper course for it to adopt would be to make a complaint to the president of the province—i.e., the speaker himself—the Landrath being one of his subordinates. The members present at the meeting were much astonished on hearing these statements, and after a long discussion the chamber resolved to express its thanks to Dr. Heyl and to pass to the order of the day. These proceedings have been much commented on both in the daily and in the medical press, and it is admitted that the medical chambers have completely disappointed the hopes even of those medical men who were most desirous that there should be an official representation of the profession. Some even say that if the chambers are not entitled to resist attacks on the profession it would be better to have no chambers at all, but rather to have the free associations as before, for the latter were not hampered by the Government interfering with their discussions and the interests of the profession were looked after by them better than they are by the medical chambers.

Cancer Statistics.

A collective investigation on the spread of cancer in Germany was made by a committee under the presidency of Professor von Leyden in October, 1900, and the results have now been published in the *Klinische Jahrbuch* under the auspices of the Cultus Ministerium. 25,376 circulars were sent to all the hospitals, asylums, and medical men of Germany and replies were received in answer to the majority of these communications. The published report states that at the period in question 12,153 cases of cancer were under medical care, 4439 being in men and 7714 in women, so that there were 215 cases in each million of the population. The greatest number of cancer patients were reported from Thuringia and the fewest from East Prussia. As regards the age of the patients the report states that four men and 15 women were between 15 and 30 years of age, 47 men and 151 women were between 30 and 40 years, 25 men and 587 women were between 40 and 50 years, 664 men and 865 women were between 50 and 60 insisted, against his medical attendant's advice, in making a passage to another port. It should only have been about a 12 hours' run, but when about half way to the destination it came on to blow a gale—as it *can* in the Mediterranean at very short notice—and the little yacht pitched and rolled to such an extent that the unhappy writer was with difficulty kept in his berth. In such weather he had always been sea-sick, but now he fully realised the danger in every movement and strain of a clot being detached and the results thereof. He knew fear as he hopes never to know it again—helpless paralysing fear with every lurch of the yacht; *he was not sick.*

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[1] THE LANCET, March 8th, 1902, p. 706.

I suppose a belt of any sort is presumed to be beneficial on the theory that sea-sickness is caused by movement or displacement of the viscera, but whatever relief belts may give I don't think that their action on visceral movement has much to do with it. During what we all soon hope to call the late war I saw soldiers accustomed to violent gymnastic exercises, and rough riders whose viscera get a lot of shaking up, quite as sea-sick as anyone else; and a proprietor of a circus in South Africa who takes his company all over the world informed me that his acrobats suffered quite as much at sea as ordinary humanity.

Space will not permit my opening up the wide subject of treatment, but I must say a word about boats. Every man whose business or pleasure takes him continuously backwards and forwards across oceans and seas knows exactly what boats of the lines he travels by have the reputation of being good and comfortable sea-boats; that is, boats that have an easy motion *over* rather than *through* a heavy sea, thereby lessening the shock of impact so trying to the sea-sick—boats also which do not unduly roll with that terrible interval at the extreme angle which sailors express by saying "she feels as if she was never comin' back again." Details as to the behaviour of boats at sea are not to be obtained from the clerk in the company's office from whom the passenger books his berth, and the size of a boat is not by any means a guarantee of her comfort in a sea-way. As to yachts, in their behaviour at sea they vary enormously and therefore in their capabilities of producing sea-sickness. All get their reputation, but if even doubtful they are always described to the would-be purchaser as "the finest sea-boat of her tonnage afloat," and often such a high-sounding title as *Queen of the Ocean* (I hope I am not treading on anyone's toes—I have not Lloyd's latest list) is given when she might be more appropriately christened the *Emetic.*

I am, Sirs, yours faithfully,
Parkstone, Dorset. HENRY GOODALE.

A QUESTION UNDER THE INFECTIOUS DISEASES NOTIFICATION ACT.

To the Editors of THE LANCET

SIRS,—I received the inclosed letter from the medical officer of health of my district. I should be glad to know: 1. If a medical man must not notify according to *his* (*own*) *opinion.* 2. The fact of no bacillus being found—does this make the case certain, as the swab might be taken too late? 3. Can the district council refuse payment if the notification s sent in good faith?—I am, Sirs, yours faithfully,

Upper Pontnewydd, March 27th, 1902. A. W. HAYLES.

[INCLOSURE.]

Cwmbran, R S O., Monmouthshire, March 25th, 1902.

DEAR SIR,—I received a notification signed by your assistant, Dr. Wilson, on March 13th, of a case of diphtheria at Woodside-road, the child's name being Davies. I sent a swab taken from the child's throat to the Jenner Institute of Preventive Medicine for examination and the report says that there was no diphtheria bacillus found. The Llantarnam District Council direct me to write to you to say that under the circumstances you will not be entitled to charge the notification fee of 2*s.* 6*d*

Yours truly,
W. E. C. MURPHY,
Medical Officer of Health.

⁂ 1. The medical practitioner must act upon the basis of his own judgment.[1] There is no other standard of action contemplated or recognised by the Notification Act. Moreover, the medical officer of health has to bear in mind that the general practitioner's opinion is the only thing which enables a bacteriological examination to be made. 2. The fact that no diphtheria bacillus was found on one occasion does not, in our view, justify the extreme step which was taken in this case. The swab may have been imperfectly applied or there may have been other factors militating against a correct result. 3. We are not prepared to give a general reply to this query, but we are strongly of opinion that, assuming there to be no question of bad faith, no sanitary authority which properly comprehends its responsibilities should discourage notification in this fashion. It seems to us that the medical officer of health would have been well advised had he invited the coöperation of the notifying practitioner in securing another specimen for bacteriological examination. If the opinion of a medical practitioner is ruthlessly reduced to *nil* as the result of one negative bacteriological examination local sanitary administration will be at a rather low ebb.—ED. L.

CHLOROFORM ANÆSTHESIA DURING SLEEP.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 29th, p. 911, you describe an article on Chloroform Anæsthesia during Sleep by Dr. N. Stone Scott of Cleveland, Ohio, in which is discussed the question as to whether such a thing is possible without the patient being awakened. I have on two occasions successfully administered chloroform to patients who were asleep, in one case to a youth aged 16 years, and in the other to a child. In the former case the patient was suffering from paraphimosis. Chloroform was administered slowly at the commencement. No struggling was experienced and circumcision was performed. This took place about 3 P.M. and the patient did not wake until next morning when he was greatly surprised to find that the operation was over. In the case of the child the administration of chloroform was equally succ Complete anæsthesia was rapidly produced and an was performed.

I have had no failures and my experience these two cases, but "the admitted rarity of rence" is my reason for bringing them to notic

I am, Sirs, yours faithfully
Wolverhampton, April 1st, 1902. W.

PROFESSIONAL LONGEV

To the Editors of THE LANCET.

SIRS,—*Apropos* of the quotation from THE LANCET of March 22nd (p. 856), I think it your readers to know that Mr. Nathaniel Davidso I was apprenticed in 1852, will attain the patriar 97 years on Saturday, March 29th. He became a of the Royal College of Surgeons of Edinburgh in Licentiate of the Society of Apothecaries in 1 probably the senior survivor of both institu Davidson, after practising in London for 30 ye a Licentiate of the Royal College of Physicians in is, I am happy to say, in very good health.

I am, Sirs, yours faithfull
CHRISTOPHER
Cavendish-square, W., March 25th, 1902.

THE BATTLE OF THE CLUBS.

To the Editors of THE LANCET.

SIRS,—Ever since I have been in practice—13 y have acted as surgeon to the Victory Lodge of the payment being 4*s.* per member per annum. In I wrote asking that my salary should be increas 6*s* on account of the amount of work to be done owing to the fact that the position of the members warranted my asking for an increase. The secretary on Sept. 17th wrote stating that the lodge could not accede to my request. The same day I gave notice to terminate my appointment on Dec. 17th. Several neighbouring practitioners were nominated as surgeons for the vacancy but not being satisfied with the secretary's statement that I resigned owing to my refusal to attend members at a distance they referred to me, and on hearing that the years, 912 men and 1009 women were between 60 and 70 years, and 815 men and 935 women were over 70 years of age. 70 per cent. of the male patients and 68 per cent. of the female patients suffered from cancer of the digestive organs, 31 per cent. of the women suffered from cancer of the genital organs, 25 per cent. of the women suffered from cancer of the breast, and 15 per cent. of the men and 16 per cent. of the women suffered from cancerous disease of the skin.

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[1] The words of the certificate are, "I hereby certify and declare that, in my opinion," &c.

Venereal Diseases in Prussia.

A collective investigation of the prevalence of venereal diseases in Prussia was held in 1900 and, as already mentioned in these columns[1] the medical profession of the country was provided with blank forms on which they were requested to state the number of venereal patients treated during the month of April, classifying them according as they suffered from syphilis, soft sore, or gonorrhœa. The papers were collected by the Government Medical Department of the Cultus Ministerium, the well-known statistician, Professor Guttstadt, acting as recorder. Answers were received from 63·5 per cent. of the medical men and the returns supplied showed that there were 40,920 venereal patients, of whom 75 per cent. were men and 25 per cent. were women. To arrive at the real number of venereal cases in Prussia Dr. Blaschko rightly observes in the *Medical Reform* that 36·5 per cent. must be added to the above figures, that being the proportion of medical men who had not supplied returns. Moreover, he remarks that there may be a large number of unreported cases attended by unqualified practitioners. Dr. Blaschko accordingly estimates the total annual cases to be about 773,000, a number which he arrives at by multiplying the monthly number by 12. On this computation one out of every 22 adults must contract some form of venereal disease every year. As to the different varieties of venereal disease the report states that 54 per cent. of the cases were gonorrhœa, 6 per cent. were soft sore, and 40 per cent. were syphilis, 27·6 per cent. being fresh attacks. Cases were more frequent in the towns than in the country. Dr. Blaschko has also computed the proportion of venereal patients among the adult male population of the larger towns. The highest ratio was in Königsberg, where it was 44·4 per 1000; in Wilhelmshafen and Charlottenburg it was 38 per 1000 and in Berlin it was 32·4 per 1000. In 1899 there were 27,195 venereal patients in the hospitals, so that only one out of each 29 cases was admitted to a hospital. Dr. Blaschko states that the number of venereal patients in hospital compared with the aggregate of all the hospital patients has decreased continuously since 1877. In 1877 there were 79 venereal cases among each 6000 hospital patients, but in 1899 there were only 43 per 1600. He therefore concludes that whilst hospital accommodation for general patients has largely increased the number of beds for venereal patients is not sufficiently augmented. Quoting the words of the late Dr Firvinico, "la prophylaxie de la syphilis c'est le traitement," he recommends the establishment of either more wards for venereal patients or of special hospitals for such cases. In the conclusion of his article he mentions that a German Society for the Repression of Venereal Disease is in course of formation.

May 19th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Prevention of Diphtheria.

MR. PINCHING, the Director-General of the Sanitary Department, has lately sent round a circular to the various medical practitioners of Cairo informing them that there now exists at the Hygiene Institute of the Government a gratuitous system for examining swabs from patients' throats believed to be diphtheritic. The necessary test-tubes containing a mounted plug of sterilised cotton-wool are kept by the 18 chief druggists of the town and also at the various sanitary offices of Cairo. Attached to each tube are instructions for its use and the practitioner is invited to give the necessary details about the patient. The Hygiene Institute in return informs the practitioner as quickly as possible of the result of the bacteriological examination. Arrangements similar to this exist in some parts of Germany and the United States but not yet, I believe, in England. The Sanitary Department hopes that by this means it will be able to hear earlier of doubtful cases and it can insure a thorough bacteriological investigation which cannot always be carried out by practitioners in the town working in an ill-equipped laboratory. During the last 12 months there have been over 300 cases of diphtheria in Cairo, mostly in the poorer native quarters where there was a small epidemic between October and December last year. Another up-to-date arrangement works well by which the German sanitary inspector of Cairo offers to inject gratuitously as a preventive measure the children who have been in the house with a case certified as diphtheria. He tells me that he has already injected 300 of these "contacts" and not a single case of diphtheria has occurred among them. In not only diphtheria but in every case of infectious disease the Sanitary Department now gratuitously disinfects the rooms and their contents of any infected private house or hotel.

Measures against Plague.

There have of late been no new cases of plague but energetic work has to be continued in many different places. The small staff of English workers is getting gradually knocked up in consequence of much travelling, some anxiety, and the constant effort to galvanise native assistants into doing conscientious work when not under the immediate eye of the inspector. The Government has therefore sanctioned the appointment of two new English medical men as assistant inspectors. It is unfortunate that both plague and cholera are apt to occur in an epidemic form during the hot summer months and this makes it almost impossible for the chief inspectors to take leave at the very time when it is most required. Several of the staff are now in need of a long-deferred European holiday.

Veterinary Report for 1900.

37 cases of glanders and farcy were reported in Alexandria and Cairo but none occurred amongst the Government animals. Mallein is now used in every outbreak and all animals seized by the police are tested before admission to the infirmaries of the Society for the Prevention of Cruelty to Animals. 19 cases of rabies were found in dogs, besides one in a cat, and 10 human beings suffered from hydrophobia. The cases came from five provinces, besides those in Cairo and Alexandria. Both rabies in animals and hydrophobia in human beings have increased during the last three years and much more energetic measures must be taken if hydrophobia is to be stamped out. It is a disgrace to the English occupation that outcast pariah dogs should still be running about in the streets of Cairo and other big towns. They serve no useful purpose and they are a distinct danger to the community. The police periodically poison some scores of them, but every one of them should be energetically destroyed. In the provinces this will take many years to accomplish, but there is no reason why it should not at once be done in Cairo and Alexandria. Outside some of the country villages children are sometimes bitten by rabid wolves. Two years ago, in fact, a boy died from hydrophobia in one of the suburbs of Cairo after being bitten by a rabid wolf who actually attacked him while working in his master's kitchen. The number of cases treated at the anti-rabies institute in Cairo has risen from 88 persons in 1899 to 140 in 1900 and over 180 in 1901. About 200 cases of sheep-pox were reported in Egypt during the year, besides 68 outbreaks of the foot and mouth disease, while 55 cases of anthrax occurred in Alexandria amongst Syrian animals. In the Cairo slaughter-house tubercle was detected in 3 per cent. of the camels, 5 per cent. of the cows, 3 per cent. of the bullocks, and 2 per cent. of the buffaloes, while in Alexandria the disease was found in 8 per cent. of the milch buffaloes, 3 per cent. of the Egyptian cattle, and 1 per cent. in imported cattle. The owners of Cairo dairies are quite willing to have their animals tested with tuberculin and in three dairies the tests all proved negative, but in two others 8 per cent. and 10 per cent. of the cows gave a positive reaction. One of the Cairo dairies has just been unfortunate enough to have a case of typhoid fever among the European staff, but the patient was at once removed from the dairy to a hospital and the strictest sanitary investigation has acquitted the dairy premises and water supply of all blame. Public slaughter-houses have now been provided in 31 towns and the annual number of animals killed has gradually gone up from 387,000 in 1893 to 498,000 in 1900.

Vaccine Institute.

This institute has now overcome all its early difficulties and produced during the year lymph sufficient for 578,000 vaccinations, over 200,000 of these having been called for in the month of April. The yield of vaccine from buffalo calves is found to vary from 15,000 to 25,000 vaccinations per calf, after being mixed with two parts of glycerine and two parts of distilled water. This mixture, adopted on the recommendation of the London Institute, has been found to answer better in Egypt than the lanoline mixture used in India.

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[1] THE LANCET April 28th, 1900, p. 1251.

Cairo, May 11th.

Medical News.

CONJOINT BOARD OF EXAMINERS IN PUBLIC HEALTH OF THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND THE FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the recent meetings of this Board held in Glasgow the following medical practitioners, having passed the necessary examinations, were admitted Diplomates in Public Health :—

Peter Aitken, Bo'ness; Gilbert Edward Brooke, London; Walter F. Brown, Sheffield; Duncan Fletcher, Harris; James Livingston Loudon, Hamilton; Neil Macvicar, Peebles; William Russell, Paisley, Alexander Watt, Falkirk; and Frank Mayes Willcox, Edinburgh.

UNIVERSITY OF CAMBRIDGE.—Grants from the Balfour Fund have been made to Mr. C. Crossland and Mr. J. S. Budgett to enable them to pursue zoological researches in Africa. Mr. A. Sedgwick, F.R.S., has been appointed a manager of the fund. Mr. A. E. Shipley has been appointed a representative of the University on the council of the Marine Biological Association. The Special Board for Medicine has added the University of Adelaide to the list of recognised colonial schools of Medicine. The new Professor of Arabic is Mr. Edward Granville Browne, M.A., M.B. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., Fellow of Pembroke College and late University Lecturer in Persian. He was a student of St. Bartholomew's Hospital. He has published numerous works on Persian travel, religion, and life. The Thurston Triennial Prize of about £54 will be awarded this year at Caius College for the best original investigations published by a member of the College during the last three years on physiology, pathology, or practical medicine. Particulars may be obtained on application to the Master.

CORONATION BALL AND FÊTE AT THE CRYSTAL PALACE.—On July 2nd, at the Crystal Palace, a Coronation ball will be held in aid of King Edward's Hospital Fund. The ball is under the patronage of His Majesty. 2000 square feet of parquet flooring will be laid in the central transept and four large drawing-rooms will be furnished in the south transept. On either side of the drawing-rooms the gardener will construct an English and an Italian garden, the latter with statues and a fountain. Tickets at one guinea each will include special trains from Victoria, supper, ball, and variety entertainment.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—A meeting of the members of the Darwen Medical Society was held on April 1st for the purpose of presenting to Mr. Edgar Alfred Field, M.R.C.S. Eng., L.R.C.P. Lond., one of the members, an illuminated address signed by all the members, together with a midwifery bag fitted with the necessary instruments, on the occasion of his leaving Darwen. Dr. J. T. Ballantyne, deputy mayor of Darwen, in making the presentation, said that the members took that opportunity to express their appreciation of Mr. Field as a fellow practitioner and the high esteem in which he was held by all of them and trusted that every success would fall to him in his new sphere of labour.—On March 25th the members of the Ladies' Class of the St. John Ambulance Association at Coventry presented Mr. Milner M. Moore, M.D. Durh., L.R.C.P. Lond., M.R.C.S. Eng., with a suit case as a mark of their appreciation of his services as honorary instructor.—Mr. J. G. Glasgow, M.R.C.S. Eng., L.R.C.P. Lond., senior assistant medical officer of the Milton Asylum, Portsmouth, has been presented by the members of the Portsmouth Association Cricket Club, of which club he is captain, with an embossed cigarette case. Mr. Glasgow is resigning his appointment at the asylum.—At Padstow (Cornwall), on May 1st, the members of the ladies' branch of the St. John Ambulance Association presented Mr. R. Palk Griffin, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., with a standard lamp, suitably inscribed, in appreciation of his services as honorary lecturer.—Mr. Bartholomew Gidley Derry, L.R.C.P. Lond., M.R.C.S. Eng., has been presented with a carved oak smoking companion by members of the Bodmin Fire Brigade, in appreciation of his services as honorary lecturer to the ambulance class.

AN UNQUALIFIED DENTIST.—At the Cardiff Police-court on May 16th a man who described himself as a chemist and a "merciful tooth extractor" was fined by the stipendiary magistrate £20 for using a description implying that he was a person specially qualified to practise dentistry. The prosecution was initiated by the South Wales and Monmouthshire Dental Association.

LITERARY INTELLIGENCE.—Mr. F. D. How, author of "The Life of Archbishop Plunket," "The Life of Bishop Walsham How," and other well-known books, has written, and Messrs. Isbister and Co., Limited, 15, Tavistock-street, London, W.C., are just publishing, a memoir of the late Mr. William Smyth, L.R.C.S. Irel., whose noble self-sacrifice, even to the laying down of his life, in the cause of duty whilst fighting an outbreak of typhus fever on the poverty-stricken island of Arranmore so thrilled the hearts of men when it was made public in the autumn of last year.

THE ROYAL INSTITUTION.—The Nebular Theory formed the subject of the Friday evening discourse delivered by Sir Robert Ball at the Royal Institution on May 16th. He said that the laws governing systems of bodies in motion made it infinitely probable that nebulæ had a tendency to become flattened towards a plane in which their constituent parts described approximately circular paths, all in one direction but with a greater velocity at the centre than at the circumference. Spiral nebulæ were discovered by Lord Rosse. Photography had shown that they were vastly more numerous than was formerly supposed and it was now believed that there were thousands of them which could be photographed though they were invisible in any telescope. Only a few nebulæ were so placed that their spirals were seen from the earth in front view or plan; the well-known one in Andromeda was the best example and a splendid photograph of it was thrown on the screen, as well as many other photographs of nebulæ, most of which had been taken at the Yerkes and Lick observatories in America. Actual motion of a nebula had not been observed until towards the end of 1901, when successive photographs of the new star which appeared in Perseus in February of that year showed that a nebula in that region of the heavens was moving with wonderful velocity.

LONDON HOSPITAL.—The new operating department of the London Hospital has just been completed (with the exception of the eastern end which is in course of erection) and was opened by the Lord Mayor on May 22nd. It is situated on the third floor of the old front block of the hospital on the site formed by demolishing the old attics, together with the previously existing operating and clinical theatres. The new department consists of a theatre, four operating-rooms, and three anæsthetising-rooms, all facing north, with large windows and top lights. In addition there are four recovery-rooms or small wards, five operation wards, instrument- and sterilising-rooms, and nine or ten rooms for the use of the surgeons, nurses, and others. The operating theatre has a marble gallery for students fitted with teak sides and gun-metal rails. The floors of the theatre, the operating-rooms, the anæsthetising-rooms, and the central corridors are in marble mosaic and the walls and ceilings are lined with opalite. All angles are rounded. The doors are polished oak with swing hinges. Hot water is supplied from an apparatus in the basement and is all boiled. Each day's cold water supply has been previously boiled. In the sterilising room there is a Manlove and Alliott's steam disinfector for dressings, coats, &c. The air to supply the theatre, operating-rooms, and anæsthetising rooms is led from the garden by means of a glazed tunnel and is driven by an electric fan through a canvas water screen and cotton-wool filters, after which it is warmed by steam coils. The vitiated air is drawn out of the rooms by electric fans in the gables of the roofs. The total length of the new buildings, as shown on a plan, is 270 feet, and the average width is about 60 feet. The whole of the department is lighted by electricity. The buildings and fittings have been executed in accordance with the designs and under the superintendence of Mr. Rowland Plumbe, F.R.I.B.A., the architect to the hospital. The funds have been provided by the generosity of a donor who stipulated that the department should be open to all denominations and that his name should be kept secret.

DEATH OF A CENTENARIAN.—The death occurred at Devizes on May 12th of Richard Giddings who attained the hundredth anniversary of his birthday in August last.

CROWNHILL CONVALESCENT HOME.—The annual meeting of the subscribers of the Crownhill Convalescent Home, near Plymouth, was held on April 16th. The medical report stated that 278 patients had been admitted during 1901, an increase of 38 compared with the previous year. The financial statement showed that the receipts amounted to £454 and there remained an unfavourable balance of £30. Dr. O. A. Hingston announced that the late Mrs. Fowler of Plympton had bequeathed him £1000 to be used as he thought best for the home and he proposed to admit about 30 additional cases every year.

PREVENTION OF TUBERCULOSIS —An influentially-attended meeting was held at Dorchester on May 6th to consider the proposal that Dorset should join with Devon and Cornwall in the establishment near South Brent, Devon, of a sanatorium for the treatment of consumption. The Earl of Ilchester presided, supported by Lord Portman, Lord Stalbridge, the Earl of Shaftesbury, Sir Henry Peto, and Dr. W. Lush. Considerable opposition was shown to the scheme largely on the ground that the sanatorium is not in Dorset. Eventually the report of the committee, which was in favour of joining with Devon and Cornwall, was referred to it for further consideration. The chairman stated that attention will now be given to the question of providing a sanatorium in Dorset.

DONATIONS AND BEQUESTS.—By the will of Mr. Henry Tate £2000 are bequeathed to the Hahnemann Hospital and Homœopathic Dispensary, and £1000 each to the Liverpool Royal Infirmary, the Liverpool Northern Hospital, and the Woolton Convalescent Institution, and £500 to the Liverpool Ladies' Charity and Lying-in Hospital.—Under the will of Mrs. Eleanor Thorp of Cheltenham £1000 are bequeathed to the Leeds General Infirmary, £4000 to the Cheltenham General Hospital, and £2000 to the rector of Cheltenham upon trust for the sick and needy parishioners of St. Mary and St. Matthew.—The late Mrs. Nathaniel Montefiore has bequeathed £2000 to University College Hospital and £200 to the Chelsea Hospital for Children.—£2000 have been left to the Croydon General Hospital under the will of Miss J. Keen of Croydon.—Sir Reginald Beauchamp has presented £1000 to the Board of Management of the Norfolk and Norwich Hospital for the purpose of endowing a bed in memory of his parents.—By the will of Lord Rookwood, under certain conditions £1200 are bequeathed to the trustees of the cottage hospital at Hatfield Broad Oak for the general purposes of the hospital.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The twenty-sixth annual meeting of this association was held at the rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, London, W., on May 20th. There was a reception with refreshments and opportunity for the inspection of microscopic specimens, lantern-slides, photographs, and diagrams lent by the President, Mr. W. McAdam Eccles, Mr. Pernet, and Dr. Kelynack. Professor G. Sims Woodhead took the chair at the meeting which followed. The annual report was read by the honorary secretary, Dr. J. J. Ridge, in which it was stated that there were at present 520 members and 438 student associates. Meetings of medical students had been held at the London, Guy's, and St. Thomas's hospitals and the *Medical Temperance Review* had been widely circulated. An international medical manifesto condemning the use of alcoholic beverages on physiological grounds had been prepared in conjunction with the American Medical Temperance Association and the Association of German-speaking Abstaining Physicians. This was being extensively signed at home and abroad. The funds of the association were low and there would have been a deficit but for an opportune legacy of £250. An interesting and valuable address was then given by Mr. Eccles on Cirrhosis of the Liver and its Causation by Alcohol and Otherwise, illustrated by lantern views. A discussion ensued in which Dr. R. Paramore, Mr. A. B. Olsen, Dr. T. Morton, Dr. Heywood Smith, Mr. T. Rushbrooke, and Dr Ridge took part, and a vote of thanks was unanimously accorded to the reader of the paper.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Hospital Contributions by Local Authorities.

A BILL has been introduced in the House of Commons by Mr. Walter Long, President of the Local Government Board, to empower county councils and other local authorities to make contributions to hospitals.

HOUSE OF COMMONS.

WEDNESDAY, MAY 14TH.

Hospital Provision at Lucknow.

Mr. WEIR asked the Secretary of State for India, in view of the fact that the hospital for the native troops at Lucknow was unprovided with a ward or room of any kind for serious ophthalmic or other cases of a special character, whether he would take such steps as might be necessary to ensure the provision of suitable accommodation for such cases.—Lord GEORGE HAMILTON replied: I have no special information as to the details of the accommodation provided at this hospital, but I am confident that the matter may safely be left to the discretion of the Government of India, who, aided by their professional advisers, are always anxious to make the best arrangements that are practicable for the treatment of soldiers who are on the sick list or in hospital.

Death Certification in Scotland.

Mr. WEIR asked the Lord Advocate if he would state the number of interments which took place in each of the six crofting counties last year without the production of a medical certificate of death.—The LORD ADVOCATE replied: On April 26th, 1901, in reply to a similar question, I pointed out to the honourable Member that a medical certificate of death is not a necessary condition of burial in any part of Scotland. There is no information in the Registrar's office as to the number of interments without the production of a medical certificate.

THURSDAY, MAY 15TH.

Sanitary Condition of the House of Commons.

This subject was raised again on the vote in Committee of Supply for the Houses of Parliament Buildings. Members complained of the conditions of the atmosphere when the House was sitting, of uncomfortable draughts, and of inefficient ventilation, and one gentleman suggested that the air introduced into the chamber should be drawn, not from the level of the river, but if it were possible from the summit of the clock tower. Complaint was also made of the unsatisfactory kitchen accommodation.—Mr. AKERS-DOUGLAS, First Commissioner of Works, undertook to inquire into the various points raised and gave the assurance that the Ventilation Committee is making satisfactory progress with its work.

Enteric Fever at St. Helena.

Mr. LAURENCE HARDY asked the Secretary of State for War whether he was aware that the garrison of St. Helena was suffering from an epidemic of enteric fever which had been caused by a failure of the water-supply and by deficiency in the supply of milk and other necessaries; whether he could give the statistics as to the cases of enteric fever amongst the British troops in the island; and whether he would take immediate steps to secure that a good water-supply and milk and other necessaries should be provided.—Mr. BRODRICK replied: There were 98 cases of enteric fever among the garrison at St. Helena on May 9th. No report has reached me of failure of the water-supply or deficiency in the milk-supply or other necessaries. Supplies of tinned milk and medical comforts have always been available there and every possible precaution is being taken.

Parochial Medical Officers in the Crofting Counties.

Mr. WEIR asked the Lord Advocate if the Secretary for Scotland would grant a return showing the names of the parishes in each of the six crofting counties in which the parochial medical officer had been dismissed by the parish council within the last seven years; the return to distinguish cases where a cause for dismissal was assigned from cases where no such cause was assigned.—The LORD ADVOCATE replied that the Secretary for Scotland would be prepared to grant the proposed return.

Medical Examination of Travellers at Calcutta.

Mr. WEIR asked the Secretary of State for India, in view of the fact that the shed in which passengers leaving Calcutta by outward bound steamers assemble for medical examination had been out of repair for several months prior to Jan. 8th last, and that passengers had to await the arrival of the medical officer for examination in the open street, whether he would ascertain if the shed had been put in repair yet? and whether he would consider the expediency of taking such steps as might be necessary to require the punctual attendance of the medical officer, especially in connexion with the morning sailings?—Lord GEORGE HAMILTON replied: I have no knowledge of the allegations made by the honourable Member. I will bring them to the notice of the proper authority in India.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ADAMS, W. D., M.B., M.S. Edin., has been appointed District Medical Officer for the parishes of Banham, Eccles, Kenninghall, Quidenham, and Wilby, and also Vaccinator for those parishes.

Bothwell, G. Granville, M.B., C.M. Aberd., late Senior Resident Surgeon, Memorial Hospital, Bulowayo, has been appointed Resident Surgeon to the Bonsor Gold Mining Company, Selukwe, Rhodesia, South Africa.

Brand, W. H. Eden, L R.C.S. & L R.C.P. Edin, has been appointed House Surgeon to the Northern Infirmary Inverness.

Brownlee, Alex., L R C.P. & S Edin., L.D.S. Edin., has been appointed Assistant House Physician to the Infirmary, Cardiff.

Clayton-Greene, W. H., B.A , M.B., B.C. Cantab , F.R C.S. Eng., has been appointed Surgical Registrar to St. Mary's Hospital.

DeGruchy, C. W., M.R C S., L R.C.P. Lond., has been re-appointed Medical Officer of Health to the Caerleon Urban District Council.

Harris, John Henry, M.D. Durh., M R C.S., L.S.A., D.P.H. Cantab., has been appointed Medical Officer of Health for the Dartmouth Port Sanitary Authority.

Heffernan, P., L R.C.P., L.R.C.S. Edin., L.F.P S.G., has been appointed Assistant Medical Officer to the Clonmel Asylum.

Hewitson, William Andrew, M.R C S. Eng., L R.C.P. Edin., has been appointed Medical Officer to the Workhouse, District Medical Officer, and Public Vaccinator by the Easington Board of Guardians, also Medical Officer to the Infectious Diseases Hospital, Thorpe, near Easington, by the Rural District Council of Easington, vice Donald Wingate, deceased.

Howard, Wilfrid, L R.C.P. Edin , M.R.C S., has been appointed District Medical Officer for the parishes of New and Old Buckenham, and also Public Vaccinator for the same parishes.

Hyde, Edwin, M.R C.S., L R C.P. Lond., has been appointed Assistant House Surgeon to the Infirmary, Cardiff.

Thomson, W. Ernest, M.A., M.D., has been appointed a Surgeon to the Glasgow Eye Infirmary.

Thyne, William, M.A., M.D. Edin , has been appointed Medical Superintendent to the Isolation Hospital for the Barnet Urban District.

Worrall, E. S., M.R.C S., L R.C.P. Lond., has been appointed in charge of the Radiographic Department, University College Hospital, London.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bethlem Hospital.—Two Resident House Physicians for six months, with apartments, board, &c. Honorarium at rate of £25 per quarter.

Birmingham General Dispensary.—Three Resident Locums to take holiday duty. Terms four guineas per week, with furnished apartments.

Bradford Royal Infirmary.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and residence.

Cancer Hospital (Free), Fulham-road, S.W.—Junior House Surgeon for six months. Salary at rate of £70 per annum, with board and residence.

Canterbury City and County Borough Asylum.- Medical Superintendent. Salary £350 per annum, with house, lighting, washing, and produce of garden.

Cardiff Union Workhouse.—Assistant Medical Officer, unmarried. Salary £130 per annum, with rations, apartments, attendance, and washing.

Cheshire County Asylum, Macclesfield.—Temporary Assistant Medical Officer. Salary £4 4s. per week.

City of London Hospital for Diseases of the Chest, Victoria-park, E —Two House Physicians for six months, with board, washing, and residence provided, and salary at rate of £30 per annum.

Colombo, Ceylon, Municipality of.—Medical Officer of Health. Salary equivalent to £400, rising to £500, and conveyance allowance.

Cornwall Royal Infirmary.—House Surgeon, unmarried. Salary £100, increasing £10 a year, with board and apartments.

Dudley Guest Hospital.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

Durham County Asylum.—Third Assistant Medical Officer. Salary £150, rising to £180 a year, with apartments, board, laundry, and attendance.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—House Physician for six months. Board, residence, and honorarium of £25.

Gravesend Hospital.—House Surgeon. Salary £90 per annum, with board and residence.

Hereford County and City Asylum.—Senior Assistant Medical Officer. Also Junior Assistant Medical Officer. Salary £150 and £100 per annum respectively, with board, lodging, and washing.

Holloway and North Islington Dispensary.—Honorary Medical Officer.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £20, with board and residence. Also Clinical Pathologist and Bacteriologist. Honorarium 50 guineas.

Hospital for Women, Soho-square, W.—Honorary Assistant Anæsthetist. Also House Physician for six months. Salary £30.

Hulme Dispensary, Manchester.—Honorary Physician.

Indian Medical Service, India Office, S.W.—Nineteen appointments in Indian Medical Service.

Kent and Canterbury Hospital.—Assistant House Surgeon, unmarried. Salary £60 a year, with board and lodging.

Kent County Asylum, Barming Heath, Maidstone.—Fourth Assistant Medical Officer and Pathologist, unmarried. Salary £175 per annum, rising to £200, with quarters, attendance, &c.

Lancashire County Asylum, Winwick, Warrington.—Assistant Medical Officer unmarried. Salary £150 per annum, rising to £200, with apartments, board, attendance, and washing.

Liverpool Infirmary for Children.—Assistant House Surgeon for six months. Salary £25, with board and lodging.

London Temperance Hospital, N W.—Assistant Resident Medical Officer for six months. Honorarium at rate of 50 guineas per annum, with board and residence.

London Throat Hospital, 204, Great Portland-street, W.—Non-resident House Surgeon. Honorarium at rate of £25 per annum.

London (Royal Free Hospital) School of Medicine for Women, Hunter-street, Brunswick-square, W.C.—Lecturer on Forensic Medicine; Lecturer on Toxicology; and Curator of School Museum.

Norfolk and Norwich Hospital.—Second Assistant House Surgeon for six months, with board, lodging, and washing. Honorarium £20.

Northampton General Infirmary.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, attendance, and washing.

North-West London Hospital, Kentish Town-road.—Second Honorary Anæsthetist. Also Resident Medical Officer. Also Assistant Resident Medical Officer, both for six months. Salary at rate of £50 per annum each, with board, residence, and washing.

Nottingham General Dispensary.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance, light, and fuel.

Poplar Hospital for Accidents, Poplar, E —Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

Richmond Union, Surrey.—Medical Officer and Public Vaccinator. Salary £100 per annum, and fees.

Royal Albert Hospital, Devonport.—Resident Medical Officer, unmarried. Salary £110 per annum, with board and lodging.

Royal Hospital for Children and Women, Waterloo-bridge-road, S E.—Resident Medical Officer; also Assistant Obstetric Physician.

Royal Pimlico Dispensary, 104, Buckingham Palace-road.—Attending Medical Officer.

St. Mary's Hospital for Sick Childen, Plaistow, E.—Resident Medical Officer. Salary £100 per annum. Also Assistant Resident Medical Officer. Salary £60 per annum. Both with board, residence, and laundry.

School Board for London.—Assistant Medical Officer. Salary £250 per annum.

Society of Apothecaries of London.—Examiner in Medicine. Also Examiner in Midwifery.

Somerset and Bath Asylum, Cotford, Taunton.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, and washing.

Staffordshire General Infirmary, Stafford.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing

Swansea General and Eye Hospital —Resident Medical Officer Salary £75, with board, apartments, washing, and attendance.

Throat Hospital, Golden-square, W.—Junior House Surgeon. Salary £100 per annum, with lunch.

Torbay Hospital, Torquay.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

Victoria Hospital for Children, Queen's road, Chelsea, S.W.—House Surgeon for six months. Honorarium of £25, with board and lodging.

West London Hospital, Hammersmith, W.—House Physician. Also House Surgeon, both tenable for six months. Board and lodging provided.

Whittingham County Asylum, Lancashire.—Junior Assistant Medical Officer, unmarried. Salary £150, with apartments, board, washing, and attendance.

Wolverhampton and Staffordshire General Hospital.—House Physician, also House Surgeon. Salary (in each case) £100 per annum, with board, lodging, and washing.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeon, under the Factory Acts, at Banbury in the county of Oxford, at Bingley in the West Riding of the county of York, and at Cheadle in the county of Stafford.

Births, Marriages, and Deaths.

BIRTHS.

Archdall.—On May 4th, the wife of Mervyn T. Archdall, L R.C.P., L.R.C.S. Edin., Croxley, Herts, of a son.

Baron.—On May 12th, at the High House, Orford, Suffolk, the wife of H. N. Baron, M.R C.S., L.R.C P. Lond., of a son.

Goadby.—On May 16th, at the Mall, Wanstead, the wife of Kenneth W. Goadby, D P.H. Camb., L.D.S. Eng., of a son.

Pollard.—On April 26th, at Craigton, St. Andrews, Jamaica, the wife of Deputy Inspector-General E. R. H. Pollard, Royal Navy, of a daughter.

MARRIAGES.

Grossmann—Meyer.—On May 14th, at St. Luke's Church, Liverpool, Karl Grossmann, M D. Freiburg, F.R.C.S.E., to Clare Beatrice, eldest daughter of the late Moritz Meyer.

Last—Jarvis.—On May 10th, at St. Luke's Church, Nightingale-lane, Cecil Edward Last, M.R.C S., L R.C.P. Lond., to Grace Bevington, sixth daughter of the late John Stephen Jarvis.

DEATHS.

Berkeley.—On May 14th, at Dilkhusha, Fleet, Hants, suddenly, Richard William Berkeley, Brigade Surgeon, A.M.S., retired, second son of the late Rev. M. J. Berkeley, F.R.S., of Sibbertoft, Northants.

Ord —On May 14th, at the residence of his son, The Hall, Salisbury, William Miller Ord, M.D., F.R.C.P., aged 67.

Pitt.—On May 17th, at Wellesbourne, Richard Pitt, M.R.C.S., L.S.A., in his 85th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths

Notes, Short Comments, and Answers to Correspondents.

THE CASE OF DR. W. T. LAW.

WE are informed that the President of the Royal College of Physicians of London, the President of the Royal College of Surgeons of England, and the Master of the Apothecaries' Society of London have agreed to act with Dr. R. Paramore as trustees of the fund now being raised to meet the expenses incurred by Dr. W. T. Law. Subscriptions are earnestly invited by them to this fund, and should be addressed to Dr. Paramore, 2, Gordon-square, London, W.C. Cheques and postal orders should be made payable to the "Law Fund," and should be crossed "London and County Bank, Holborn." The following subscriptions have been already received:—

	£	s.	d.
Dr. Theodore Williams...	50	0	0
Dr. H. A. Gibbons	20	0	0
A Friend	20	0	0
Dr. C. J. Cullingworth...	5	5	0
Dr. Radcliffe Crocker ...	1	1	0
Mr. Howard Barrett ...	0	10	6
Dr. Hingston Fox	0	10	6
Dr. M. Baines, V.D. ...	1	1	0
Dr. Edwin Hollings ...	2	2	0
Dr. Wharton P. Hood ...	10	10	0
J. A.	1	0	0
Dr. Holland J. Cotton ...	3	3	0
Sir Lauder Brunton ...	2	2	0
Dr. William Ewart ...	2	2	0
Mr. Henry Juler	2	2	0
F. A. E. S.	0	10	6
Mr. J. J. O'Donnell ...	0	10	6
Dr. J. H. Garrett	1	1	0
Dr. F. H. Parsons	1	1	0
Dr. G. Danford Thomas	2	2	0
Dr. James Edmunds ...	1	1	0
Dr. E. Symes Thompson	2	2	0
Mr. Alban Doran	2	2	0
Mr. W. H. Jalland... ...	1	1	0
Dr. M. Prickett	1	1	0
Dr. A. R. Barnes	0	10	6
Dr. P. H. Pye-Smith, F.R.S.	2	2	0
Mr. H. G. Howse	3	3	0
Dr. W. B. Thorne	1	1	0
Dr. E. G. Younger... ...	1	1	0
Dr. W. S. A. Griffith ...	2	2	0
Mr. S. Wreford	1	1	0
Mr. J. Marshall	0	5	0
Dr. S. Woodcock	1	1	0
Dr. Stanley Smith ...	1	1	0
Dr. H. A. Lediard	1	1	0
Mr. W. Berry, J.P. ...	1	1	0
Dr. A. B. Duffin	2	2	0
Dr. W. A. Bond	0	10	6
Dr. Clement Godson ...	1	1	0
Mr. H. E. Watts	0	10	6
Mr. M. J. Anderson ...	0	10	6
Mr. C. J. Ogle...	1	1	0
Dr. R. R. Alexander ...	1	1	0
Mr. A. Cummings Air...	1	1	0
Sir Henry Thompson, Bart.	10	10	0
Mr. H. B. Collins	0	5	0
Dr. David Bower	1	1	0
Dr. H. C. Buxton	1	1	0
Mr. R. S. Armstrong ...	1	1	0
Mr. Faithfull	2	2	0
Dr. George Eastes... ...	1	1	0
Mr. A. Allport...	0	10	6
Dr. W. H. Strange ...	0	10	6
Dr. Percy Jakins	1	1	0
Dr. B. Bloomfield Connolly, C.B.	0	10	6
Dr. Herbert Tilley... ...	1	1	0
Dr. W. Domett Stone ...	1	1	0
Mr H. C. Mends Gibson	2	2	0
Dr. D. Ferrier, F.R.S. ...	1	1	0
Dr. Frederick Roberts ...	1	1	0
Dr. H. J. Capon	1	1	0
Mr. A. Carless	1	1	0
Professor A. R. Simpson, F.R.S. Edin....	2	2	0
Mr. G. Abbott...	0	5	0
Professor John Chiene, F.R.S. Edin....	2	2	0
Mr. W. Allingham ...	2	2	0
Sir Anderson Critchett	2	2	0
Dr. J. Blumfeld	0	10	0
Dr. J. J. M. Dunbar ...	1	1	0
W. B.	1	1	0
Mr. John Langton ...	2	2	0
Mr. J. J. Ayre	1	1	0
Mr. F. Argles	1	1	0
Dr. A. E. Bridger	2	2	0
Dr S. J. Allden	1	1	0
Dr. B. Baines...	0	5	0
Dr. J. Ford Anderson ..	1	1	0
Mr. B. J. Acheson	0	10	6
Mr. James Arthur... ...	0	10	0
Dr. B. Addy	0	10	0
Mr. E. Owen	1	1	0
Mr. W. Bruce Clarke ...	2	2	0
Dr. W. R. Awdry	0	10	0
Dr. Lewis Lewis	0	5	0
Sir G. Plunkett O'Farrell	1	1	0
Dr. G. A. Mason	1	1	0
Dr. W. S. Wyman	1	1	0
Dr. Heywood Smith ...	1	1	0
Mr. W. J. Walsham ...	2	2	0
Dr. H. Beattie...	1	1	0
Dr. Thomas Stevenson, F.R.S.	1	1	0
Sir Felix Semon	2	2	0
Dr. H. Sauer	5	0	0
Dr. R. Liveing	1	1	0
Dr. Hughlings Jackson, F.R.S.	1	1	0
Sir Thomas Smith, Bart.	3	3	0
Dr. A. H. W. Clemow ...	1	1	0
Mr. N. P. Blaker	1	0	0
Dr. C. Gould May... ...	1	1	0
Mr. C. T. Dent	1	1	0
T. B.	2	2	0
Sir Dyce Duckworth, LL.D.	1	1	0
Dr. S. J. Gee	2	2	0
Mr. J. Tweedy	3	3	0
Mr. A. L. McKenzie ...	1	1	0
Dr. G. Vivian Poore ...	2	2	0
Dr. W. Benthall	1	1	0
Mr. Christopher Heath	1	1	0
Mr. H. T. Butlin, D.C.L.	2	2	0
Dr. J. Walton Browne...	1	1	0
Dr. A. R. H. Bland ...	1	1	0
Dr. J. Brisbane	1	1	0
Mr. E. U. Berry	2	2	0
Mr. M. C. Corner, J.P.,	0	10	6
Mr. J. Kennedy	1	1	0
Dr. W. Hugh Fenton ...	1	1	0
Dr. C. Renner...	1	1	0
Dr. R. R. Giddings ...	0	10	6
Mr. J. Deane	1	1	0
Sir George A. Pilkington	3	3	0
Dr J. N. Gardiner... ...	0	10	6
Mr. Victor Horsley, F.R.S.	5	5	0
Sir William S. Church, Bart.	2	2	0
Mr. E. H. Crisp	0	10	6
Mr. G. Hessenauer ...	0	7	6
Mr. G. W. New	1	1	0
Mr. H. A. Lane	1	0	0
Mr. C. S. Saunders... ...	0	10	6
Mr. W. H. Pywell	0	10	6
Mr. B. J. Macgrath ...	1	0	0
Dr. W. D. Halliburton, F.R.S.	1	0	0
Mr. J. M. Bolton	0	3	0
Mr. W. F. Brook	1	1	0
Dr Thomas Sheldon ...	0	10	6
Dr Edwin Smith	0	10	6
Mr Howard Douglas Stewart	1	1	0
Dr John Anderson, C.I.E.	1	1	0
Mr R. F. Tomlin	1	1	0
Mr. G. Spear	0	10	0
Mr A. Clarke	0	10	6
Mr. W. N. Thompson ...	5	0	0
Mrs. Thomas Cooke ...	0	10	6
Dr. M. Coates	1	1	0
Dr. F. R. Walters	1	1	0
Dr. Louis Colbourne ...	1	1	0
Mr A. P. Miller	0	2	6
Dr. A. D. Walker	2	2	0
Dr W. G. Walford... ...	1	0	0
Dr J. F. J. Sykes, D.Sc.	1	1	0
Dr W. H. Lamb	1	1	0
Mr H. J. Spitta	1	1	0
Dr O. H. Chapman ...	0	5	0
Dr G. D. Whyte	1	0	0
Mr J. I. Palmer	1	1	0
Mr J. C. Cook...	1	1	0
Dr Samuel Lloyd	1	1	0
Dr. A. B. H. Hallen ...	0	10	6
Dr. J. R. Gabe	1	1	0
Mr. W. D. Wyllys	1	1	0
Dr. H. Humphreys ...	0	5	0
Dr. T. J. Vallance... ...	1	1	0
Dr. T. A. Carter	1	1	0
Dr. J. P. B. Wills	0	10	6
Dr. T. K. Clarke	0	10	6
E. M. L.	0	10	6
Mr. J. F. Clark	1	1	0
Dr. J. B. Shaw	3	3	0
Dr. W. B. Robertson ...	1	1	0
Dr. F. Bagshaw, M.A ...	5	5	0
Deputy Surgeon-General H. Cayley, C.M.G. (retired)... ...	1	1	0
Dr. W. S. Playfair, LL.D.	2	2	0
Dr. P. W. Williams ...	1	1	0
Mr. C. C. Mitchinson ...	0	10	0
Mr. Edward Nettleship	1	0	0
Mr. C. Webb	0	5	0
Mr. J. A. Cooksey... ...	2	2	0
Dr. B. Carver, M.A. ...	0	10	0
Mr. A. L. Willcox	1	1	0
R. B. M.	1	1	0
Dr. A. E. Carver	0	5	0
Dr. A. W. Dingley... ..	0	10	6
Captain Jessel, M.P. ...	2	2	0
Mr. G. B. Hicks	1	1	0
Mr. C. L. Batteson ...	0	10	6
Dr. H. C. Watts	0	5	0
Dr. A. M. Dakly	1	1	0
Mr. Edgcombe Venning	1	1	0
Mr. C. A. Wickham ...	1	1	0
Dr A. F. Dimmock ...	0	7	6
Mr. J. W. Draper	0	2	6
Mr. W. H. Date	0	5	0
Mr. R. Crossley	0	5	0
Dr. J. Branson	0	10	6
Mr. James Jackson ...	0	10	6
Dr. S. C. Griffith	1	1	0
Mrs. A. D. Vickery... ...	1	1	0
Mr. F. W. H. Hutchinson, M.A.	4	4	0
Mr. A. H. Dodd	1	1	0
Mr. W. Campbell	0	10	6
Mr. R. Duke	0	10	6
Mr. S. Parsons	0	10	6
Mr. D. Duke	0	10	0
Dr. T. Morton...	1	1	0
Mr. L. A. Bidwell	1	1	0
Dr. S. R. Phillips	1	1	0
Surgeon-Major H. De Tatham (retired), M.D.	3	3	0
Mr. W. F. Roe...	0	5	0
Mr. T. P. Daniell	1	1	0
Dr. T. J. Walker	2	2	0
Dr. J. Walters...	0	10	0
Mr. H. F. D. Brockman	1	1	0
Dr. A. H. Downs	0	10	0
Dr. H. M. Tickell, M.A.	2	2	0
Dr Seance Spicer	2	2	0
Mr. I. L. Tuckett	1	0	0
Mr. E. G. Cameron ...	0	10	6
Dr. D. Drummond, M.A.	1	0	0
Dr. R. B. Duncan	1	0	0
Mr. W. M. Crowfoot, J.P.	1	1	0
Dr. F. M. Pierce	0	10	6
Mr. J. M. Thorne	0	10	0
Mr. W. Dingley	1	1	0
Dr. J. G. Glover, J.P. ...	2	2	0
G. N.	0	10	6
Dr. James Oliver, F.R.S.E	2	2	0
Dr. H. Tracey	0	7	6
Dr. G. E. M. Wood ...	0	10	6
Mr. W. J. C. Swift ...	0	10	6
Professor G. Sims Woodhead, M.D., F.R.S.E.	1	1	0
Dr. G. Garlick	0	5	0
Alderman Dr. T. B. Crosby, J.P....	1	1	0
Dr. F. S. Palmer	1	1	0
Mr. J. N. Winter	0	10	6
Mr. R. A. Salmon	0	10	6
Mr. R. J. Wheeler... ...	0	10	6
Dr. James Peacock ...	2	2	0
Dr. T. Trollope	1	1	0
Mr. E. H. Addenbrooke	0	10	0
Mr. T. G. Vawdry... ...	0	10	6
Dr. H. Du Cane	1	1	0
Dr. A. B. Travers Smith	1	1	0
Messrs. Ormrod and Dudgeon	1	1	0
Dr. J. F. Goodhart, LL.D.	5	5	0
Dr. W. Mason	0	10	6
Dr. H. Spencer	1	1	0
Mr. B. Goddard	0	10	6
Dr. J. Matheson, M.A....	1	1	0
Professor Clifford Allbutt, F.R.S....	2	2	0
Mr. W. B. Kellock... ...	1	1	0
Dr. G. Wight	1	1	0
Mr. G. Johnson	0	10	0
Mr. J. P. Westrup ...	0	2	6
Total	406	12	0

MYXŒDEMA: A QUESTION OF TREATMENT.

To the Editors of THE LANCET.

SIRS,—Will you or any of your readers kindly give me information upon the following case?

A woman who had been suffering for some time from myxœdema was put on thyroid gland treatment with the result that all the myxœdemal symptoms vanished. But she developed a most distressing urticaria. During last year the thyroid treatment appeared to lose its effect as the old symptoms returned, but the rash completely disappeared. As the patient was becoming rapidly worse I tried a different preparation of thyroid gland. This was followed by very marked improvement in the myxœdemal symptoms, but the rash has returned worse than ever. We have tried numerous local applications and many drugs internally without the slightest improvement. Apparently the rash appears immediately the patient is under the influence of the thyroid gland.

I am, Sirs, yours faithfully,

MYXŒDEMA.

May 14th, 1902.

THE R.A.M.C. UNIFORM.

To the Editors of THE LANCET.

SIRS,—Referring to "Surgeon-Captain's" letter in THE LANCET of May 10th, p. 1370, I should be glad to know where he gets his order from respecting the wearing of "Sam Browne" belts by volunteer medical officers.

I am, Sirs, yours faithfully,

SURGEON-LIEUTENANT-COLONEL.

May 13th, 1902.

"FILTHY ADVERTISEMENTS."

To the Editors of THE LANCET.

SIRS,—I bespeak your kind hospitality for space to notice the letter of your Canadian correspondent "G. D. B." in THE LANCET of May 3rd, 1902, p. 1294. I am the last man in the world to carp at fair, sharp criticism, but the use of the phrase "some filthy beast" indicates anything but a judicious mind and one totally unfit to pass judgment on opinions or principles held by an opponent. In my study of political economy I found the cause of much human misery demonstrated and, with Mill, Professor Fawcett, aye, Mrs Fawcett, I was convinced that early and improvident marriages were a prolific source of poverty, misery, and crime. My daily experience yielded overwhelming evidence of this and I determined to give my views publicity. I knew them to be true, though unpopular, and up to now I have not seen such views successfully answered by logic or reason. The present war has yielded overwhelming proof of my contention in the tremendous percentage of rejections of army recruits in London, Sheffield, and elsewhere. The main object of my treatise is to evoke thought and secure a due appreciation of the responsibilities of marriage and parentage. Is this in any sense a filthy object? I reply, a thousand times no, but it is laudable and seasonable. Capable thinkers have times and again declared this evil and the reckless unions of mere children need prevention by law infinitely more than newspapers require a curtailment of their liberty. But perhaps "G. B. D." is wroth and furious because I mention a check in my treatise. But, Sirs, there are checks and checks, and the one I give is by a qualified physician. It is perfectly moral, prudent, and healthful, and can in no way lead to wrong actions. Like you, Sirs, I abhor the very word abortion and brand it as wickedness. But checks are not immoral *per se*. At every turn we use them. Where would be the ennobling science of medicine without checks? The charlatan and the mountebank would fatten at the expense of the skilled M.D. But we very properly check them. All I attempt is to check an imprudence among the sexes which, when left to run riot, produces evils so prolific, intense, and lasting as to threaten the vitality and progress of the nation. Herewith I send copy of my little work and am, Sirs, yours faithfully,

Nottingham, May 19th, 1902. W. J. DOUSE.

THE SOPORIFIC EFFECT OF ONIONS.

To the Editors of THE LANCET.

SIRS,—A gentleman informed me the other day that Pilsener lager beer always had a very drowsy effect upon him which he attributed to the "leeks" used *in its manufacture. (The onion-like flavour of this* beer, I have understood, was due to the resin used in the casks.) He, however, was positive that it was due to leeks and further said that his brother, a medical man, had told him that the onion tribe contained opium. That onions have a soporific quality is well known but to what is this due? Is it to any compound of the "allyl" series?

I am, Sirs, yours faithfully,

May 5th, 1902. INQUIRER.

*** The notion that lager beer contains onions, garlic, or leeks is absurd and erroneous. The faint garlic-like flavour is natural to lager beer and is due to the fact that it is brewed at a low temperature. The soothing effect of an onion poultice is well known, but this cannot be referred to opium. The soporific effect of German beer is greater than that of small English beer probably because the Germans employ more hops.—ED. L.

FEES FOR INSURANCE EXAMINATIONS.

To the Editors of THE LANCET.

SIRS,—I have the pleasure of handing you herewith copy of a letter received from a medical man employed by one of the provincial managers of my office in reply to the receipt of our usual report form upon which a notice is printed that a 10*s*. 6*d*. fee is payable when the sum assured is below £250. The tone of the communication speaks for itself but I do not wish to infer that in this respect it is representative.

I may call to your notice that already two or three of the leading life offices are now assuring lives for moderate amounts without medical examination, as this ordeal is objected to by the public, and in small business the fee is a heavy initial charge on the premium. Policies for small sums assured form a very large percentage of the total number issued. Under these circumstances a hostile attitude on the part of the medical profession to the receipt of a 10*s*. 6*d*. fee is much to be regretted, as in the course of a few years it will induce the best assurance offices to meet the convenience of the public by abandoning the medical examination altogether and by safeguarding themselves by other means. I inclose my card.

I am, Sirs, yours faithfully,

May 9th, 1902. ACTUARY.

[COPY.]

May 6th, 1902.

DEAR SIR,—Herewith find Mr. ———'s Policy (*sic*) duly filled; I protest against your fee, there is no reason for it whatever; yr Co. suffers by it, as where you cheeseparc, Medical men will be quits with you by giving bad lives, and it is most illogical as well, our skill, trouble, knowledge, &c., can't vary because the sum insured is £250—or £249 19*s*. 11¾*d*.; but you can get men to do it even less; why don't you take tenders for such cases? you cd get them done for 2*s*. 6*d*. per head. *I now demand* MY FEE of £1 1*s*. Yours truly,

———, M.B.

*** We do not know what time and labour have been required of M.B. in return for 10*s*. 6*d*. by the provincial manager in question, but, as a rule, the labour asked of the medical man is out of all proportion large in regard to the fee. We do not think that the best assurance offices will long remain the best assurance offices if they dispense with medical examination of the applicant for insurance.—ED. L.

THE "Y" FUND.

SURGEON GENERAL H. S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from Sir George Duffey, Professor A. Ogston, Mr. W. Garton, Dr. L. Hepenstal Ormsby, Dr. G. T. Beatson (Glasgow), Mr. James Taylor (Chester), Major C. R. Johnston, I M.S., Captain and Mrs. C. E. Grey Stalkartt, Miss Furness, Mrs. Stocker, Dr. and Mrs. J. Dallas Pratt, "A Well-wisher," "A Sympathiser"; Civil Surgeons (attached to the Royal Army Medical Corps) H. Croly, E. Lynch, and G. P. Meldon, Surgeon-General G. J. H. Evatt, A.M.S., Lieutenant-Colonels W. R. G. Hinds, A.M.S. (retired), J. McGann, A.M.S. (retired), C. White, A.M.S. (retired), J. W. Belcher, A.M.S. (retired), J. G. Williamson, A.M.S. (retired), and W. H. Steele, A.M.S. (retired); Deputy Surgeon-General Kilkelly; and the following officers of the Royal Army Medical Corps: Lieutenant-Colonels R. D. Hodson, H. Grier, N. Alcock, A. Anderson, A. W. P. Inman, H. G. Hathaway, J. Latchford, G. Coutts, G. H. Le Mottée, Surgeon-Major E. J. Hunter, Major D. M. Saunders, Captains L. Way, C. H. Hopkins, and J. Davies, and Lieutenants S. Adye-Curran and F. Boner. The fund now amounts to £175. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington-gardens-terrace, Hyde Park, London, W.

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W. NASH, A.M.S.

THE following additional subscriptions to this fund have been received:—

	£	*s.*	*d.*
Colonel R. Exham, C.M.G.	1	0	0
Major R. J. Faylo, D.S.O.	1	0	0
Captain J. Stuart Gallie	0	10	6
Major H. E. Cree	0	5	0

	£	*s.*	*d.*
Major G. Scott	0	5	0
Previously acknowledged in THE LANCET	86	9	6
Total	89	10	0

WANTED—A HOME.

A MEDICAL man writes: "A friend who has retired upon an income of £140 per annum has two insane daughters, the insanity being of a mild type. His own house is small and he would like to have the children treated away from home. He cannot pay more than 8*s*. or 10*s*. per week for each, but he would like to do this and not to send them to a public asylum. Can any reader of THE LANCET give me information privately?"

TO MEDICAL FREEMASONS—A LETTER OF THANKS.

To the Editors of THE LANCET.

SIRS,—May I through the medium of your columns have the pleasure on behalf of my husband and myself of thanking all those medical Freemasons who so kindly and generously came forward to assist in my husband's successful election on Friday last to the Royal Medical Benevolent Institution? Most sincerely do we thank all.

I am, Sirs, yours faithfully,

Bildeston, May 21st, 1902. CLARA SOMERS IVENS.

MEDICAL EVIDENCE IN CORONERS' COURTS.

A COPY of the *Liverpool Echo* of Monday, May 5th, has been sent to us containing an account of an inquest held by the county coroner, Mr. S. Brighouse, at Bootle, on the body of a woman who had died at the Bootle Hospital from the effects of burns. Dr. Dunne, the house surgeon of the hospital, was present at the inquest, but the so-called medical evidence as to the cause of death was given by a nurse who had been summoned by the coroner in preference to the resident medical man. This course the house surgeon protested against, whereby he drew upon himself the rebuke of the coroner. We are entirely on the house surgeon's side. Medical evidence, to be worth anything in a court of law, whether it be a high court or a coroner's court or a county court, must be given by a qualified medical man.

◆

Quandary.—The situation is one that often arises and in country districts a man must decide for himself how he will act. Our general advice is that he should in no circumstances associate himself with an unqualified practitioner as anæsthetist.

B.A. Oxon. (*Bradford*) is thanked for the newspaper cutting. The gentleman's communications to the press are copious and his prejudices are well displayed in all of them.

A.B.C.—The address of the Incorporated Society of Trained Masseuses is 12, Buckingham-street, Strand, W.C.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Evening Post (Jersey), Lancaster Examiner (U.S.A.), Le Courrier d'Aix les-Bains, Wandsworth and Battersea District Times, Lancashire Daily Post, Dorset County Chronicle, Ipswich Times, Yorks Observer, Aberdeen Journal, Aberdeen Free Press (Weekly), Surrey Advertiser, Times of India, Plymouth News, Irish Times, Glasgow Herald, Southport Guardian, East London Observer, St. James's Gazette, Lancashire Post, Suffolk Chronicle, Newcastle Chronicle, Echo, Yorkshire Post, Star, Western Morning News, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 22nd, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
May 16	29·64	N.W.	0·04	88	58	44	49	53	Cloudy
" 17	29·47	WNW	0·10	107	60	47	49	53	Cloudy
" 18	29·38	N.W.	0·20	98	55	46	44	49	Cloudy
" 19	29·73	N.	0·34	104	55	46	44	48	Cloudy
" 20	29·83	N.	0·04	78	61	41	42	47	Cloudy
" 21	30·22	N.	...	107	57	43	44	49	Fine
" 22	30·29	S.W.	...	78	59	46	48	51	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.).

TUESDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), *Throat, Golden-square (9.30 A.M.).*

WEDNESDAY (28th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (29th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.). West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (31st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), *University College* (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (26th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Annual Conversazione. Reception by the President. 8.45 P.M. Oration:—Dr. S. Mackenzie: The Powers of Natural Resistance or the Personal Factor in Diseases of Microbic Origin. Exhibition of Drawings of London. Music. Smoking.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Communications:—Mr. J. S. Sewill: A Case of Fractured Tooth.—Mr K. W. Goadby: Sterilisation of Impression Composition. Paper:—Mr. J. H. Targett: Some Growths about the Jaws.

TUESDAY (27th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. T. J. Tonkin: Some General and Etiological Details concerning Leprosy in the Sudan.—Mr. J. Hutchinson: Leprosy in Natal and Cape Colony.

FRIDAY (30th).—EPIDEMIOLOGICAL SOCIETY (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Meeting.

SATURDAY (31st).—OTOLOGICAL SOCIETY OF THE UNITED KINGDOM (Anatomical Department of the *Medical School of Trinity College, Dublin*).—11 A.M. Cases, Specimens, and Demonstrations by Dr. Macnaughton Jones, Prof Cunningham, Prof. Coffey, Prof. Birmingham, Dr Dempsey, Prof. U. Pritchard, Mr. A. H. Cheatle, and Dr J. Horne.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (26th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. F. Payne: Clinique. *(Skin.)*

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Rickets, its Manifestations and Treatment.

TUESDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. R. L. Bowles: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Cole: Mania.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Sir W. Gowers: On Some Spinal Mysteries.

WEDNESDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Eccles: Surgical Anatomy.

THURSDAY (29th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Medical Anatomy and Physical Diagnosis.

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An Address

ON

THE POWERS OF NATURAL RESISTANCE OR THE PERSONAL FACTOR IN DISEASE OF MICROBIC ORIGIN.

Being the Annual Oration of the Medical Society of London, delivered on May 26th, 1902,

BY STEPHEN MACKENZIE, M.D. ABERD., F.R.C.P. LOND.,
SENIOR PHYSICIAN TO THE LONDON HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—There can be few amongst us who do not rejoice in the privilege we have of living in an epoch of such progress and mental activity as the present. The great increase of knowledge of the latter half of the last century is found in every branch of science, but it impresses us, perhaps, most in the advance of scientific knowledge in our own profession. It has been brought about by improved means of exact and minute research aided by instruments of increased precision. So that if medicine, in its widest sense, cannot be claimed as an exact science, our methods of dealing with the complex and difficult problems of disease in the living and ever-changing body are as exact as the present state of science permits. Great as have been our advances we cannot doubt that they will be infinitely greater and probably more rapid in the future Many, however, are dazzled and led away by the apparent completeness of our recently acquired and almost daily increasing knowledge and are inclined to overlook, to neglect, and almost to deride the knowledge which we have acquired by the patient industry and accumulated experience of our predecessors—the work that our fathers have given the best years of their life to accomplish. Our President (Dr. W. H. Allchin) touched upon this point in his address last year. There could be no greater or more inexcusable mistake. Whilst gratefully acknowledging and utilising the newest methods and knowledge as aids to medicine and surgery, theoretical and practical, we must consider them in relation to the observed facts, empirical and scientific, that have been acquired since medicine has been studied as an art or a science. Some of the aphorisms of Hippocrates, the clinical observations of Sydenham, and the pathological observations of John Hunter, are as pregnant of truth and as worthy of being treasured in the memory now as when they were first promulgated, and are in no sense less important than are the most recent discoveries in the laboratories of the bacteriologist and the chemist. It is quite certain that the accurate record of careful observations of the phenomena of disease will always be valuable additions to medical knowledge, whether or not capable of explanation or use at the time they were made. We see striking illustrations of this in the writings of the three great Guy's physicians—Bright, Addison, and Hodgkin. There have been many stages in arriving at the knowledge which we at present possess. The progress of morbid anatomy and the revelations of the bacteriologist and chemist have given great precision to our knowledge and have opened out new methods of research and treatment. The task which I have set myself on the present occasion is to point out that whilst availing ourselves of all scientific discoveries we must not overlook or forget the valuable knowledge which we already possess and may still further acquire by careful, patient, and persevering clinical work. The tendency of the medical mind at the present time seems to be to attach too great importance to the germ or seed and too little to that of the body or soil in diseases of microbic origin. I propose to pass under review a few diseases of this class and to endeavour to point out the share or relative importance of these two factors in such diseases.

INFLUENZA.

Let us first take the case of influenza. It presents the extreme end of a series of infectious diseases—i.e., diseases of microbic origin. It prevails pandemically at irregular and often long intervals, usually followed by epidemics for some years. When pandemic it is remarkable for the number of persons who are attacked and the rapidity with which it spreads from country to country. Neither race nor class, sex nor age, afford exemption. It is so widely spread when pandemic that very few escape, though probably a very few are immune, and these attribute their escape to some nostrum or the disinfectant most in fashion. At these times the seed is everywhere and almost everywhere it finds a congenial soil, so that the natural resistance or personal factor, as far as susceptibility goes, is practically *nil*. Not so the effect; though said to be the smallest bacillus known, like the Biblical grain of mustard-seed it gives rise to very great results. In the aged, in those suffering from pulmonary and cardiac disease, and in those devitalised from any cause, it is a very serious malady often leading to a fatal issue. Though in the robust it is often apparently a comparatively trivial disease this generation has learned that it is to be treated with great respect and that apparently slight cases neglected may lead to very grave results. We have learnt, too, that it may be attended with very serious and dangerous complications, such as abscess of the brain, purulent otitis, phlebitis, affections of the heart and nervous system, &c. Whether these complications are the direct effect of Pfeiffer's bacillus or are due to a mixed infection has not been fully worked out.

The subject of mixed infections raises a very interesting question of great importance in several of the infectious diseases, indicating that the seed is not always pure or that the tissues the resistance of which has been broken down by one microbe fall a ready prey to others, but into this point I do not propose to enter

Lastly, we have learnt that the effects of an attack may be of prolonged duration, continuing even for years. Whether they depend on tissue changes effected by the direct action of the bacillus or its toxins in the attack or the latter surviving long after the attack of influenza is uncertain, but we see in diphtheria the supervention of paralysis some weeks after the acute stage has passed off, and in syphilis the occurrence of nervous lesions years after all other active manifestations which we recognise as directly syphilitic have ceased to present themselves. Let us turn now to another subject—tuberculosis.

TUBERCULOSIS.

When I began the study of medicine we were still in the throes of battle as to what was tubercle and what tubercle was. The unitarian doctrine of Laennec did not by any means meet with universal assent. The microscope was pressed into service to decide what was the essential constitution of tubercle and diligent search was made for the "tubercle cell" as there had been for the "cancer cell," as fruitless in the one case as in the other. Then followed the epoch in which Villemin showed that tubercle was inoculable, though many pitfalls were encountered in establishing this fact. Finally, in 1882, Koch was able to demonstrate that the specific cause of tuberculosis in all its various forms was a micro-organism, the bacillus tuberculosis, that it was present in every tuberculous lesion, and that without this there was not any tuberculosis. The gropings to establish its nature, often highly scientific, sometimes blind, were at an end; the efforts of many of the keenest and ablest workers to understand its morbid anatomy and pathology were harmonised and their errors were corrected and we obtained an absolute criterion to which we could appeal to decide what was tuberculous. It was left to the clinician and sanitarian to apply this knowledge in the treatment and prevention of disease. With the aid of the bacteriologist we have learned a great deal of the life of the tubercle bacillus both inside and outside the body and of the ways by which tuberculous persons become affected. But in this respect the tendency has been perhaps to concentrate attention on the microbe and to devote less consideration than its importance demands to the human host in which it finds a lodgment. This is seen not so much in the deadhouse where the gross changes in the organs are forced on our notice as in the wider aspects of the subject which deal with the causation and prevention of tuberculosis. We are apt to think too much of the *seed* and too little of the *soil*. We have learned since Koch's discovery of the bacillus that from many sufferers from tuberculosis, more especially in pulmonary phthisis, the secretions or discharges given forth contain the bacillus in an active condition and that the clothes and handkerchiefs and the beds and the floors and walls of the dwellings of the sick are contaminated in this manner so as to be a source of danger to others. These secretions and discharges undergo desiccation and are commingled with other particles constituting dust which are inhaled with the air we respire, and haply finding in the respiratory or digestive organs conditions favourable for their growth increase and multiply and bring about tuberculosis. We have reasons for believing that casual bacilli may not only reach the respiratory and digestive organs but may make their way by the blood-vessels into practically all parts of the body where, in favouring conditions, they set up tuberculous processes. Thus are accounted for cases of tuberculous meningitis, tubercle of the kidney, &c. We have learned that the bacillus tuberculosis may be contained in the milk, the butter, the cheese, and the flesh which we consume as food. In recent years great efforts have been made to exclude this mode of infection by the extermination of tuberculosis in cattle and the destruction of food-stuffs derived from infected bovines. Like a bolt from the blue came the recent pronouncement of Koch himself at the late British Congress on Tuberculosis that the risk of transference of tuberculosis from cattle to human beings was so slight as to be a negligible quantity. The gauntlet thus thrown down was immediately taken up. A Royal Commission has been appointed to consider and to report on the subject. Already evidence has been tendered that such transference does take place, a fact not disputed by Koch himself. Many must admit that the evidence not only as to the fact but also of the frequency with which tuberculosis is derived from bovines is in need of revision and consideration. Dieudonné, Cattle, Shennan, Still, Carr, and Colman have shown that in the tuberculosis of infants the primary seat of infection in most cases is through the respiratory and not the digestive tract, and further Koch in his address to the Congress said: "It is just as likely that these cases of intestinal tuberculosis were caused by the widely propagated bacilli of human tuberculosis." Cattle writes: "It is not only milk that goes into the mouths of children; they grub about on all-fours, plastering their fingers with the tuberculous dust hidden away in inaccessible corners and then put their fingers in their mouths." It is more than possible that the danger of infection from food has been over-estimated. It is none the less our duty to use all the measures which experience dictates to prevent the entrance of the bacilli by this route, and we should be guilty of folly if we relaxed the measures of prevention now in use until we have a decisive verdict on this point.

But it is of the *soil* in which the tuberculous seed grows that we have also to take account. We have learned that the bacillus tuberculosis is so widely disseminated that no one is exempt from the risk of infection. The dust inhaled in many dwellings, in public rooms, in vehicles, and in the streets is often contaminated with the bacillus. Strauss has shown that in cotton-wool plugs in the nostrils of those in attendance at the Charité Hospital, Paris, tubercle bacilli were found in nearly a third of the cases examined and that they proved infective to animals. Dieudonné found tubercle bacilli and pyogenic cocci on the hands and in the noses of children from the age of nine months to two and a half years whose fathers or mothers were the subjects of tuberculosis. Though the protective arrangements at the entrance to the respiratory passages to some extent safeguards the entrance of the bacilli, this protection is by no means complete, and when adenoids or some malformation of the nostrils compel oral breathing it is very imperfect. This is shown by the great frequency of pulmonary tuberculosis. Post-mortem experiences reveal to us that tuberculous changes are found in the lungs and other parts of persons dying from various non-tuberculous diseases or killed by accident—placed by different writers at from 30 to 90 per cent.—but which have become arrested and obsolete. So that not only are all liable to become infected, but we know that in a much larger number of persons than was formerly imagined actual infection does take place. But we learn from this fact also that the infection may be but slight and temporary, and that within the body and in the tissues there exist physiological mechanisms that arrest the invasion and bring it to a standstill. We know also that where the risk of infection must be considerable, as in the aggregations of consumptives in hospitals, very few who move and live among them contract the disease. Though the experience of all hospitals has not been so favourable as has that of the Royal Hospital for Consumption at Brompton it has been stated that over a considerable number of years the incidence of phthisis amongst the physicians, nurses, and servants of that institution has not been greater than that of the general population.

Thus it is demonstrated that the human soil is not in all persons a favourable one for the growth of the tuberculous seed, and that the human organism has a considerable power of resistance and self-protection, very happily illustrated by Osler by the "Parable of the Sower." Dr. W. Howship Dickinson has within the last month published an able and interesting sermon with St. Matthew's Parable of the Sower for his text. Dr. Dickinson has treated the subject of tuberculosis on almost exactly the same lines as myself but in his own peculiarly felicitous manner and literary style. It is equally obvious from the great frequency of tuberculous diseases that all are not equally fortunate in this respect—i.e., in the powers of natural resistance; or, in other words, some are more vulnerable than others. Mankind is naturally resistant to tuberculosis (Kanthack). On what this vulnerability immediately depends we need not here discuss, but we know a great deal of the circumstances in which tuberculosis occurs. We know that it may occur at any age, that its various forms have special age proclivities, and that the majority of deaths from tuberculous affections, as a whole, occur between 20 and 30 years of age. We know by the writings of our predecessors and by our own experience that many inherit and some acquire a tendency to tuberculosis. There can be no doubt that the progeny of the tuberculous are much more liable to tuberculosis than are those in whose family no such strain runs. On what that predisposition depends opinions may differ and we have no absolute knowledge. Whilst congenital tuberculosis, whether placental or germinative, is an established fact, it is extremely rare, but most who are born of tuberculous parents and become tuberculous are not, we believe, actually so at birth. Inheritance in bovine tuberculosis is believed to be answerable for more than one-half of its very considerable mortality. We are often able to detect the tendency by their conformation and we know that they often show a marked tendency to catarrh. I do not discuss the nature and significance of what used to be called the strumous or scrofulous diathesis. We are also quite aware that pulmonary and other forms of tuberculosis do occur in those of robust physique with well-formed chests, but this does not detract from the importance of our experience that the delicate and the frail or those of feeble vitality are the most prone to become tuberculous. The great liability to catarrh in the delicate offspring of tuberculous parents by causing inflammation of the air-passages doubtless weakens their powers of resistance to the tuberculous bacillus which is nearly always at hand. Alcohol again is a predisponent. How often do we hear in taking the history of a family, otherwise clean as regards tuberculosis, the statement that a relative died from consumption but that "he gave way to drink"—an explanation that in the minds of his family this was the cause of his becoming tuberculous? It has been shown that those who are intemperate or who have opportunities of drinking show a higher mortality from phthisis than do others and that the children of the intemperate are more prone to become tuberculous than are those of the temperate. No doubt through alcohol persons acquire or inherit a lessened power of resistance to tuberculosis. Diseases like measles and whooping-cough, which are often complicated with broncho-pneumonia, and diabetes, which greatly reduces the powers of vital resistance, may open the door to tuberculosis.

In the exactness of our recently-acquired knowledge of the pathology there has been a tendency, as I have already stated, to deal lightly with the accumulated experience of the past and to set little esteem upon the laborious work of the great masters of medicine. A timely protest against this tendency has been recently made by Sir Dyce Duckworth in his admirable address on "The Personal Factor in Tuberculosis" which deals with this important subject with an ability and length that I cannot command and which I have read since writing this oration. The personal factor in the clinical aspect and in the pathology of tuberculosis is of quite equal importance to that of the microbe essential as that is for the production of tubercle. "The microbe," writes Professor Vaugeley of Bordeaux, "is nothing whilst the organism in which it thrives is the main factor." How thoroughly this is borne out in the treatment of tuberculous diseases. When once the seed has taken a firm root in the body we cannot with certainty at the present time kill it. It may grow or it may wither, we may cut it out when it is purely local and accessible, in some parts we may destroy it by only question between the lodge and myself was one of salary they withdrew their names, and on Dec. 17th the lodge was still without a surgeon and they were obliged to ask me to continue to act for the time being. In January four more names were put forward and to these I addressed a letter stating all the facts, three of the four withdrew their names. The other wrote me the following letter.—

38, Old-street, E.C., Jan 29th, 1902.

DEAR DR. JONES,—I received your letter yesterday and am sorry that I had not received an intimation earlier, for the Druids approached me a fortnight ago and asked me would I allow myself to be nominated as a candidate. I then inquired what was the reason of your resigning and they informed me you would not visit their prescribed distance. On these grounds I allowed myself to be nominated and I cannot very well now withdraw as I have another of their branches at the usual rate Had I known before what was the difference between you and the club I certainly would not have allowed myself to be nominated

Yours faithfully

I DORRAN

In reply I wrote—

DEAR DR. DORRAN,—I thank you for the letter of the 29th inst in which you state that the Druids secured your consent to be nominated by telling an untruth, yet you say you cannot now withdraw Of course, I can only appeal to you again not to accept less than 6s. per member, *if you do I shall consider your action* as a deliberate attempt to undersell a neighbouring practitioner and I think the profession, to whose judgment I propose to submit the whole correspondence, will be of the same opinion. Yours faithfully,

EVAN JONES

At the end of February this gentleman was appointed at 4s. per annum. The above shows how much chance there is of success to any man who makes an attempt to improve the status of club practice I fear his only satisfaction will be in the fact that he has given up attending men who could well afford to pay more.

I am, Sirs, yours faithfully,

Goswell road, E.C., March 29th, 1902. EVAN JONES.

THE ACETYLENE LIGHT IN OMNIBUSES.

To the Editors of THE LANCET.

THE LANCET of March 1st, p. 608, contained some
to acetylene as being injurious to the health of those
roximity to lamps burning this gas. Knowing
hose engaged in and about the manufacture of
re has never been any complaint of any dele-
from their intimate association with the gas
astonished at the statements made by your
ventured to call the attention of two of the
bers of this association, Professor Vivian
Dr Boverton Redwood, to his remarks and
their reply which I should be obliged if you
insert in your next issue.

I am, Sirs, yours faithfully,

LACEY DOWNES,

Secretary to the Acetylene Association

er-lane, Cheapside, London, E.C., March 18th, 1902.

[ENCLOSURE.]

London, March 15th, 1902.

nes, Esq., Secretary, *pro tem.*,
lene Association, 11, Ironmonger-lane,
Cheapside, E.C.

—In accordance with the request conveyed by your
11th inst. we have given careful consideration to state-
in an article on the Acetylene Light in Omnibuses published
CET on the 1st inst.
r of this article alleges that grave complaints of the smell
have been made by passengers as well as by drivers, and
he apprehension that injury to health may be caused by the
phosphorous compounds present in acetylene made from
al carbide of calcium. The average proportion of impurities
to is extremely small, being in the case of phosphoretted
0·041 per cent. and in that of sulphuretted hydrogen
cent., or in the aggregate less than one-tenth of 1 per cent
ding to our experience a lamp leaking to the extent of 1 per
its "make" of gas produces a smell which is stronger than any
ve observed in the use of acetylene generators, except during
cing and recharging. We therefore consider that the volume of
ing gas cannot exceed this very small proportion, and as this 1 per
itself only contains $\frac{1}{25}$ of 1 per cent of phosphoretted hydrogen
would at once be diluted with an enormous volume of air it is in
opinion impossible for it to "give rise to symptoms of poisoning"
and absurd to suggest that it might produce "phossy jaw."

We are, dear Sir, yours truly,

(Signed) VIVIAN B. LEWES

BOVERTON REDWOOD

*** Cases of sickness due to acetylene gas escaping from omnibus lamps have undoubtedly been reported and in this connexion we may refer to a communication from a correspondent which was published in THE LANCET of March 15th, p. 789. As the above chemists point out, the percentage amount of impurities is exceedingly small, yet these are sufficient to make the gas decidedly offensive. The question as to how far acetylene, pure or impure, is injurious to health is obviously one for the medical profession to decide.—ED. L.

DRUNKENNESS AND THE ABUSE OF NARCOTICS.

To the Editors of THE LANCET.

SIRS,—I cannot allow Dr J. B. Hunter's assertion in THE LANCET of March 29th, p. 919, that "this nation will never be made sober by any other means" than legislation to pass unchallenged. The revenue returns, for last year, showing an actual decrease of a million and a half of pounds sterling instead of a considerable increase as has hitherto been usual, give the impression that temperance may result from other causes than legislation. A large class of this nation, the educated class, has certainly become temperate without legislation. This class, which in a sense may be said to have a public-house always accessible in its dining-room sideboard, has advanced in the last century from habitual excess to moderation and of late in very large measure to almost total abstinence. Yet this change is not due to legislation but to a change in public opinion. Instead of its being considered to be an evidence of "spirit" to drink to intoxication it was thought to be degrading for a gentleman to be drunk, and now it is becoming recognised that it is more healthy to abstain.

Direct legislation by the shutting up of public-houses and by the limitation of the hours of sale can do nothing to change the views of the lower classes, it will rather intensify them by giving the excitement that always arises in evading legislative restrictions. Indirectly, however, legislation can do much by teaching the people to regard drunkenness not as an amiable weakness but as a crime and by punishing not only the criminal but publicans and others who are accessory to the crime.

A temperance reformer has of late appeared that will effect more in ten years than a century of teetotal societies or a thousand legislative enactments—the bicycle. Every growing young man now wants a bicycle, which is bought with money that would be spent on beer, which cannot be ridden to advantage by a man who drinks beer, which affords amusement apart from the public-house and thus occupies time that would otherwise be spent in drinking. *Education*, healthy amusement, and varied interests, by altering the public opinion in regard to drunkenness will result in temperance in the lower classes, even if there were free trade in liquor and anyone might have for the asking a licence to sell it. I am, Sirs, yours faithfully,

April 2nd, 1902. R

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Final Census Returns.—The Plague Epidemic: Alarming Increase.—A Large Improvement Scheme for Calcutta.—A Marwari Hospital for Calcutta.

IT will probably interest your readers of Indian experience to hear the final census returns. The grand total for the whole of India is 294,362,676, of which number 149,953,765 were males and 144,408,911 were females. The provinces show populations as follows. Assam, 6,000,000; Bengal, 74,750,000, Bombay, 18,500,000, Burmah, 10,500,000, Central Provinces, 10,000,000, Madras, 38,000,000; North-west Provinces and Oudh, 47,500,000, Punjab, 20,250,000; and the various States and Agencies, 62,500,000 Of the grand total 29,250,000 form the urban populations, the great mass of the people—over 265,000,000—living in the villages. The excess of males both in the towns and villages is noteworthy This final result of the census has been obtained within one year—a record of work probably unique

Dr. Gloster, Dr Walsh, Dr Horton, Dr. Lewis, and Dr. Justice—plague medical officers who have been given commissions in the Indian Medical Service—have been ordered to proceed home and to join the Army Medical School, Netley, for a course of training.

The weekly plague statement shows a terrible increase in mortality No less than 21,789 deaths are recorded, as against 14,946 in the previous seven days and 6991 for the

Finsen's light treatment or Röentgen rays when it is confined to the skin and superficial mucous membranes; but when deeply seated we at present know of no remedy which will certainly destroy the virus, not even lachnanthes. I say at present because I do not think we ought to be hopeless of effective results from tuberculins or antitoxic serums. It is true that the hopes that were raised by Koch's first tuberculin, prematurely published and boomed by the lay press, did not realise the expectations that were excited. No doubt the pendulum swung *round too completely and the first trials insufficiently* tested or used only in the manner then advised did not offer encouraging results. Nor has general experience, *so* far as it has been employed, been much more encouraging as regards Tuberculin R. Koch has introduced a still newer preparation and there are some who hope that with modifications and in smaller doses distributed over a considerable period, especially in early cases of phthisis, it may yet prove effective. Petruschky claims to have obtained good results by much smaller doses than were originally employed and extending over several courses with intermissions. The method is scientific and is supported by our experience in rabies, tetanus, and diphtheria. Some remedies, such as creasote and guaiacol, of undoubted service in the treatment of phthisis, though not strictly bactericidal in doses that can be safely administered, may possibly diminish the activity of the bacilli and lessen or prevent secondary tuberculosis of the digestive tract by their action on the bacilli in swallowed sputa, but in the opinion of many they only do good by their action on mucous membranes and by lessening cough and expectoration. We disinfect or destroy the sputa and other discharges from the tuberculous, not for the good of the patient, but to prevent the dissemination of the disease to others. Practically our treatment of tuberculous diseases that are not accessible to the surgeon consists in increasing the vigour and resistance of the patient, by life in the open air, *abundance of sunlight which is of great importance as its* chemical rays are strongly bactericidal, thorough ventilation of the apartments of the sick, and by choosing a climate especially suitable for each case when practicable, abundant, very nourishing and oleaginous food, and by strict attention to general and personal hygiene. In *fact, our principal* object and power, whether we recognise it or not, is to endeavour by every means in our hands to raise the natural resistance of the body to the microbe—to devote our attention to rendering the soil an unfavourable one to the growth of the tubercle bacillus. It is encouraging and sometimes astonishing how successful our efforts are in this direction, especially when the circumstances of the patient allow of the full use of the means experience has taught us. It is, however, I think, too great a stretch of the truth to say as has been said that "tuberculosis is one of the most curable of diseases." The wise do not often talk of "curing" tuberculosis. Tuberculosis may become arrested under our treatment, and often without it, but we can never be sure that a quiescent or obsolescent tuberculous process may not resume activity, like Mont Pelée, with eruptive violence under *certain circumstances.* We welcome and admire the princely gifts of Sir Ernest Cassell and other philanthropists for the establishment of sanatoriums for the treatment of the consumptive, and we recognise the duty of municipal and other bodies taking steps for carrying out the "*open*-air treatment" of phthisis so as to extend to the less affluent the benefits which otherwise are confined to the rich or well-to-do. Though the open-air treatment was first practised in England by Dr. Boddington it did not meet with general adoption and this country is at the present time behind others in the means for carrying it out. There is now, however, an awakening to the importance of this method of treatment.

A point, however, to which I most particularly desire to draw attention is that the undoubted and great diminution in the mortality from consumption that has been going on during the last 50 years, not *only in this country, but also in* other countries where statistical evidence is available *preceded* the almost exact knowledge which we have now obtained of the pathology of tuberculosis and the discovery of the bacillus. The great value of the work of the late Sir George Buchanan should always be remembered in connexion with his reports on the conditions under which consumption was most prevalent. This striking diminution in the mortality of consumption has been steadily going on under many unfavourable conditions, before any effective measures were taken for disinfecting or destroying the sputa or separating the sick from the healthy. During the greater part of this time in numerous cases husband and wife, mother and daughter, sister and sister were occupying the same bed when one has been the subject of consumption. It has gone on, too, in spite of the great migration from the country to the towns. There can be no doubt that this lessening of consumption has been due to improved sanitation, to better draining of the land, to improved disposal of sewage, and to the better housing, clothing, and feeding of the general population. Of course, we recognise the great *influence of modern surgery which, dealing with tuberculosis* of the bones and the joints, the glands and the serous cavities, has saved a great number of tuberculous subjects from becoming consumptive. The greatest triumphs in tuberculosis as in other diseases have been in *prevention.*

What lessons do we learn from this general survey of the share taken by the seed and the soil of tuberculosis? First, that we have to prevent or lessen the diffusion of the disease by preventing the dissemination of the tuberculous germs. This is to be done by segregation of the sick either in institutions especially arranged for their care, or when this is impossible by providing that they live in their homes in well-ventilated apartments not occupied by the healthy. We have also to secure the destruction or disinfection of the sputa and other discharges containing the virus and the subsequent disinfection of the rooms that tuberculous subjects have occupied. These measures we are all keenly alive to and we have to continue and to increase our efforts to this end. But we have in addition to taking all means in our power to prevent the propagation and dissemination of the seed not to lose sight of the soil in which it breeds. This is the second direction in which efforts must be made if we are to succeed to lessen still further the prevalence and mortality of tuberculous diseases. What we have to do in this respect is obvious but not easy. We have to increase the natural *powers of resistance to the action of the specific microbe* both in the individual and in the general population. We have to prevent overcrowding and to improve the dwellings of the working-classes and the poor. Poverty is a powerful predisponent to disease of most kinds but especially to tuberculosis. Koch says: "The breeding-places of the tubercle bacillus are in the slums." Sir J. Crichton Browne has said: "Tuberculosis stands in inverse ratio to the rateable value of the property." I remember many years ago before the discovery of the bacillus someone pressing the late Dr. H. G. Sutton to define what tubercle *really* was. He replied: "Tubercle is making shirts at 5*s.* a week." We cannot make the poor rich but it is our duty no less as citizens than as physicians to see that the poor and the working-classes are decently housed and that their dwellings are kept in a proper sanitary state. We must bring the pressure of public opinion *to bear upon municipalities,* urban and rural councils, to improve the conditions under which the poor live. Rich and poor alike must be still further educated as to the imperative necessity of fresh air by means of the "open window" or more scientific methods *of ventilation.* We *must* secure not only for the dwelling but for all places where people congregate—workshops, factories, churches, and theatres—that they do not respire re-breathed and contaminated air. We must use our influence as medical men to prevent consumptives from marrying and propagating offspring predisposed to the disease; we must continue to urge temperance; we must endeavour to rear a population of more robust physique, offering a more resistant soil to the seeds of tuberculosis. What we have to aim at is the improvement of the race. This is a very high, and to some it may seem a transcendental, ideal, *involving great economic and social* problems. But the material prosperity of the country has steadily increased. The poor are better housed, clothed, and fed than they were formerly and we have the encouragement of the past in the last half century teaching that *tuberculous* diseases have materially diminished by the efforts that have been made in these directions.

RHEUMATIC FEVER.

I pass on to the consideration of rheumatic fever. Here our ground is less secure, as the evidence of its bacterial origin is not absolutely admitted at the present *moment,* though it appears to be within almost immediate realisation. Rheumatic fever is a common disease in this country. It has received a great deal of attention at the hands of medical observers and has exercised the minds of most of the thinkers in our profession. The state of our knowledge 30 or 40 years ago may, I think, be fairly summarised by saying that it was believed and taught that rheumatic fever was an acute non-purulent inflammation of many joints and of fibrous tissues, attended by fever and acid sweats, and liable to be complicated by endocarditis and pericarditis; that it was due to an acid in the blood and was to be treated by alkalies. A nervous theory was put forward to explain some of the symptoms but it never took firm root. Prout suggested that lactic acid was the cause of the disease and B. W. Richardson endeavoured to prove this experimentally, but this evidence is not accepted. Latham a few years ago explained how lactic acid might be formed in the body. The acid theory was at one time so firmly established as to appear impregnable. It was, however, but a remnant of the humoral pathology that at one time dominated medicine. The faith of most was shaken when Gull and Sutton published their well-known paper on the Treatment of Rheumatic Fever by Mint-water. They revealed to us almost for the first time the natural history of the disease untreated by drugs and showed that it ran very much the same course and lasted about the same time as when treated by alkalies or other active medicines. This was of course before the introduction of salicin and salicyl compounds into the treatment of rheumatic fever. The kindly banter of Wilks who said that "the use of alkalies in rheumatic fever was to remove the idea of acidity from the mind of the doctor" probably did not a little to help in the same direction. We have since learned by the gradual growth of medical knowledge to take a wider view of the nature of rheumatism. The original conceptions were founded on descriptions of the disease as seen in the adult, but the study of the disease in childhood has enlarged our grasp of its clinical features, and we know that whilst acidity of the urine and the sweat is characteristic of rheumatic fever it occurs also in other acute febrile diseases. But even if an acidity of blood or rather a diminished alkalinity of the blood is true it has still to be ascertained how this is brought about. It is interesting to note that Poynton and Paine found that the organism which they have found in rheumatic fever grows best in an acid medium. We have learned that rheumatism, like tuberculosis, is often an inherited or family disease, that it has many expressions besides the arthritis, and that many conditions such as endo- and pericarditis, some cases of pleurisy, several affections of the skin, tonsillitis, and chorea may occur independently of arthritis and have as much right to be regarded as rheumatic as the joint affection. I am aware that this position is not universally admitted, but though the difficulties of obtaining evidence on this point are great it is those who have devoted most attention to the subject who, as a rule, are most convinced of its truth. But those who hold this view, equally with those who do not see the facts in the same light, have always recognised that there must be another factor besides predisposition to account for the occurrence of rheumatism. What this *tertium quid* is has exercised considerable thought and speculation. The influence of the prevailing pathological doctrine has naturally suggested the possibility of a microbe. This is no new view but was maintained years ago by Hueber, Strümpell, and others. It is admitted or suggested that many or most of the clinical phenomena connected with this disease fit in with the microbic theory and that the morbid anatomy is not opposed to it. Rheumatism is mainly a disease of the first half of life; age exercises a great influence on the form in which it manifests itself. The acute febrile and self-limited course of rheumatic fever corresponds to that observed in other fevers of ascertained microbic origin, whilst the non-febrile or only slightly febrile course of some of the conditions claimed to be rheumatic, such as chorea, is paralleled by diphtheritic paralysis and other nervous affections due to toxins. The occurrence of post scarlet fever rheumatism appears to be an example of "the door being opened" (to use the happy expression of Sir William Broadbent) by the former to the latter, as it is by influenza to typhoid fever. The occurrence of several cases of rheumatism in its various forms in succession in the same house, not confined to members of the same family but in subsequent occupiers, recorded by Mantle and other observers, is strongly in favour of the infective—that is, microbic—nature of rheumatism. Newsholme's valuable work points in the same direction. He has pointed out the epidemic or semi-epidemic prevalence of rheumatism. He found that this is associated with lowness of subsoil water and relatively high temperature of the earth, conditions which either probably influence microbic growth or dissemination. Seasonal influence is considerable, as in typhoid fever and cholera, the greater number of cases of rheumatic fever in London occurring in October and November. Rheumatic fever, like typhoid, confers no immunity to subsequent attacks. On the contrary, a person who has once had rheumatism in any of its forms is extremely likely to have it again, but whether this is due to increased proclivity or simply indicates personal predisposition there is no evidence to show. Several observers, such as Mantle, Achelme, and others, have found micro-organisms in the inflamed joints and blood in rheumatic fever, but their results were not pushed to the point of absolute certainty. Wassermann, Westphal, and Malkoff abroad, and Poynton and Paine in this country, have found a diplococcus which agrees in its general characters. The two latter have obtained this diplococcus in pure culture from human rheumatic lesions and have reproduced by intravenous inoculation in the rabbit endocarditis, pericarditis, carditis, pleurisy, pneumonia, nodules, and a nervous condition resembling chorea, as well as polyarthritis and inflammation of the sheaths of the tendons, and found the same organisms in the induced lesions.

An observation of great interest made by Poynton and Paine is that in a culture from a "sore-throat" in a patient with muscular pains, a history of a previous attack of rheumatic fever, and valvular disease the diplococcus was found. It was isolated and cultivated and was injected intravenously into a rabbit, producing in that animal mitral valvulitis and great dilatation of the heart. This observation and the fact that sore-throat so commonly occurs as an early symptom of rheumatic fever suggest that the usual point of entrance of the virus is the tonsil or the pharynx. The observations of Poynton and Paine, especially the experimental evidence, appear so complete as to be convincing. We require further confirmation of these observations before the microbic theory can be said to be established beyond dispute, but Osler and Allchin have boldly transferred rheumatic fever to the category of acute infectious diseases. If confirmed, as I believe these researches will be, what a valuable aid they will be to the precise understanding of the pathology of rheumatism. When the seed is fully identified we may hope to learn from its life-history outside the human body means for the prevention and treatment of this disease.

But I wish to point out that if the bacterial nature of rheumatic fever is fully established the patient work on the clinical side will not have been thrown away, that we shall still have to take account of the soil no less than of the seed, and, as in tuberculosis, the personal factor will remain as important in the future as it has been in the past. If the bacterial nature of rheumatism is conclusively proved we shall still have to take into account individual liability to the disease and to recognise that whilst some persons exposed to wet and cold, especially when combined with fatigue and exhaustion, escape, others similarly exposed are prone to contract rheumatism. Of course, it is well known that many cases occur without such exposure. But Pasteur, Wagner, and others have shown that by exposure to cold fowls (naturally immune) become susceptible to anthrax infection, and Monti has demonstrated that dogs, naturally more resistant than man to the pneumococcus, are taken ill and die from pneumococcic infection solely when they are inoculated after giving them a very cold bath. These facts are suggestive in connexion with the microbic nature of rheumatism. We shall continue to find that the predisposition runs in families and is usually inherited. We shall, in fact, find that the soil is no less essential for the production of rheumatism than is the seed.

APPENDICITIS, OR PERITYPHLITIS.

Appendicitis, or perityphlitis, offers an interesting and instructive study, clinically and pathologically, in connexion with the theme which we are considering. From being regarded, as it was when I commenced the study of medicine, as a rather rare condition it has come to be regarded as a very common one not only by the profession but by the public. Whilst the less acute or less severe forms have been recognised for a long time we have in recent years learnt that the very acute and fulminating cases due to ulceration and sloughing of the appendix causing abscess and perforation account for a great many obscure cases of peritonitis, the nature of which was unsuspected and misunderstood. The increase of our knowledge on the subject has reached a high degree of precision through the observations of the surgeon, the pathologist, and the bacteriologist. It was, I believe, Sir Samuel Wilks who, in the first edition of his work on Morbid Anatomy and Pathology, emphasised the fact that in inflammation and abscess in the right iliac region—perityphlitis—it was usually the vermiform appendix that was at fault and not the cæcum as was then generally taught. To the surgeons in this country and in America we owe the great extension of our knowledge that in inflammatory affections of the abdomen the appendix was at fault with a frequency not previously imagined and they have pointed out the anatomical conditions in the appendix that favour and predispose the appendix to disease. The bacteriologists have determined the micro-organisms that play such an important rôle as the excitors of the inflammation and its consequences in the appendix. Thus, on the one hand, we have learned that micro-organisms are always concerned in the inflammation, ulceration, sloughing, and necrosis that occur in appendicitis. The bacillus coli communis appears to be the most common—a bacterium in ordinary circumstances saprophytic and harmless but which may become virulent and deadly when growing in diseased tissues. More rarely the pus cocci, the streptococcus pyogenes, the staphylococcus, the proteus, and bacillus pyocyaneus are concerned, and the bacillus typhosus has been found to be the organism at fault. On the other hand, we have learnt that peculiarities of position and anatomical formation of the appendix and its mesentery tend to produce contortions and contractions and interference with the circulation in the appendix which prevent the discharge of its secretions, favour the formation of fæcal concretions, and prevent the expulsion of foreign bodies accidentally entering its canal. In one of these ways the vitality of this portion of the intestinal tract, probably owing to its being a vestigial remnant never so high as other parts of the intestine with active functions to perform, becomes impaired. The organisms in the appendix find a medium which enables them to grow and to multiply, often with intense virulence, by which they inflame or destroy the appendix and pass through its walls to the peritoneum and other contiguous parts. Sir Frederick Treves tells us that "it is impossible not to be struck with the fact that perityphlitis runs often in families," not so much as an inherited disease as a family disease. It is much more frequent in the second and third decennia and in the male sex.

So we find the seed and the soil in appendicitis the excitors of active disease and the predisposing conditions—the personal factor in this disease—each essential for its occurrence. But whereas in tuberculosis and rheumatism we are often able to detect the mischief by the history, the patient's appearance, the evidence of individual predisposition, there is nothing in appendicitis that reveals a tendency to this condition until the occurrence of an attack of appendicitis. Moreover, whilst the tendency to most of the infective diseases is a general one more or less distributed throughout the system, though in each there is a favourite mode of entrance of the virus, here it is an entirely local one extending over an area of only a few inches.

Reviewing the group of diseases which I have selected to illustrate my thesis we have seen that in each there are two factors—the soil and the seed, each necessary to constitute the disease, but that the relative share which they appear to take varies in importance in different diseases. We as practical physicians have to obtain our knowledge as to the micro-organisms concerned in these diseases and their chemio-physiological action from those who devote themselves to these studies, whilst we have to observe the effects of the micro-organisms on the human body and how the body reacts to the germs of the disease. The infective diseases existed long before the discovery of the germs and we have accumulated a large store of knowledge of the clinical course, the treatment, and the issue of these diseases. This accumulated experience is of great value though apt to be overlooked by the keen interest excited by fresh discoveries. It is against this tendency that I wish to enter a protest and to point out that what is true is not necessarily new We must never forget that the *soil* is of as great importance to study as is the *seed* in the proper understanding and treatment of diseases of microbic origin.

HEALTH OF ST. IVES.—Mr. J. M. Nicholls, the medical officer of health of St. Ives, Cornwall, in his annual report for 1901 states that 197 births were registered during the year, corresponding to a rate of 29·41 per 1000 The deaths numbered 129, equal to a rate of 19·26 per 1000

A Clinical Lecture

ON A CASE OF

SUPPOSED INTESTINAL OBSTRUCTION, DUE TO A VASCULAR LESION,

RAPIDLY FATAL FROM INCIPIENT GANGRENE OF THE STOMACH AND THE DUODENUM.

Delivered at St. Mary's Hospital on Feb. 25th, 1902,

BY HERBERT W. PAGE, M.C. CANTAB.,

SURGEON TO THE HOSPITAL.

GENTLEMEN,—I promised you a fortnight ago that I would tell you something about a remarkable case of intestinal obstruction which had been under my care recently. The case was one of singular interest and as far as my researches have carried me I believe it to have been unique. You will hear that there was no true intestinal obstruction at all, but nevertheless the case must be so described, for intestinal obstruction was a prominent feature of it and it was intestinal obstruction that I was called upon to relieve. Were I to ask you for the causes of intestinal obstruction you would doubtless be readily able to give me a list, as, for example, obstruction by band, by volvulus or kink, by growths which narrow the lumen of the bowel, by impaction of a foreign body, by accumulation of fæces, by any form of strangulation whether external and visible or internal and out of sight, and these various conditions you might speak of as true causes of obstruction in that they severally interfered with the lumen of the bowel and prevented the onward passage of its contents. And if I pressed you further you might remember other causes which rather may be regarded as those of false obstruction in that there is no mechanical interference with the lumen of the gut—the paralysis of bowel, for example, such as you may meet with from sundry nervous conditions, or the distension which may arise in the course of peritonitis when all peristalsis has been lost. Your list would be fairly complete, but I doubt whether you would think of vascular lesion alone as being a possible cause of intestinal obstruction. And yet there have been cases recorded from time to time where a vascular lesion—thrombosis of the superior mesenteric vein, for example—has given rise to symptoms of intestinal obstruction for which operation has been undertaken. I shall presently refer to a case of this sort which was brought before the Clinical Society of London by Dr. J. Rose Bradford and there have been other cases like it.[1] We ought, therefore, to have this cause of intestinal obstruction in mind, although from its exceeding rarity we may hardly expect to meet with a case ourselves. Now let me tell you of my own case.

On Monday, Feb. 10th, I was sent for by my friend and former house surgeon, Dr. J. A. Wright, to see a patient with intestinal obstruction and to come prepared to operate. I went and this was the story which I was told. The patient, a man aged 50 years, thin and spare, had enjoyed the best of health until three and a half years previously, when he had a very bad attack of typhoid fever which kept him in bed for some 10 weeks and which was complicated by thrombosis in the right leg. His health had never been the same since; he had lost his former strength and his capacity for continuous work. In the summer of 1899 he had thrombosis in the left leg following a bicycle accident and again in the spring of 1901 he was laid up for a month with thrombosis of the left femoral vein. I ask your special attention to these several attacks of thrombosis for they go far to explain his present illness. A week previously he had had rather a bad cold and had stayed indoors, but on the afternoon of Feb. 9th (Sunday) he was able to go out for a country walk. During the walk he was suddenly seized with pain above the umbilicus and this was soon followed by diarrhœa. As a matter of fact he had to relieve himself behind a hedge more than once, and the pain continuing he was obliged to rest in a cottage. Here the pain continued and the diarrhœa was more profuse. In about an hour he was able to get home and Dr. Wright first saw him at half-past five o'clock. The diarrhœa had then ceased and the pain was less, but there was much uneasiness or discomfort in the epigastrium and he felt as if he must be sick. He was cold but was not collapsed. At 9 P.M. when Dr. Wright next saw him he was restless and had considerable epigastric pain. He had vomited a little. Flatus had been passed from the bowel. Abdominal examination was negative. A subcutaneous injection of morphine and atropine was administered. The night was broken and he had occasional vomiting of a small quantity of odourless coffee-coloured fluid. There was some hiccough. Before daylight there was a return of the epigastric pain and at 6 A.M. the injection was repeated. At 10 A.M. he was fairly easy, but he still had epigastric pain and there was slight tenderness. The pulse ranged from 90 to 100. The temperature in the axilla was normal. Abdominal examination was again negative; there was no distension whatever. A rectal examination discovered nothing and a soap-and-water enema was entirely without result. At 1 P.M. Dr. Wright detected some resistance and tenderness midway between the umbilicus and the left costal margin and these became more marked in the course of the afternoon. The other symptoms continued and no flatus was passed. The pulse rose to 120.

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[1] Notably since this lecture was given the case of "Intestinal Obstruction due to Embolism of a Branch of the Superior Mesenteric Artery" brought before the Clinical Society of London by my friends Dr. W. J. Tyson and Mr W. W. Linington of Folkestone, on April 11th (see THE LANCET, April 19th, 1902, p. 1109). Coffee-ground vomit was there also a prominent symptom.

I saw the patient soon after 7 P.M. It was obvious at once that the man was extremely ill, and from his aspect alone I formed a grave prognosis His pulse was then 108 and it was occasionally intermittent; he was vomiting copious quantities of the coffee-coloured liquid. The abdomen, which was absolutely flaccid, moved on respiration and was free from all suspicion of tenderness save only between the umbilicus and the left costal margin where were the resistance, the slight fulness, and the tenderness which Dr. Wright had described. It was clear that operation, if to be undertaken at all, could be delayed no longer. And I must tell you frankly that I never undertook an operation with less idea as to what could be the matter. Every conceivable lesion had been turned over in our minds: Dr. Wright himself even went so far as to suggest embolism of an intestinal vessel. A kink from former typhoid ulceration was one of the more unusual things which occurred to us, but from the symptoms and history the seat of probable obstruction was presumably high up in the intestinal tube, while kink the result of typhoid fever would rather be low down. It was under these unsatisfactory conditions that I opened the abdomen in the middle line above the umbilicus. A remarkable state of things was immediately disclosed. The stomach was seen to be enormously tense and distended, dark purple in colour, with here and there small flakes of lymph upon its surface, and conveying the impression that it would not bear much handling. Had it been a piece of gut exposed in operation for strangulated hernia I unquestionably should have hesitated to return it to the peritoneal cavity, for it had all the appearances which indicate approaching gangrene. It was suggested to me that I should puncture the stomach and let out the contents, but I felt that this would be a dangerous procedure as there might be difficulty in closing the opening. My search was next directed to the discovery of some cause for the supposed obstruction, and the bowel, large and small, was therefore systematically examined from end to end. Both large and small were found to be empty; I may say, in fact, that I have never seen small bowel so completely collapsed. Tracing it upwards no cause of obstruction was anywhere to be found, but as we approached the stomach so did collapsed bowel of natural colour gradually merge into distended and discoloured bowel until at its union with the pylorus the duodenum was seen to be enormously dilated like the stomach, and here, also, it had the purple colour and structural change which have already been described in the stomach itself. Satisfied that there was no mechanical cause for obstruction and that none could possibly have been overlooked, there was nothing left to us but to close the wound The condition of the patient was now extremely grave; there was profuse vomiting, and at one time we thought that he must die on the operating table. Happily that was obviated and he rallied sufficiently to talk to his friends. He died three hours afterwards.

We had now little doubt in our minds that a vascular lesion was at the root of the patient's symptoms and of the singular state of things which we had seen in the stomach and the duodenum. And here I am sorry to tell you that our story is incomplete. A partial necropsy was made by Dr. Wright through the operation wound and if you think of the difficulties of a necropsy unassisted in a country house it will hardly surprise you that the post-mortem record is not as complete as we could wish. Nevertheless, very valuable information was obtained and I will read to you Dr. Wright's notes. "The parts," he says, "looked very much the same as at the operation. I took out the whole gut, beginning at the sigmoid flexure. It was practically empty and collapsed until the beginning of the duodenum was reached. There was no obstruction whatever to be found at this or at any other place, but from it to the cardiac end of the stomach the whole length was hugely distended, even the pylorus being dilated. On opening the stomach there were about two pints of the dark, fluid, altered blood. The stomach and duodenum were stained with it, but none of the fluid had passed any further downwards in the intestine. There was certainly some difference in the mucous membrane of the stomach and duodenum as compared with the rest of the gut. The stomach-wall was greatly stretched, the veins were engorged, and on its anterior surface there was very slight superficial ulceration. Running here and there were some peculiar raised patches which looked most like thickened tortuous blood-vessels. I searched very carefully for arterial clot but could find nothing to swear to." In answer to further inquiry Dr. Wright told me that there was certainly no plugging of the portal vein itself.

This, then, is all the post-mortem evidence which I can give you, but yet I think there is hardly room for doubt that a vascular lesion was after all the real cause of the symptoms and of the state of the stomach and duodenum. Nothing else could well have accounted for them. I will give you the reasons for this conclusion.

First, there is the evidence of other cases of a like kind, and here I cannot do better than tell you of Dr. Rose Bradford's case,[2] entitled, "A Case of Thrombosis of the Superior Mesenteric Vein causing Intestinal Obstruction." A man, 20 years of age, was seized in the night with pain in the upper abdomen and he felt sick, but he was able to go to work in the morning. He was worse on the second day and on the third day he had diarrhœa. Then he took to bed. On the sixth day he went to University College Hospital and the summary of his history from that day to the eleventh day is in these words: "Since admission patient had remained in much the same condition, complaining of a good deal of abdominal pain, especially at the umbilicus and between this and the costal margin. The abdomen is not distended; if anything it is slightly retracted. There is no marked tenderness on palpation. Patient has had slight occasional vomiting of the contents of the stomach and the bowels have not been opened without enemata, but with these normal motions have been obtained." The scene then changed. The man began to vomit frequently and on the thirteenth day the pain was still more severe and the vomit, which had become incessant, was distinctly stercoraceous. He was worse on the day following and "it was decided to open the abdomen as it was thought that there was some form of intestinal obstruction." A piece of the small intestine about a foot long was found to be greatly swollen and thickened and purple in colour. There was no volvulus and no constricting band was found. There was a little reddish fluid in the peritoneal cavity and a little lymph on the intestine. The patient did not survive the operation long and at the necropsy "a coil of small intestine at the upper part of the jejunum was seen to be dark-purple in colour and considerably swollen and thickened for a distance of about 18 inches. There was no band or other cause of strangulation. The mesentery was thickened and the veins were obviously thrombosed. The trunk of the superior mesenteric vein was greatly thickened, the wall of the vessel being as thick as the wall of the superior mesenteric artery. The vein contained flakes of coagulum adherent to the inner surface and forming an almost continuous layer of decolourised blood-clot. The lumen of the main vessel was filled with reddish puriform material. The upper part of the vein was occupied by firm, partly decolourised, clot. The disease of the superior mesenteric vein extends into the main tributaries of this vessel—to a varying extent, however, in different ones. As the intestine is approached the thickening of the walls of the veins becomes less and less marked, until in most of the terminal branches the walls of the veins have their normal thickness and appearance." Those are the chief facts and I need not quote more, for they are sufficient for my purpose, which is to show you that plugging of a superior mesenteric vein may lead to symptoms suggestive of intestinal obstruction and that operation may be undertaken to discover and relieve the condition in the absence of any certain diagnosis. Were there no other cases of the kind, this case recorded by Dr. Rose Bradford would of itself be sufficient to suggest that a similar vascular lesion must have been present in our case. The patient's own history is, however, not less suggestive. You remember that on three previous occasions he had had attacks of thrombosis, and whatever may be the causes of blood-clotting in veins I think we may say that in some way or other this man was predisposed to the same thing again. The suddenness of onset, moreover, of the attack on this last occasion was very suggestive of a sudden vascular lesion and I venture to think that nothing else could possibly have produced in so short a time as 24 hours the striking changes which were found in the stomach and duodenum. I believe, moreover, that venous rather than arterial thrombosis must have been the cause of the impending gangrene. Dr. Wright has told us that he searched carefully for arterial clot but found none. *Furthermore, the valves of the heart* were healthy and free from vegetations from which an embolus might have been detached and lodged in some vessel. I hold, therefore, that we are justified in the conclusion that venous thrombosis was the actual disease and that we may regard the coronary vein and its tributaries, and in all probability the pyloric vein also, as having been the vessels affected.

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[2] Transactions of the Clinical Society of London, vol. xxxi., p. 203.

It will interest you to know that an excellent account of all the conditions pertaining to thrombosis is to be found in Allbutt's "System" from the pen of Professor Welch. This is accessible to you in the library, but I will read one short passage which bears upon our present case:—"The symptoms"—he is writing of thrombosis of the mesenteric veins—"are the same as with occlusion of the mesenteric arteries, but as a rule are even more violent and rapid in course. They are as follows: sudden onset of very intense, colicky, not definitely localised, abdominal pain; distended, tender, tympanitic abdomen, vomiting which may be bloody; obstipation, or bloody diarrhœa; and rapid collapse, with cold sweat and subnormal temperature. The diagnosis is likely to be acute ileus and laparotomy to be performed. Death generally occurs within two or three days. The symptoms may, however, be less violent and the course less rapid than those mentioned. At the autopsy are found hæmorrhagic infarction and gangrene of the intestine, hæmorrhages in the mesentery, bloody fluid in the peritoneal cavity, and sometimes, although not regularly, peritonitis The cases without symptoms have been usually thromboses of slower formation, but this does not appear to have been always the case."

Such, gentlemen, is the story which I bring before you. A consideration of it is not likely, I fear, to lessen the difficulties which beset the diagnosis and treatment of intestinal obstruction. Of all the conditions which may present themselves at operation this surely of which I have spoken is the least amenable to relief. Nevertheless I commend it to your notice preparatory to the wider publication which I think it deserves

I am indebted to Mr Arthur E. Fidian for shorthand notes of this lecture

THE CONGENITAL FACTOR IN HERNIA.[1]

BY R. HAMILTON RUSSELL, F.R.C.S. ENG.,

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IT may perhaps be within your memory that at the last meeting of our congress at Brisbane I contributed a paper to the transactions of this section entitled, "The Etiology and Treatment of Inguinal Hernia in the Young,"[2] and I placed before you certain important conclusions at which I had arrived in respect of the etiology of inguinal hernia in young children. My operative experience of 60 cases was very small, it is true, when compared with the enormous series that are frequently placed before us by surgeons at the present day; but I would point out that my series was an indiscriminate one, comprising an unbroken record of every case of inguinal hernia that had come into my hands during a certain period, and that the evidence afforded by an indiscriminate series of 60 cases when that evidence is unanimous is more weighty than any evidence that could be deduced from 600 cases that have been selected by reason of certain clinical characters that were deemed to call for operation.

The conclusions at which I arrived and which I believe to be of fundamental importance for a clear understanding, not merely of inguinal but of all other forms of abdominal hernia, I will set forth in the following propositions:—1. Oblique inguinal hernia is invariably caused by the presence of a congenital sac which in the vast majority of cases is provided by patency of the whole or a portion of the processus vaginalis. 2. There is no evidence in favour of the view that congenital weakness of the abdominal wall in the inguinal region is a factor in the causation of inguinal hernia. 3. While actual weakness of the abdominal wall in the inguinal region is frequently met with and is an *occasional* cause of recurrence after operation, such weakness is not congenital but is an acquired weakness due to the existence of the hernia and the use of a truss during a lengthened period. 4. Complete removal of the sac, when performed before the abdominal wall has sustained such damage, will not be followed by recurrence. 5. The causes of recurrence after operation are three in number—viz., (1) the above-mentioned acquired weakness; (2) incomplete removal of the sac; and (3) traumatism, the result of misguided methods of operating

These, then, are my articles of faith; the arguments on which they are based have been already published very fully[3] and I do not intend to trouble you with them again. The only new argument that I will bring forward to-day, if you will be so courteous as to regard it as an argument, is this. My former series of 60 cases has in the last two years been extended to well-nigh double that number, with the result that so far from having observed anything to shake my belief my confidence in the truth of the foregoing statements has been redoubled. To-day I will ask you, whether you agree with me or not, to assume for a few minutes that my views are correct, for I wish to suggest to you that they apply equally to inguinal hernia in the adult—that there is no difference etiologically between the inguinal hernia of children and that of older people and that the management of the affection in either case will be the same in principle, differing somewhat in detail but differing only by reason of certain factors that are often imported into the case of the adult but from which the young child is free.

When hernia has existed for some years the inguinal canal becomes converted into a large hole in the abdominal wall, because the curved fibres have been stretched, atrophied, and displaced during a period of years and are quite incapacitated from performing their natural function as the inguinal sphincter. This leads me at once to draw your attention to one of the singular and fundamental errors that have pervaded the whole theory of inguinal hernia. The belief is almost universally held that inguinal hernia is often the result of some congenital weakness of the inguinal abdominal wall which permits the descent of a rupture. This generally accepted view is the exact converse of that which I believe to be the truth, for instead of the weakness being congenital and the hernia consequently acquired it is the hernial sac that is congenital and the weakness that ultimately becomes acquired. It is of the utmost importance that this fact should be appreciated, for its teaching, when reduced to practice, means that if on the first occurrence of hernia the sac be removed the abdominal wall will thenceforward be unimpaired and the patient will be no more predisposed to recurrence than he would have been if he had never had a congenital sac and had never had a hernia.

Let me illustrate this point by citing the case of a man, aged 24 years, who became suddenly ruptured while playing football in August, 1899 At the operation four months later the bowel was found to have entered one portion of a bilocular congenital sac; the entire sac was ligatured at the neck and removed after incision of the external oblique aponeurosis but no attempt was made to close the canal by sutures. The patient was kept in bed for a fortnight and was told to exercise caution for a month afterwards; after that he was allowed to return to his arduous work and to indulge without stint in athletic exercises. For the last two seasons he has been as distinguished in the football field as he was before the operation and is one of the best forwards in a football team. I have quoted this case in order to illustrate a point, which is this—the sac was unquestionably congenital and was the essential cause of the hernia, no matter what the immediate cause might appear to be, and simple removal of the sac was efficient in curing the hernia absolutely. We quite discarded any theory as to the local weakness of the abdominal wall; but please to note that the condition that warranted us in discarding that theory was the fact that the hernia had existed for only four months—too short a time for any very serious damage to result to the abdominal wall from its presence. But supposing that instead of four months four years had been allowed to elapse, then we should have had no such confidence and the precautions against recurrence that would have had to be adopted would have been much greater and more extended in time, for some local weakness of the abdominal wall would certainly have been acquired. Again, supposing that instead of for four months or for four years the patient had worn a truss for, say, 40 years; at the age of 64 years there would have been a gaping aperture in the abdominal wall which would manifest no tendency to close after the sac was removed; it would then be closed by Bassini's method which in my opinion is by far the best of its kind, but the assurance of success would be much diminished. Furthermore, I think that were such a case presented to us just now some of us might receive with incredulity an assertion that the sac was congenital.

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[1] A paper read before the Surgical Section of the Intercolonial Medical Congress of Australasia, Hobart, Tasmania, February, 1902.

[2] THE LANCET, Nov 18th, 1899, p. 1363, and Intercolonial Medical Journal of Australasia, Sept. 20th, 1899.

[3] THE LANCET, Nov 18th, 1899, p. 1353, and Oct 20th, 1900, p 1123

Among the children upon whom I have operated—some 115 in number—I know of only two in whom there has been anything in the nature of a recurrence. In both these cases the recurrence consisted in a slight yielding of the abdominal wall, the result of the acquired weakness. Both occurred two or three months after the operation and both were remedied by the use of a light truss for three months. One patient was a boy, aged 10 years, who had worn a truss from infancy and he brought about the recurrence through attempting some acrobatic feats; the other, a child five years of age, fell out of a tree on to his stomach. In cases where a truss has been worn for any length of time such severe tests as this should be carefully guarded against for 12 months, after which I think it probable that the inguinal canal will be safe, especially in the case of a growing child.

The laxity of the peritoneum in the neighbourhood of the inguinal region is a matter to which I have not previously alluded, although it plays an important part both in respect of the incidence of hernia and of its operative treatment. Physiologically it is of course adapted to meet the requirements of the bladder in its varying conditions of collapse and distension. To this laxity of the peritoneum we owe several things. In the first place, we are largely indebted to it for the occasional occurrence of direct inguinal hernia in young people—a rare affection which would, I think, be impossible were it not for the voluminous arrangement of the peritoneum at this place. It would seem that this form of hernia can occur suddenly and independently of the presence of a pre-formed sac, in which case it is probably the only form of abdominal hernia that can do this and it will therefore be the only form of hernia to which the time-honoured name of "rupture" can properly belong. In the course of operative treatment, however, the looseness of the peritoneum stands in good stead, for it enables the operator to pull down the neck of the sac so as to bring it easily within reach when he desires to apply the ligature. But there are certain circumstances that interfere with the application of the ligature to the neck of the sac and these are of great importance and, strange to say, they have been sadly overlooked by writers on hernia. There are two such conditions to which I will refer—(1) the close relationship of a portion of the bladder to the neck of the sac; and (2) hernia of the sigmoid flexure on the left side. I have elsewhere called attention to the frequency with which the bladder, or a diverticulum from it, has been seen at the neck of the sac in operating for hernia in children; and of late I have seen with increased frequency a portion of that viscus in operating upon adults. Now, it is obvious that where the bladder intrudes its presence at the neck of the sac the application of a ligature at the surgeon's seat of election will be interfered with. I have found, however, that in such a case the bladder may be quite easily peeled off the sac—a proceeding that is facilitated by the introduction of the index finger into the latter structure.

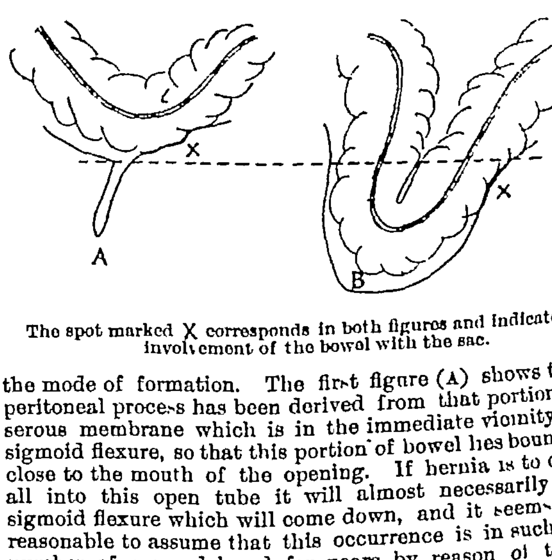
It appears to me that a great deal of unnecessary mystery has been imported into the subject of hernia of the bladder, the etiology of which is quite simple, and, further, I do not think that it need ever be a serious obstacle to the satisfactory clearance of the inguinal canal. In a word, I see no reason to doubt that hernia of the bladder is always secondary to an ordinary hernia and is an accidental result of the dragging down of the vesical peritoneum through the hernial orifice.

I come now to a form of inguinal hernia which presents points of similarity to hernia of the bladder—hernia of the sigmoid flexure on the left side. I cannot understand how the importance of this variety of hernia has come to be so under-estimated by authors. In my experience it has proved to be of remarkable frequency and it requires very special management, in default of which recurrence is almost sure to take place. Yet, strange to say, on consulting authorities I find only the most cursory allusion to it and nowhere have I found any adequate description of an appropriate mode of dealing with it. In this variety of hernia part of the peritoneal reflexion which invests the sigmoid flexure enters into the formation of the sac, so that a certain portion of the sac is intimately connected with the gut. It therefore becomes impossible to ligature and to remove the sac in the ordinary way; while to be content merely with removing the free portion of the sac and to push the upper portion of it with the attached bowel back into the abdomen would be to perform a very imperfect operation and to court failure, no matter what ingenious device might be adopted with the vain and futile purpose of fortifying the abdominal wall and closing the canal by sutures.

With regard to the etiology of this form of hernia it appears to me a most remarkable circumstance that all authors seem to agree that it is of congenital origin, while they say really very little about it. Now I hold that all forms of oblique inguinal hernia are of congenital origin, but the only form that has given me pause and caused me some hesitancy is this particular form which we are discussing. Why surgeons who believe that inguinal hernia is commonly acquired should look upon this form of all others as congenital I am at a loss to conceive, for the truth is that it is met with only very seldom in childhood but very frequently in adults. In 115 operations for hernia in children I have met with this variety of hernia only once, while in a relatively inconsiderable series of adult operations I have met with it three times. The ages of my patients have been 2, 22, 32, and 68 years. With respect to the etiology of this condition I have no doubt whatever that it is fundamentally the same as that of all other varieties of inguinal hernia and that we must look to the presence of a congenital sac in the inguinal canal, which is probably always in this case a portion of the processus vaginalis unclosed.

These two diagrams (Fig. 1, A and B) will serve to indicate the mode of formation. The first figure (A) shows that the peritoneal process has been derived from that portion of the serous membrane which is in the immediate vicinity of the sigmoid flexure, so that this portion of bowel lies bound down close to the mouth of the opening. If hernia is to occur at all into this open tube it will almost necessarily be the sigmoid flexure which will come down, and it seems not unreasonable to assume that this occurrence is in such a large number of cases delayed for years by reason of the substantial nature of the large bowel and its fixation close to the neck of the sac rendering it less favourable to protrusion than would have been the case if the smaller gut was presenting. The second figure shows what happens when the

FIG. 1.



The spot marked X corresponds in both figures and indicates the involvement of the bowel with the sac.

bowel does at length descend into the sac. By reason of its attachment to the peritoneum at the mouth of the sac this portion of the peritoneum is subjected to traction such as could not be exerted by a herniated portion of small bowel, and as the peritoneum in this neighbourhood is lax and voluminous it readily becomes dragged down in such a way as to produce the condition which we are considering. The correct management of this kind of hernia is of great importance and it is very simple. The portion of the sac to which the bowel is attached should be cut away from the remainder and returned into the abdomen with the gut; this is effected by running the scissors up on either side of the prolapsed gut as high as possible, and after the bowel has been returned the remainder of the sac may be ligatured and removed in the ordinary way. Of my cases, the man aged 68 years had worn a truss for 30 years; the hernia was very large and irreducible; the opening in the abdominal wall was enormous and was closed by Bassini's method. The man aged 32 years, who was an officer in the merchant service, and the child were both treated by simple removal of the sac as I have just described. All three were operated upon more than three years ago and all are free from recurrence. The man aged 22 years was operated upon only three months ago. In all the adults the canal was opened up by incision of the external oblique aponeurosis; in the case of the little child I considered this step unnecessary.

Whatever divergence of view there may be as to the part played by the congenital sac in inguinal hernia, when we turn to femoral hernia there would at first sight appear to be no room for doubt. All authors are agreed that femoral hernia is always acquired; the anatomy of it is simple and there is no funicular process to complicate matters, so that it would appear as though I was on safe ground when at Brisbane I made the following allusion to the subject: "Femoral hernia is the type of the true acquired hernia. The anatomical structures concerned are eminently favourable to it; the clinical manifestations are consistent with it, and they are consistent with nothing else. .... To put it tersely, in femoral hernia it is the hernia that forms the sac; in inguinal hernia it is the presence of a sac that causes the hernia." I am glad now to find that in the succeeding sentences I indicated some doubt as to the absolute truth of the foregoing statement, for since we last met, three years ago, I have entirely changed my opinion as to the etiology of femoral hernia. I now believe that, like inguinal hernia, femoral hernia is caused essentially and typically by the presence of a congenital sac in the crural canal, and the question as to which I am in some doubt is not whether femoral hernia is ever of congenital origin, but whether it is ever truly acquired.

In order to arrive at the explanation of the congenital sac of femoral hernia we have to go back to the second month of fœtal life, at which period the appearance of bud-like processes, four in number, on the surface of the embryo signalises the commencing development of the limbs (Fig. 2). A section made of one of these limb-buds and the adjacent body wall (Fig. 3) will show the parietal layer of the mesoderm throwing out its bud, which is covered by the ectoderm externally and lined internally by a specialised layer of its own cells, which become flattened and ultimately develop into the endothelial cells of the peritoneum. Now, it would seem that all the important changes in the development of the embryo are accompanied by the development in the evolving structures of a vascular system, at first absolutely simple and direct in plan, but which, through having to follow the varying contortions of the developing mass, becomes likewise contorted and apparently eccentric in arrangement. I imagine that every artery and every portion of an artery in the body, no matter how tortuous its arrangement may be now, at its inception took the shortest and most direct route from its origin to its termination; its course was, in fact, a straight line and the arterial tortuosities with which the dissecting-room has made us familiar may be regarded as an accurate though necessarily imperfect sketch-in-outline of the embryonic changes that have culminated in the full development of the organ to which the artery is distributed. This is most clearly seen in the larger arteries, especially those of the head and trunk, but wherever we find an artery taking a circuitous route or coming off from its parent trunk at such a point that it has, as it were, to retrace its steps in order to arrive at its area of distribution, we may safely take it as a guide to aid us in understanding what went on in the process of development. It will suffice to suggest as instances, taken almost at random, the peculiar windings of the pudic artery; and, again, no instance in the body is of more immediate interest than the developmental history attaching to the little ascending palatine branch of the facial which runs vertically upwards beside the wall of the pharynx, passes over the top of the superior constrictor, and then down again with the levator palati muscle on to the upper surface of the soft palate.

FIG. 2.

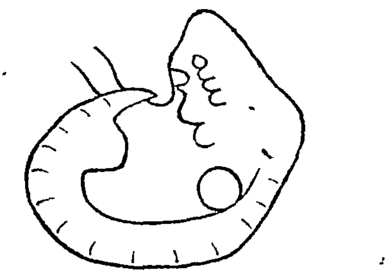
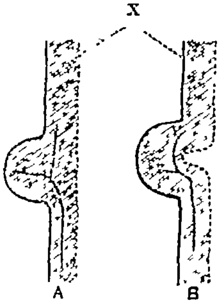


Diagram of embryo at about fourth week, showing commencement of limbs.

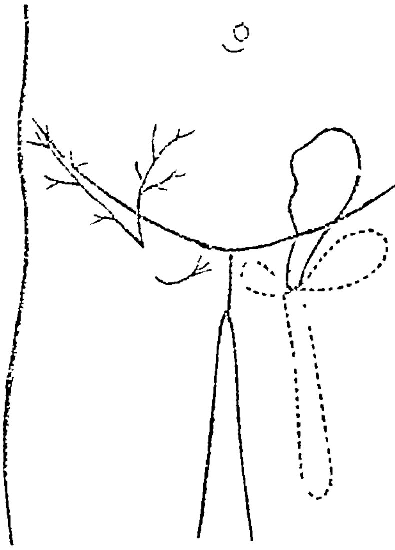
FIG. 3.



Diagrammatic section of posterior limb-buds; in B, formation of peritoneal pouch is shown. The shaded portion represents the mesoderm; the dotted lines the layer of cells destined to form the peritoneum. X, Abdominal wall.

I wish now to direct your attention to a group of humble little vessels, branches of the common femoral artery, the superficial circumflex iliac, the superior external pudic, and, especially as the most typical and useful for our purpose, the superficial epigastric which turns upwards across Poupart's ligament to be distributed on to the abdominal wall (Fig. 4). Why does it take this course? The reason will be at once evident when we refer to the first beginnings of a vascular system in the embryonic limb bud. The first branches that are given off from the main artery will be distributed to structures that are destined to form part of the abdominal wall, so that when in the course of development the groin becomes deepened, and the limb having become lengthened prepares to pass through an arc of about 145° or more to attain its permanent relationship with the trunk, it is at once seen how it comes about that the superficial epigastric artery and its companion follow the course that they do. Turning again to the diagram of the limb-bud it is easy to understand that in the initial steps of its development there is a distinct possibility that a little pouch from the wall of the pleuro-peritoneal cavity may be involved in the projecting process (Fig. 3, B). This is just the kind of developmental accident that is certain to occur sometimes, and when it does it is obvious that the future of this diverticulum will be subject to precisely the same influences that have determined the peculiar course and position of the superficial epigastric artery and its fellows. To put it plainly, the sac of a femoral hernia, when it turns upwards over Poupart's ligament or outwards towards the iliac spine, as it frequently does, occupies that position because it always has occupied it ever since the early embryonic period which witnessed the commencement of the limb. The fundus of the sac became accidentally involved with the abdominal wall then and the development of the limb and its assumption of its normal position have brought about such lengthening of the sac as obviously will be inevitable.

FIG. 4.



On the right limb are shown the branches of the common femoral artery; on the left the situation occupied by the large femoral sacs. The upper of these represents accurately the case described in this paper.

In cases of femoral hernia in which the sac simply protrudes at the saphenous opening, and they constitute the very large majority, the difference is simply a difference in the size of the sac—that is to say, at its origin the pleuro-peritoneal pouch was too short to become implicated with the abdominal wall.

Let us now see how our theory agrees with the observed clinical features of femoral hernia. It is well known that when femoral hernia attains a large size it has a tendency, after emerging from the saphenous opening, to turn upwards across Poupart's ligament, or more commonly upwards and outwards towards the iliac spine. Surgeons have never been quite satisfied with the theories that have been advanced to explain this circumstance; this is not very surprising, seeing that it has been found necessary to invent and to adopt erroneous explanations because the true one has been missed. There is no conceivable theory which will explain why in one case a large femoral hernia should pass upwards on to the abdomen, in another case downwards almost to the knee,[4] and in yet other cases outwards in the same direction as the circumflex iliac vessels or inwards and upwards to the scrotum or labium,[5] except the theory of congenital origin of the sac; and this explains it perfectly when we come to consider the mode of development of the limb and the variation in the ultimate destination of the sac that may be induced by slight accidental differences in position at the time of its inception. Assuming this view to be correct, the fact that in one case a femoral hernia will enlarge painlessly to a great size and in another will be unable to increase beyond the size of a walnut presents no difficulty; it is a question of the original size of the sac. The large hernia while it is steadily increasing in size is increasing not by gradual enlargement of the sac but by gradual lengthening of the mesentery. The long mesentery observed in hernia has been regarded, I believe quite erroneously, as a contributing cause of hernia, whereas it would appear with more probability to be the result of the presence of a large sac.

A few weeks ago I removed from a woman a large femoral sac which is accurately represented in Fig. 4. She gave the history that for six years it steadily enlarged and then for three years she wore a truss, so that it had existed nine years in all. During the six years while it was growing it gave her so little pain or inconvenience that she could tell me very little about it, it used to disappear when she lay down at night, but she never noticed how it disappeared or how long it took to do so; in fact, she took no intelligent notice of it whatever. Then eventually she consulted a lady practitioner who advised her to wear a truss, which she did for three years. When she came to me for operation there was no hernia to be seen, but the large sac filled with peritoneal fluid when she stood up without the truss, forming a large hydrocele on the front of the groin and abdomen. The case is a rare one but by no means without precedent. You will notice that a small loculus or diverticulum is shown (Fig. 4); this is a very commonly-seen feature of the congenital sac of the inguinal canal and is, I believe, an almost invariable accompaniment of imperfect descent of the testis, although it is often seen where the descent of the testis is perfect. As I have elsewhere pointed out it constitutes the anatomical basis of interstitial and pro-peritoneal hernia.[6]

I am afraid that I shall disappoint you if you look for the announcement of a royal road to the cure of femoral hernia based upon the theory of the congenital origin of the sac. The only effect upon our operative procedure, and that effect is one by no means to be despised, will be to cause us to abandon vain endeavours to block the crural canal or to close the crural ring by sutures or other device. The first step in the establishment of a sound method of treatment must always be to seize upon sound pathological principles to be our guide and the only deduction I am able to draw from the view that the femoral sac is congenital is that removal of the sac from the femoral canal is the essence of the treatment, that the fault lies in the presence of the sac and not in the construction of the canal, and that we are thereby directed to remove the sac and to leave the canal alone. How best to remove the sac I am a little uncertain. I have hitherto always contented myself with ligaturing the sac as high up as possible, but other methods for removing the stump from the neighbourhood of the crural ring have been suggested and are good in principle. But the point is clear that whatever means are adopted to achieve this object are certain to be more efficiently carried out if we quite understand that the essential feature of the operation is the removal of the sac and not any form of obstructive treatment applied to the crural canal.

I should like to add a very few words with reference to the occurrence of hernia in situations other than the inguinal and crural canals, such as the obturator and ischiatic foramina. Is there also a pre-formed sac in these situations? I may answer the question as far as I myself am concerned by saying that if I could believe that a hernia could pass through the obturator or ischiatic opening in the absence of a congenital sac I should scatter to the winds the views which I now hold on the subject of hernia and be prepared to believe anything. All our knowledge of the nature and capabilities of the intra-abdominal pressure and of the difficulty that it experiences in forcing a hernia even into a congenital sac forbids absolutely the belief that it could ever be enabled to force a piece of bowel or omentum through such small apertures as those which I have mentioned, pushing the peritoneum and fascia before it. On the other hand, the occasional presence of a pouch of peritoneum in these situations is not by any means a source of perplexity, but, on the contrary, is only what we might expect. Whenever structures like the obturator and ischiatic vessels, that inside the abdomen are in intimate relation with the peritoneum, pass outwards in the course of development it is easy to understand that occasionally a little of the peritoneum may be made to accompany them for a short distance; and I would suggest that if some of our pathological friends who have the opportunity of making large numbers of post-mortem examinations would examine these hernial orifices in a large number of bodies they would be enabled to make some very valuable and interesting observations with reference to this matter.

In conclusion, let me explain in a very few words why I have not troubled you with any statistics. This is not, I am happy to say, because there is anything for me to conceal or because they would show anything to weaken my contention as to the congenital origin of the hernial sac. If, however, there is one thing more than another with which I have been impressed by discussion of this subject it is the absolute inutility of mere statistics. Statistics are valueless and misleading unless we bring to their interpretation sound and correct pathological or etiological principles; but the principles must come first. If we put the statistics first and try to extract principles from them we shall not only fail but we shall certainly be misled. The reasons for this will be sufficiently obvious if you will think the matter out but I will not detain you by dilating upon them, for I have already occupied your time sufficiently. My aim has been to show cause and to afford a stimulus for a fresh scrutiny of the subject of hernia and I shall be well satisfied if this contribution to the proceedings of this section of the Congress should prove to be of some utility in furthering the rational and scientific treatment of one of the most common and important of the ailments with which we as surgeons are called upon to deal.

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[4] Macready, Treatise on Ruptures, p. 168.

[5] Ibid.

[6] Intercolonial Medical Journal of Australasia, May 20th, 1900.

Melbourne.

COMPLETE RELAXATION OF THE ABDOMINAL WALL UNDER ANÆSTHETICS.

BY J. BLUMFELD, M.D. CANTAB.,

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CASES of operation upon the abdomen are those, perhaps, which more severely than any other test the anæsthetist's skill in his endeavour to secure that condition of the patient which gives the greatest facility to the surgeon in his manipulations. In many cases much of the difference between an easy operation and a difficult one lies in the extent to which the anæsthetist has or has not secured a flabby condition of the abdominal walls and an absence of tendency to protrusion on the part of the intestines. In most cases such a state—the *ultima Thule* of the abdominal surgeon's desire—is obtainable if the proper anæsthetic, which is generally chloroform, is employed to the proper degree, which is generally a very deep one. There are, however, some cases in which this complete relaxation and quiet breathing are very difficult and others in which they are, I think, impossible of attainment. The reasons for such difficulty may be examined with advantage and the proper steps decided upon for overcoming it when possible.

The desired condition of the abdomen depends on three main factors: (1) absence of excessive respiratory vigour; (2) absence of contraction of the recti abdominal muscles; and (3) normal character of the respiratory movements. To *ensure the coöperation of these factors some purely physiological* considerations must be borne in mind. For it is the object of the anæsthetist to avoid in every way what is known to the physiologist as forced respiration. In normal breathing the tendency of the diaphragm to pull inwards the sternum and lower ribs has little effect. In forced inspiration, especially where there is any obstruction to the entrance of air into the lungs, the lower ribs may be so much drawn in by the contraction of the diaphragm that the girth of the trunk at this point is obviously diminished. By such contraction the epigastrium is affected. Similarly with expiration, even in normal breathing, the elastic return of the abdominal walls is probably accompanied and assisted by contraction of the abdominal muscles. When expiration becomes laboured *these muscles become important expiratory* agents. By pressing on the contents of the abdomen they thrust them and the diaphragm up towards the chest. In laboured respiration the expiratory events are especially augmented.

The activity of the respiratory centre is acutely affected by changes in the quality of the blood distributed to the medulla and by nervous impulses reaching the centre along various nerves or nerve tracts. The more venous the blood the greater the activity of the respiratory centre. Nervous impulses may increase or diminish the depth of breathing and may slow or quicken its rate. There is not, Foster says, an afferent nerve in the body which may not be the instrument of influencing the respiratory centre. Certain nerves are more closely connected with it *than others and the most conspicuous* and important are the vagi. It is easy to understand, therefore, why in abdominal operations more than in others there may be difficulty in securing quiet breathing. Influences which tend to stop inspiration tend to encourage expiration. This explains how it is that shallow breathing with its tendency to the stopping of inspiration is not always the most favourable for the surgeon. The depressed inspiration which does not of itself embarrass him is liable to be accompanied by exaggerated expiration and this being *effected by contraction of the recti* provides at once a hindrance. Thus usually the best condition is quiet but natural breathing, respiration which is certainly not more vigorous than usual but which is also not very much less so.

When the blood is more venous than normal—i.e., has less oxygen—as is shown clinically by cyanosis, then respiratory movements increase in force and frequency. If cyanosis continues the respiratory movements become more marked than the inspiratory. This is in accordance with the already-mentioned effect of improperly oxygenated blood upon the respiratory centre. The amount of oxygen taken up by the blood from the lungs depends partly on the richness of the blood in red corpuscles. A person who is feeble and anæmic *is poor in the oxygen-bearing red corpuscles.* The same applies to fat people. With such people, therefore, any deprivation of air—i.e., of oxygen—gives rise to laboured respiration unusually easily. For these physiological reasons the clinical practice is sound which in such cases supplies air—i.e., oxygen—as freely as possible with the anæsthetic. Consequently, methods are to be avoided with this class of case which necessitate limitation of air-supply. Closed instruments are not to be used, at any rate for any long period, and if *ether alone is employed it is to* be *given from* a cone open at the top or from some other form of apparatus, such as a Rendle's mask, that admits air freely. Ether given in this way is often of the greatest service during a long administration to a feeble subject. Purely physiological teaching, then, points the proper conduct for securing abdominal quiet just as surely as clinical observation. We must avoid all cyanosis and all obstruction to breathing and we must have an anæsthesia deep enough to prevent the respiratory centre from being readily interfered with by afferent impulses.

The worst difficulty is opposed to the surgeon's manipulations in those cases where the recti contract firmly with expiration, the edges of the muscles being clearly defined and the muscles *themselves rising up with every expiratory effort.* In such cases the ordinary rhythm of protrusion of the abdomen with inspiration and depression with expiration is altered and the abdominal walls appear more prominent with expiration than with inspiration. A similar alteration of the rhythmic variation in the abdominal wall occurs when respiration is mainly or entirely thoracic, as it is in some cases of abdominal disease. In these instances, however, the passive condition of the abdomen offers little obstacle to the surgeon. In some cases where the abdomen is much distended—by a large tumour in its upper part for instance—although breathing is entirely carried on by the chest, yet there is no drawing in, or expulsion of, the abdominal wall. The diaphragm is apparently unable to descend at all; the *abdominal wall is quiet and convenient for operation.* Without any undue contraction of the recti the surgeon may yet be much inconvenienced if the mere extent of the respiratory movements of the abdominal wall is too wide. This occurs in some subjects if too light an anæsthesia is maintained. More commonly it is due to cyanosis or some obstruction in one or other part of the air-passages. The commonest causes of such obstruction are falling back of the congested tongue, swelling of the tongue and fauces, and excess of mucus.

The two conditions of the abdomen, in fact, which have been described—viz., excessive natural movements and contraction of the recti—are in the vast majority of instances due to preventable causes. These causes of the unwished-for condition are (1) cyanosis, from whatever reason; (2) any obstruction of the air-way; (3) not enough anæsthetic; and (4) too much anæsthetic. Physiology explains plainly enough how the first two causes, cyanosis and obstructed air-passages, lead to alterations of respiratory movement which clinically are such a *hindrance to the operating surgeon.* Insufficient anæsthetic raises inconvenience by allowing too free movements, although there is not necessarily any alteration of the natural relationship between inspiration and expiration. Too scanty use of the anæsthetic may also be accompanied by spasmodic closure of the jaws, and this by a straining, gasping kind of respiration. Excessive use of the anæsthetic tends to trouble by causing cyanosis. The cyanosis may be of very slight degree and yet its removal may at once change a gasping respiration greatly impeding the surgeon into a condition of smooth breathing which allows his work to go on with perfect ease. Particularly in pale, feeble subjects, such as are easily amenable to anæsthetics, I have seen inconvenience arise simply from the administrator permitting a slight amount of cyanosis. On withdrawing the anæsthetic, slightly opening the mouth, and drawing out the tongue, I at once obtained a perfectly satisfactory condition. The slight cyanosis that occurs in these debilitated subjects is easily overlooked by the inexperienced.

The operations particularly in which the utmost possible quiet and softness of the abdomen are required are mainly, perhaps, those which are performed upon its upper regions and those upon the bladder. Thus, in operations for gastric ulcer and in those upon the gall-bladder and bile-ducts, &c., the surgeon may not only be delayed but almost prevented from carrying out his aims if there is any contraction of the recti or if the abdomen heaves extensively with every act of respiration. As a rule, the best way to anæsthetise these cases is by inducing anæsthesia with gas and ether and then changing early to chloroform. This is sparingly given at first, but as soon as the anæsthetist has properly gauged his patient's susceptibility it is pushed to a deep degree. Such a procedure is probably the only one by which the condition of greatest possible facility for the surgeon is obtained. It undoubtedly involves risk if undertaken by anyone who is not thoroughly familiar with chloroform from frequent use. Fortunately, in feeble persons whose general condition would make deep chloroformisation specially dangerous, the desired condition of abdominal quiet is usually obtained without very free use of the anæsthetic. In these cases it is often best to use ether with the chloroform in the proportion of two parts of chloroform to three of ether. Moreover, with such persons gas is to be used very sparingly and any closed apparatus is generally best dispensed with or used only for a few minutes at the beginning. It is sometimes best even to induce anæsthesia by the chloroform and ether mixture, continuing with this or with chloroform alone, ether being added if stimulation is found necessary. The mixture is given from a drop bottle on a Skinner's mask at first and afterwards a cone or Rendle's mask may be substituted. For all abdominal cases this mixture of chloroform and ether in the proportions of two-fifths and three-fifths is in my experience an admirable anæsthetic and has over A.C.E. the advantage of greater simplicity.

There are certainly some cases in which the best condition of the abdomen, from the operator's point of view, cannot be obtained by the use of ether alone. The use of a closed ether apparatus throughout a long abdominal operation, such as we are considering, is rarely advisable, and if for some particular reason this agent is to be used from first to last, anæsthesia, when once properly induced, should be maintained by the use of some partially open instrument or mask which admits air freely. The easiest conditions for respiration do not appear to hold while a closed apparatus is being employed even when, with Clover's apparatus, the bag is kept off.[1] A more open method of administration with free air-supply offers often a better chance of obtaining that perfect flaccidity of the abdominal wall which is the aim of the anæsthetist and the comfort of the surgeon.

The avoidable causes of difficulty arising from the state of the abdominal wall we may now regard as dismissed. When the reasons for their presence are thoroughly appreciated they will not be allowed to come into play. The causes of abdominal difficulty that are not so easily removed depend upon conditions peculiar to the abdomen of the particular patient. These conditions are: (1) the shape of the trunk as it affects the upper portion of the recti muscles; (2) the thickness of the abdominal wall, particularly if due to muscular development; (3) the pathological condition of the recti muscles due to underlying disease; and (4) to these may perhaps be added abnormal sensibility to reflex effects.

1. *The shape of the trunk* gives rise to difficulty when the costal arch is unusually steep or narrow and the upper part of the rectus muscle is therefore very slanting. Perhaps the most aggravated difficulty that I have seen caused in this way was in a woman, the subject of severe angular curvature, who underwent the operation of pyloroplasty. In this woman the respiration was quiet and there was no contraction of the rectus muscles, yet their peculiar conformation, due to the long narrow costal arch, certainly provided considerable obstacle to convenient manipulation on the surgeon's part. In other instances very steep upper portions of the rectus muscles have inconvenienced the operator. In such cases the muscles seem as if they were too tightly stretched between their upper and lower attachments. Can the inconvenience arising from such structural peculiarity on the patient's part be remedied by the anæsthetist? Obviously, no use of chloroform or ether, to whatever extreme it is pushed, can avail, for in the case under discussion there is no question of active muscular contraction. When the muscle-fibres are entirely free from contraction the muscles are still inconveniently on the stretch. The proceeding most likely to be of use is to alter the position of the patient in such a way as to approximate the upper and lower attachments of the muscles of the abdominal wall. Thus if the knees are bent and the pelvis is raised, and the hollow of the back is allowed to drop, the particular difficulty with which we are concerned might be materially counteracted. Whether the inconvenience caused to the surgeon by this altered position would not be worse than that which it is designed to overcome is another question.

2. *Mass of muscle.*—When the abdominal walls are thick, whether from fat or from high muscular development, the surgeon may be much inconvenienced. If the trouble is due to massive muscles the slightest contraction on their part may make the inconvenience formidable. In such case the anæsthetist will do his utmost for the operator's convenience by maintaining a very deep anæsthesia entirely free from cyanosis and from any obstruction to breathing. Most often chloroform or a mixture will be the best agent to employ. Occasionally ether freely given with plenty of air seems to be most suitable. It is often necessary to hold the lower jaw forward from behind each angle and frequently to sponge out any mucus from the pharynx in order to secure perfectly unimpeded breathing. Sometimes this is not enough and the jaw has to be *slightly* opened by a gag and the tongue well drawn forward before the desired abdominal quiet is obtained.

3. *Pathological condition of the rectus muscle.*—In certain cases of chronic inflammatory disease in the upper part of the abdomen—as, for example, gastric ulcer with much adhesion—the upper part of the rectus muscle is, I believe, in a condition analogous with that which is sometimes found in the contracted muscles around a diseased joint. There appears to be actually a shortening of the muscle fibres and in this condition no use of the anæsthetic, however complete, can effect the relaxation of the muscle. If there is not actual shortening at any rate there is such spasm as cannot be relaxed. It is well known that in some functional spasms—in some cases of spasmodic wry-neck, for instance, and in some hysterical contractions of the fingers—the contraction of the muscles becomes perpetuated. The spasmodic condition in such cases is sometimes not relieved even by deep anæsthesia. In the cases now referred to the contraction of the abdominal muscles may be of somewhat similar nature. It may be that the protective reflex contraction set up by underlying disease has persisted so long as to become permanent. It must be borne in mind, too, that the ease with which reflex contraction of muscles is dispelled by anæsthesia varies greatly. In certain subjects only the deepest available anæsthesia is of any use. Every anæsthetist has met with instances in which although he used his materials with unusual freedom reflex effects were produced by the surgeon's manipulations. Such instances are common when some part of the genito-urinary organs is the seat of operation. Another conceivable explanation—in cases, at any rate, where there is adhesion to the anterior abdominal wall—is that inflammatory products have actually become organised and shrunk within the muscle, thus producing permanent contraction. Such an explanation seems to be very feasible in such cases as the following. In this case, that of a woman who was suffering from severe chronic gastric symptoms, excellent opportunities were afforded of accurately noticing the condition of the abdominal wall under anæsthetics, for these were employed on two separate occasions, the first time simply for examination and the second time for an exploratory laparotomy. Before administration of the anæsthetic the abdominal wall,

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[1] Dr. F. W. Hewitt's wide-bore inhaler has probably from this point of view a great advantage over the usual form of Clover's inhaler.

corresponding week of last year. The chief increase is in the Punjab where 10,525 deaths were recorded. Two cases have occurred in the segregation camp at Rangoon, both of which were imported from Calcutta. The disease has broken out in Quetta and has suddenly assumed great virulence at Hyderabad (Sind); it has also increased in Karachi; it is rising in Bombay and has developed rapidly in Calcutta. On the other hand, it is subsiding in Poona. The figures for the week are: Bombay Presidency, 5303 deaths; Bengal, 1101; Madras, 456; North-west Provinces, 2143; Mysore, 426; and Kashmir, 350. In Bombay city there were 750 deaths and in Calcutta 349. The rate of mortality in Bombay city is 109·5 per 1000. It is reported that at Hassan in the Madras Presidency the plague has completely exterminated all the squirrels. Hassan was formerly full of them. The inhabitants are encamped on the outskirts of the town

An important proposal has, it is understood, been submitted to Whitehall by the Government of India to improve Calcutta by means of wide thoroughfares. The work to be undertaken will comprise about 15 miles of improved roads and will be enormous. It is estimated to cost about one and three-quarter millions sterling in order to acquire the necessary property. A question at issue is as to who will find the money. The provincial authorities say that the work is imperial and that it should be undertaken by the Government of India, while the latter says in effect that Calcutta will alone be benefited and that Calcutta should pay. A proposal is made that the Secretary of State should sanction the municipal corporation raising at least 150 lakhs, which would be laid out by an improvement trust. The Government of India, it is said, offers from 15 to 20 lakhs. The hill stations have been largely helped by the Government of India; two-thirds of the cost of the Simla water-supply were paid by Government, and the protection works at Naini Tal and Darjeeling were also paid for by Government. The proposed work is much too large for Calcutta to bear the whole burden.

Another hospital has been opened in Calcutta. This has been built and endowed by a wealthy Marwari and is intended for Marwaris chiefly, although its benefits will be extended to Hindus generally. It is situated in the heart of the city close to the Marwari quarter. The hospital was formally opened by Lady Curzon yesterday and it is known as the Rai Bhagwan Dass Hospital. An outdoor department has been open for some time. The indoor department consists of one male ward for 20 patients and one female ward for five patients. There will be in addition an accident ward, a lying-in ward, and a contagious diseases ward. There is to be a resident surgeon superintendent and also a lady doctor.

March 8th.

The Plague Epidemic.—The Indian Institute of Science.

A further addition to the already high mortality from plague has been recorded this week. The total deaths from plague throughout India number no less than 23,715, as against 21,789 during the previous week. For the corresponding week of 1901 the deaths were only 7900. Nearly every province shows an increase, but the Punjab is now the chief sufferer and returns no less than 12,544 deaths. The disease has increased in Bombay city, where 888 deaths are recorded; in Calcutta, where the deaths are returned at 462; and in Karachi. The mortality is still very severe in the Bombay districts, from which 4806 deaths are recorded, and it has increased and spread in the province of Bengal, where 1235 deaths have come under notice. In the Madras Presidency there were only 361 deaths, but in the united provinces there were 2187. In Kashmir with 553 deaths, Hyderabad State with 149 deaths, and in the Mysore State with 414 deaths, there is little change.

The proposed institute for scientific research which was known at first as the Tata Institute, having been provided through the liberality of Mr. Tata, a wealthy Parsee in Bombay, is to be formally called the Indian Institute of Science. There are to be three distinct schools, respectively for chemistry, experimental physics, and experimental biology. In the last section will be taken up physiological investigations and of course bacteriological work. The establishment is to consist of three professors and three assistant professors, and later instructors will be appointed from among the successful students. It has now been definitely decided that the site of the institute shall be in Bangalore.

March 13th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Proposed Liverpool University.

Two months ago a public meeting was convened by the Lord Mayor to consider the movement for the conversion of University College, Liverpool, into the University of Liverpool. A gratifying evidence of the earnestness with which the movement has been taken up is shown by the advertised subscription list, which amounts to £145,000. Two donors have subscribed £25,000 each. There are three donors of £10,000 each, eight of £5000 each, one of £3000, one of £2000, and 12 of £1000 each. The medical profession has shown a great interest in the new movement, £1050 having already been announced as the subscriptions of eight medical men. During the 21 years of its existence University College, Liverpool, has received gifts in land, buildings, equipment, and endowments amounting to £500,000, exclusive of books in the library, of apparatus in the laboratories, and of the annual income of affiliated schools. The present appeal, as stated in a former issue of THE LANCET, is for an additional capital sum of £330,000, so as to provide for studies that should find a place in any complete system of university education. Additional buildings for the faculty of arts, the extension of the college library, and a hall for examinations and public ceremonies are objects which are specially in view. So far the subscriptions are confined to a small proportion of the citizens. As the object of the movement is to bring the advantages of a university education within the reach of all, it is most desirable that the subscription list should be representative of all classes. Artisans, clerks, and others are specially invited to contribute their mites towards founding the new university.

Lunacy in the West Derby Union.

In his report of his visit to the workhouse infirmary of the West Derby Union Dr. Cooke, visiting Commissioner in Lunacy, stated that he found 109 inmates—58 males and 51 females—classed as of unsound mind, or 24 less than at the visit of his colleague a year ago. This diminution in the number was due to the opening of Winwick Asylum, vacancies having been created thereby at the county asylums. There were vacancies in the imbecile block for 17 men and 22 women, but notwithstanding it was anticipated that the number would be still further reduced. The patients were contented and orderly and he was satisfied with their personal condition and clothing. Some of them were under 14 days' detention orders recovering from the effects of excess in drink, but the majority were chronic cases and he saw but few who needed, or were likely to benefit from, asylum treatment. Great care should be exercised in selecting patients to be sent to the asylums, otherwise those institutions would speedily become filled again and great difficulty would be experienced in finding room for curable and other urgent cases. The register contained only two entries of mechanical restraint; in both instances the jacket was employed. He gathered, however, that troublesome patients were sometimes confined to bed by a sheet tied to the bedstead. This method must be regarded as restraint and entered as such in the register. The Commissioner suggested that some cheap coloured prints should be hung on the walls to brighten the day rooms.

The Country Hospital for Chronic Diseases of Children.

The sum of £18,286 has been subscribed for the building fund of this new hospital. The committee has appeale for £30,000, inclusive of the maintenance fund. The wor of the hospital is carried on at present at the convalescen home at West Kirby, the committee of that institutio having kindly placed 20 beds at the disposal of the committee of the Country Hospital. An anonymous donor o £5000 has made it a condition of his gift that buildin operations are not to be begun until the full amoun required has been obtained. The new hospital will contai 200 cots. 19 patients have been discharged during the yea 1901, the greater number having been inmates for upwards o 12 months. In two cases there was no improvement, whils many were discharged as cured. 22 cases remain unde treatment, the majority of whom are doing well. There wer two deaths during the year.

April 1st.

although that of a thin pale woman of a type extremely convenient for abdominal palpation, was so firm that the examining hand gained little information as to what might be beneath the muscle. Gas and ether were well taken but when ether anæsthesia was fully established there was still firm resistance in the upper part of the left rectus muscle. Operation was decided upon and was performed a few days later. On this occasion, after gas and ether, the patient was brought deeply under the influence of chloroform. The contracted state of the left rectus muscle was uninfluenced. The operation exposed a chronic ulcer on the anterior wall of the stomach with dense adhesion to the under surface of the abdominal wall. It is quite possible that a similar condition of the abdominal wall might occur in a case of chronic appendicitis. In muscular subjects much inconvenience would thus probably be caused, although as a general rule operations on the lower parts of the abdomen, particularly towards the side, are much less interfered with by muscular conditions than those above the umbilicus.

In the case just related there was organic alteration of the muscle, or else a permanent institution of that protective contraction which is so obvious over an acute peritoneal lesion, and which is usually so entirely relieved when the patient is anæsthetised. The contraction is, of course, in the acute cases a reflex phenomenon and is therefore generally abolished, like other reflexes, by deep anæsthesia. Similar instances have lately been described by Sir William Bennett[2] under the name "protective phantoms." When the contraction is met, as in the above instance, naturally the anæsthetist, and still more the surgeon, supposes that if not due to cyanosis or air obstruction it is merely due to too light an anæsthesia. I have satisfied myself that this is not so by pushing chloroform in such a case to the very limit of safety—to a point at which the pupil was dilated to more than three-quarter size and the breathing was beginning to fail—and then inquiring again of the surgeon as to the contracted condition of the muscle. It was as unsatisfactory as before. This state is happily not often seen. If it very seriously inconvenienced the surgeon the only remedy I imagine would be for him to divide the muscle across.

A guide as to the causation and to the irremoveability or not of such contraction may come from noticing the condition of both sides of the abdomen. One side may be quite soft and convenient; the other, which shelters the disease, may be inconveniently firm, as in the gastric case I have related. Of course, the better the muscular development of the patient's abdomen the more inconvenience will these firm recti cause. A case in which they afforded the greatest trouble to the surgeon was that of a young soldier who, since an attack of enteric fever three years previously, had suffered from severe pain in the upper part of the abdomen. In him the contraction of the recti, which were very well developed, was not to be overcome by anæsthetics. Some firm adhesions about the transverse colon and stomach were divided and removed at the operation.

Taking, then, a general survey of the conditions of the abdominal wall which interfere with an operator's convenience, it may be seen that there are some unusual cases in which the anæsthetist cannot remove the difficulty, but that in the great majority of instances he can obtain a perfectly satisfactory condition by maintaining unimpeded breathing, complete absence of cyanosis, and sufficiently deep anæsthesia. These desiderata he obtains by properly selecting his anæsthetic, by giving it freely with a liberal air-supply, by keeping the air-passages free, and by holding the lower jaw well forward. When this is not enough the mouth must be slightly opened and the tongue drawn out. One other point may be mentioned—viz., the element of time. It often happens that only towards the close of an operation is the patient's abdomen in a perfectly satisfactory condition from the surgeon's point of view. It is a good plan, therefore, in abdominal cases to let the anæsthetist get to work at the earliest possible moment—as soon, for instance, as the surgeon begins to get his instruments ready. By such a step a comfortable state may be insured throughout instead of at the close of the operation only the surgeon and anæsthetist witnessing the condition which they had all along been desiring.

Sloane-terrace Mansions, S.W.

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[2] THE LANCET, Jan. 4th, 1902, p. 2.

URETHRAL HÆMORRHAGE IN GONORRHŒA.

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THE following cases which have come under my care are of considerable interest and are good illustrations of a rare complication of gonorrhœa.

CASE 1.—A man, aged 26 years, attended at the Leeds General Infirmary on Sept. 2nd, 1899. He gave the following history. A month previously he had contracted gonorrhœa; the attack was of moderate severity and a profuse discharge persisted for a fortnight. It then diminished but never completely disappeared. He used an injection of potassium permanganate and also took capsules of santal oil by the mouth. There were no complications and beyond a little pain on micturition and a slight urethral discharge he was perfectly well on the morning of Sept. 2nd. On the evening of that day, after coitus, he immediately had a profuse hæmorrhage from the urethra. I saw him about half an hour afterwards. He had evidently lost a quantity of blood, his shirt and trousers being soaked; bright blood was issuing rapidly from the urethra. The hæmorrhage was arrested with some difficulty by the external application of ice and by injecting into the urethra a weak solution of tincture of hammamelis. He had a recurrence of the bleeding two days afterwards but it was not so profuse and was easily arrested. An injection of a 2 per cent. solution of protargol was ordered but this failed to cure the discharge, and after trying various remedies unsuccessfully I lost sight of him. The treatment adopted in this case was not such as I should now recommend, but at that time I was ignorant of the use of the urethroscope.

CASE 2.—A miner, aged 17 years, attended at the Leeds General Infirmary on Feb. 26th, 1901. He was bleeding profusely from the urethra, so much so that he was brought in an ambulance. He had contracted gonorrhœa six weeks before and had had a urethral discharge ever since. The attack was of but moderate severity and was unattended by complications. He said that the bleeding had commenced when he was working in the pit. He had lost a quantity of blood and a stream of bright blood was proceeding from the meatus. The urethroscope tube was passed and the urethra was inspected. At first nothing could be seen owing to the bleeding, but after mopping the blood away with pieces of wool in holders and inflating the urethra with air it was seen that the hæmorrhage was proceeding from a congested granular-looking patch in the floor of the bulbous urethra. Bright blood was oozing rapidly from this patch. A small fragment of wool dipped in solution of perchloride of iron was applied to the diseased area under the guidance of the electric light. No other patches were discovered. The bleeding ceased at once on the application of the iron and the patient was sent home. There was no return of the hæmorrhage but there was some increase in the amount of discharge which was treated by the use of a 1½ per cent. protargol injection and at intervals by the application of a 10 per cent. solution of protargol to the diseased portion of the urethra through the urethroscope. The discharge rapidly diminished under this treatment and the patient was discharged cured at the end of three weeks. The result of the treatment adopted in this case was most striking and effective.

The next case is of a somewhat different nature to the preceding cases.

CASE 3.—A man, aged 24 years, seen on May 30th, 1901, had had acute gonorrhœa three months previously. The attack had been of considerable severity but there had been no complications. He had a persistent discharge and on several occasions there had been some bleeding from the urethra. This had never been very profuse but was liable to come on after any particular exertion. He had taken various drugs by the mouth and had used a large variety of injections; a metal sound had been passed on two occasions. I saw him a few days after a smart attack of hæmorrhage. A muco-purulent discharge could be expressed from the urethra and this contained gonococci; there was no pain or difficulty in micturition but the meatus was extremely narrow. The meatus was incised, the urethroscope tube was passed, and the urethra was inflated with air. A congested papillary patch was found in the penile urethra, which bled readily on touching it with the probe. The remainder of the anterior urethra was apparently healthy, and there was no evidence of a posterior urethritis. The diseased patch was swabbed with a 20 per cent. solution of protargol through the urethroscope on three occasions at intervals of four or five days, the patient also using a 1½ per cent. injection of protargol night and morning. At the end of three weeks' treatment the discharge had ceased and there was no further hæmorrhage.

I have seen also two other cases of urethral hæmorrhage following gonorrhœa; in both cases the bleeding was profuse and in one it was complicated by retention of urine. These cases were not under my own immediate treatment.

I can find comparatively few references to this complication in medical literature. Erichsen[1] says: "Hæmorrhage from the urethra may occur as the result of chordee and consequent rupture of some blood-vessels of the corpus spongiosum, as the consequence of attempts at passing the catheter, or as a simple oozing from the inflamed mucous membrane." White and Martin[2] mention the occurrence of hæmorrhage at the end of micturition in acute posterior urethritis. "The hæmorrhage may be very free and will pass back into the bladder and the patient will pass it mixed with the urine at the termination of the act." Again,[3] "'Russian clap' is the name applied to gonorrhœa of a hyper-acute type with lymphangitis, obstinate chordee, and free bloody discharge. Bleeding is due to the rupture of the intensely congested vessels of the urethral mucous membrane and both the pus and the semen are tinged with blood." Güterbock[4] describes the occurrence of this complication under the name of black or Russian gonorrhœa. Taylor[5] recommends the localisation of the source of the hæmorrhage by means of the urethroscope. Lydston[6] mentions the bleeding occurring in association with severe chordee. Grünfeld[7] mentions the case of a patient suffering from gleet and passing blood from the urethra who was examined with the urethroscope and a polypus being discovered it was removed by the snare.

It is evident, therefore, that bleeding may occur either in the acute or in the chronic stage of gonorrhœa; in the acute stage with severe chordee or with a posterior urethritis. This is rarely profuse, generally a mere tinging of the discharge, and probably will not call for any special treatment; it would be most unwise to use the urethroscope. In the chronic stage the bleeding may be profuse or slight. Profuse hæmorrhage, as in the first two of my cases, may occur after any extra exertion or after coitus (as in Case 1) in patients who have passed through the acute stage but who still have a discharge from the urethra. The bleeding in the majority of these cases arises from a granular or papillary patch in the anterior urethra; it may be very profuse and may demand immediate treatment. Slight and repeated hæmorrhages may occur in patients suffering from a chronic gleet and may arise from urethral polypi, papillomata, ulcer, or granular patch. Possibly these cases are more common than is generally supposed; a patient may make the statement that he is passing blood in his urine and may conceal the fact that he has a chronic urethral discharge. When a specimen of the urine is examined it will be found to contain blood and the patient may be subjected to much unnecessary and fruitless examination of the bladder and kidneys. If care be taken it is quite easy to ascertain that the hæmorrhage comes from the urethra.

With regard to the treatment of these cases, in the acute stage the hæmorrhage in itself does not call for any special treatment and the case may be managed on ordinary lines. In the chronic stages, when the hæmorrhage is profuse Erichsen[8] recommends the application of ice or the introduction of a large gum-elastic catheter and pressure by means of a bandage to the penis and perineum, probably an exceedingly uncomfortable method of treatment. Rest in bed with elevation of the penis, ice to the perineum, and the use of a weak astringent injection such as sulpho-carbolate of zinc may be successful. Undoubtedly the best results are obtained by the use of the urethroscope; the source of the hæmorrhage may then be detected and the bleeding may be controlled by direct applications under the guidance of the eye to the diseased area. This was the treatment adopted in two of my cases and it was eminently satisfactory. The tube is introduced into the urethra and the blood is removed with fragments of wool in holders; the urethra is then inflated with air and this in itself tends to check the hæmorrhage, the light is applied, and the urethra is inspected. Blood may then be seen issuing from the diseased area. The tube is passed down to this area, the urethra is deflated, and a fragment of wool dipped in a solution of perchloride of iron is applied to the whole of the bleeding surface. Other solutions may be used in preference to the iron, such as tincture of hammamelis, adrenalin, &c.

The effect of this treatment is to increase the amount and purulency of the discharge. This may be controlled by the use of an injection of protargol and the occasional application of a 10 per cent. or a 20 per cent. solution of protargol to the diseased area through the urethroscope tube. If the gleet is due solely to this patch of disease, and not to a posterior urethritis, chronic vesiculitis, or prostatitis, it will be readily cured by this method. If a polypus is, or if papillomata are, the cause of the discharge and hæmorrhage such conditions can be satisfactorily diagnosed and treated only by means of the urethroscope.

I wish to thank Mr. W. H. Brown and Mr. A. W. Mayo Robson, in whose admission wards these cases were seen, for permission to publish them.

Leeds.

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[1] The Science and Art of Surgery, vol. ii., p. 1167.

[2] Genito-urinary Surgery, p. 101.

[3] Ibid., p. 96.

[4] Die Krankheiten der Harnrohre und der Prostata.

[5] Genito-urinary and Venereal Disease, p. 413.

[6] Ibid, p. 129.

[7] Der Harnrohrenspiegel, Wiener Klinik, 1877, pp. 94 and 95

[8] Ibid.

REMARKS ON CERTAIN METHODS OF PHYSICAL DIAGNOSIS IN DISEASES OF THE CHEST.

WITH ILLUSTRATIVE CASES.

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IN considering the various diseases to which the lungs are subject, a general law as to their distribution is found to operate. It is found that lesions of a tuberculous nature usually attack the apices, whereas most other diseases commonly attack the bases. In reference to the latter it is only necessary to mention such common affections as bronchitis, the various forms of pneumonia, and pleurisy. It is especially necessary to bear this in mind in the case of bronchial affections and the lesions of the pulmonary parenchyma which may complicate them. Just as in tuberculosis the examiner's attention is instinctively, so to speak, directed to the apices, so in non-tuberculous affections it should contrariwise be directed to the bases. No doubt the entire chest ought to be thoroughly examined in every case of suspected disease within the thorax, but it is just in the simpler and commoner conditions—in which the examination is apt to be slipshod—that the bases should be examined with special care. Take, for instance, the case of a troublesome cough remaining after influenza or acute bronchitis. Examination of the anterior part of the chest may be negative and possibly the examiner puts down the cough to some obscure irritation of the bronchi not amenable to auscultation. Now it is very likely that in one or other base, and possibly very low down, an area, which may be quite small, is the seat of numerous bronchitic râles. It is less frequent than is usually supposed that a cough exists the cause of which eludes physical examination.

If, then, the importance of examining the pulmonary bases be so manifest it is necessary that full use be made of all the means which assist in rendering the examination complete. Now, in addition to the usual methods of percussion, auscultation, &c., we have at our disposal others which are both simple and reliable. Two at least of these are applicable in all cases of chest disease, yielding as they always do positive data which materially assist both diagnosis and prognosis. The methods to which I refer are, however, more particularly concerned with the pulmonary bases and so their practical application may shortly be considered in that connexion.

TECHNIQUE OF THE PHYSICAL EXAMINATION.

It is best first of all to determine the condition of the organs immediately underlying the diaphragm, ascertaining the limits of the hepatic dulness and the condition of the stomach and colon as to distension. Any general cause of pressure upwards, as by fluid or tumour, is likewise to be investigated. While this part of the examination is being carried out the patient should be in the recumbent position.

Next as to the examination of the chest itself. It may be said generally that whenever possible the patient should be in the erect position. Lying or sitting up in bed relaxes the abdominal viscera and the muscles of the trunk. This interferes with the free play of the diaphragm and renders the results of percussion less accurate. The percussion note is also impaired in respect of its timbre and mass of tone by the patient's bedding (if confined to bed)

Topography.—It is always well to bear in mind the lines of separation between the lobes of the lungs, and their corresponding position on the surface of the thorax. More particularly it is to be recollected that on the right side the line of division between the upper and middle lobes runs inwards over the fourth rib, or *above* the usual position of the nipple, and that the middle lobe includes all the most anterior portion of lung below this. Also that on the left side the line of demarcation between the lobes runs from some distance outside the nipple sharply inwards and downwards, so as to include in the lower lobe practically all the diaphragmatic surface of that lung.

The bases of the lungs may topographically be divided into three parts or regions. These are the anterior base, the posterior base, and that portion which lies midway between these regions, spoken of as "the lower part of the axilla," the "side," and the "infra-axillary region." As this last-named is a very important area in connexion with physical diagnosis it deserves a shorter and more appropriate designation. It may therefore be termed for present purposes the "axillary base." It may be regarded as bounded in front by a vertical line from the anterior fold of the axilla passing about an inch to one and a half inches outside the nipple line. This may be termed the "anterior axillary line." Its posterior boundary is, perhaps, best ascertained by getting the patient to place his hand on his head. This manœuvre rotates the inferior angle of the scapula into what may be termed the "posterior axillary line." When the patient lies on his back on a hard couch this line, roughly speaking, marks off the visible area of the chest. For practical purposes, therefore, the axillary base may be regarded as the region of the chest below the horizontal nipple line which is bounded by these vertical lines while it is bisected by the mid-axillary line.[1]

Technique.—So much for topography, next as to technique. The inspection of the chest as to formation and the movements of respiration being conducted in the usual way, the patient is placed in position for the observation of Litten's diaphragm phenomenon. He lies on his back on a hard couch, placed exactly opposite a window towards which his feet point. No other light must be allowed to come athwart his body, any other window in the apartment being screened.[2] Standing at the patient's side the examiner will see, when the patient draws a deep breath, a narrow, dark band moving downwards with inspiration and upwards with expiration. This band is caused by a linear depression in the chest wall which corresponds to the line of division between the edge of the lung and the diaphragm. As the diaphragm unrolls off the chest wall, it is closely followed by the thin edge of the lung. *At the moving point of contact* there is a *slight increase* of negative pressure and so the shadow is produced. In the course of many examinations one will seldom fail to observe this phenomenon in a satisfactory manner. Fatness is the *chief obstacle in normal* chests. The *excursion of the* shadow averages from two to four inches according to the respiratory capacity of the individual, and its lower limit is more sharply defined than is its upper. Frequently in thin muscular persons it may be seen over nearly the entire circle of the chest as the patient lies; in other cases it may only be seen at certain points—at the nipple line or the posterior axillary line. Its limits should always be marked off with a pencil. If it be deficient or absent at either base, one suspects a condition which prevents the descent of the lung. Such condition may be pulmonary, pleural, pericardial, or abdominal.

Having noted the range of the shadow the patient is again placed in the erect position and the chest is palpated. The only remark which may be made in this connexion is that it is well to test the vocal fremitus with the *edge* of the hand. The outer edge of the hand is applied transversely and is moved down successively over each rib and intercostal space. The fremitus is thus noted over smaller areas than could be possible by the application of the entire hand. This procedure will sometimes be found to supply information of very great value.

Percussion next claims attention and it is here intended to consider a special application of it. We have seen that the downward expansion of the lungs may usually be determined by the diaphragm shadow. The same information is afforded by percussion. If the inferior border of the pulmonary resonance be found on quiet expiration and marked off with a pencil from the liver dulness, a deep inspiration will cause an extension of resonance downwards to percussion, according to the *extensibility of the lung border. This distance* should correspond pretty accurately with that yielded by the shadow. There is thus a double test available for the pulmonary extension downwards. And it is well that it is so, for in many cases of disease of the base in which the *pulmonary excursion is too small to be perceived* by the shadow it may be ascertained by percussion. I think that this method of determining the limits of the pulmonary expansion, whether at the bases or over the cardiac dulness, may be termed "limitary percussion."

The greatest downward extension of the lung takes place at the axillary base and it is here that limitary percussion should usually be made. On the right side the liver dulness is our guide. The patient, standing upright, should be directed to place his right hand on his head. He should not, however, lean to the opposite side, as this position tends to render the pulmonary resonance at the edge of the lung more diffuse. The line of demarcation between the resonant and dull areas in the resting state of the lung being marked with a pencil, the extension of the resonance downwards with a deep inspiration is determined, and in like manner the recession of resonance upwards above the line is ascertained during a deep expiration. On the left side the conditions are different. Here the stomach tympany takes the place of the liver dulness. But in the *spleen* we have a body which serves as a satisfactory indicator. It is necessary first of all *to percuss out the spleen. If the splenic* dulness is absent it is likely that either the stomach or the colon or both of these viscera are distended. But there is another warning to be given. In one or two cases I have found that whereas in the recumbent position (i.e., the patient lying on his right side) the splenic dulness was replaced by a stomach note, it nevertheless became perfectly apparent on the patient's assuming the upright position. This somewhat rare phenomenon is one which does not appear to be described in any of our text-books. In the resting state, the edge of the lung usually overlaps the upper limits of the spleen. The examination is conducted as on the right side, the patient placing his left hand on his head. During a deep inspiration the lung border descends over the organ and provided this body be of the usual size, the results of limitary percussion are quite satisfactory. It is evident that this method of percussion *is not applicable unless there* is resonant lung over some part of the extreme base.

Before leaving the subject of percussion, reference must be made to the direct or immediate variety—a factor in diagnosis which has undeservedly fallen into disuse. It *may* be practised with the tips of the first three fingers gathered into a point with the thumb in apposition to the first finger or by using the middle finger alone. The latter method is generally preferable. The stroke should be *fairly* sharp and should be made over a rib. I am inclined *to* think that this mode of percussing sometimes gives more accurate information than mediate percussion. It requires some practice to be properly appreciated but it will yield in almost all cases quite as reliable results as the mediate variety, while, as stated, in not a few cases it is the more sensitive test, especially as regards the sense of resistance.

The remaining method of diagnosis which shall here be considered is applicable only to a limited number of cases. It demands, even more than those already described, the intelligent coöperation of the patient and may be defined as *that of "forced* breathing." In this the patient is requested to take a number of deep breaths in succession. Sometimes a dozen may suffice, but in other cases 30 or 40 may be necessary, in the course of which a short interval of rest may be permitted. When a lung, or at least its basal portion, has undergone a certain degree of compression or collapse, forcible breathing will sometimes alter the condition of affairs in a very remarkable manner. The collapse affecting the base which is induced by bronchitis in young persons may temporarily be made to disappear, dulness and feeble breathing being replaced by resonance and free breathing. It is necessary, however, that the acute symptoms shall have passed off, that the bronchial tubes are permeable to air, and that the collapse is not too extensive or deep. The same transformation may be produced to a greater or less extent in a lung which has undergone compression from pleuritic effusion. It is obvious that this test is only applicable to patients of a certain age, while the results obtained are only temporary. Nevertheless, the information yielded is extremely valuable.

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[1] Clinically, the base of the lung refers to all the pulmonary region below the horizontal plane at the apex of the diaphragm.

[2] *A good artificial light will suffice in the absence of daylight*

Such, then, are the particular diagnostic criteria to which I have wished to refer in connexion with the investigation of morbid conditions of the lungs and more particularly of their bases. It now remains to illustrate their application in a few cases of disease affecting these regions. Three cases have been selected in which the morbid signs were almost exclusively confined to one or other base, thus rendering unnecessary any specific allusion to the condition of the organs generally.

ILLUSTRATIVE CASES.

CASE 1.—The patient, a man, aged 47 years, complained of cough lasting for three weeks with considerable expectoration. On the left side the diaphragm excursion was two inches, percussion resonance was good, and limitary percussion gave an extension of the pulmonary border downwards two and a half inches at the axillary base Auscultation revealed a few sonorous and mucous rhonchi accompanying the breath sounds which were otherwise normal. On the right side the diaphragm shadow was absent, the percussion note was impaired from the seventh intercostal space behind to the extreme base, and there was no extension to limitary percussion. Vocal fremitus was more marked over this area and vocal resonance was slightly increased also. The breath sounds were faintly heard and were of bronchial character, the latter part of inspiration being obscured by numerous small mucous râles of a rather crackling quality. A few such râles were also present on expiration. On deep breathing the râles were much increased at the termination of inspiration. They were not affected by cough. After a week there was still no movement of the shadow but at the axillary base percussion gave an extension downwards of a finger-breadth on deep inspiration. Otherwise the signs over the base had undergone but little alteration. There were still some impairment of resonance and numerous mucous râles. After the lapse of another week the shadow was seen to be moving for about an inch on the right side and percussion at the axillary base gave a downward extension of one and a half inches. The dulness had practically disappeared to mediate percussion, but direct percussion yielded a distinct sense of resistance as compared with the left base. The vocal fremitus and resonance were but slightly different from those on the left side; the breathing was broncho-vesicular and the râles had become much softer. Five weeks elapsed ere there was another opportunity of seeing this patient. On listening over the right base a number of subcrepitant râles were heard at the end of deep inspiration. After eight or nine deep breaths these all disappeared with the exception of a few in a narrow zone at the extreme base. The shadow excursion was over two inches (the same as on the left side) and the limitary percussion coincided. Vesicular breathing was restored and the lung was practically normal.

It is sometimes well to listen over the bases before carrying out inspection and percussion, because in the course of the latter the deep breathing which is necessitated may dispel any atelectatic crepitation. If we wish to know whether atelectatic crepitation exists this precaution is necessary.

There can be little doubt that in this case there was some broncho-pneumonia of the right base—a condition not so rare in adults as some imagine. Yet many authors have noted that in adults bronchitis of the base is occasionally characterised by an impaired percussion note and more or less bronchial breathing. In these there is generally some collapse as well. When the disease is at its height this collapse cannot be overcome by forced breathing. It is only when the lung is on the road to recovery and when the obstructed bronchi are more or less relieved that the air can be forced through so as temporarily to inflate the lung. As regards the physical examination it is interesting to note that the earliest reliable sign of improvement consisted in the slight extension downwards revealed by percussion. This occurrence warranted a favourable prognosis. It indicated that the lung had begun to recover; it also indicated that there were no pleuritic adhesions of much extent at the base.

It may be pointed out here that a small circumscribed consolidation at the base does not abolish the shadow. The non-appearance of the shadow (provided it be present on the opposite side) points to an extensive distribution of the morbid process.

CASE 2.—The patient, a female, aged 20 years, had suffered from cough for two months which had become worse latterly. There was much mucous expectoration. On the right side the diaphragm shadow was well seen for about one and a half inches. Vocal fremitus was unsatisfactory (the patient had a very weak voice). Percussion was normal. Limitary percussion gave a pulmonary expansion of two inches at the axillary base. Auscultation revealed some piping and sonorous rhonchi. On the left side the diaphragm shadow was absent and vocal fremitus was doubtfully felt. The percussion note was dull from near the angle of the scapula downwards over the lower lobe and extending forwards as far as the mid-axillary line. Limitary percussion impracticable. On auscultating in the upper part of the lower lobe the breathing was harsh but vesicular and there were a few mucous râles present. In the lower part of this lobe the breath sounds were very feeble and were nearly obscured by mucous râles. The râles accurately followed the line of division between the upper and lower lobes round to the nipple line and then to the bottom of the lung. In the lower part of the posterior base the râles were distinctly ringing in character. These signs remained practically unaltered for three weeks and naturally they gave rise to a suspicion of tuberculosis. There was very abundant expectoration but it was purely mucous. Examination during the fourth week revealed, however, some indications of improvement. There were a slight extension to percussion and a suspicion of a shadow movement. The dulness was also considerably diminished but the râles were practically unaltered nor were they much influenced by cough. The patient continued under treatment but it was six weeks before I saw her again. She was then greatly better. After a few deep breaths the shadow moved quite two inches on the left side, equal, indeed, to that on the right, and the dulness had disappeared. There was still a mucous râle audible at the end of a deep inspiration and a few sonorous rhonchi were scattered over the chest.

The next, and the last, case illustrates more particularly the effects of forced breathing on a lung which had undergone partial collapse due to a long-standing lesion of the base. The organ had been gradually recovering but the elasticity of the tissues had evidently been much impaired both by the disease and by prolonged disuse.

CASE 3.—The patient was a girl, aged 12 years. According to the mother's statement she had been suffering from the effects of "inflammation of the lungs" since she was eight years of age. She was very well nourished and well grown, had no appearance of tuberculosis, and the sputum, which was expectorated in fair quantity, was free from the tubercle bacillus. The entire right lung and the anterior part of the left lung were perfectly sound. Inspection showed the left base to be somewhat retracted and to expand but little on deep inspiration. The shadow was also absent over this side, but neither could it be seen on the right side. No vocal fremitus could be obtained over the left base but it was very faint in every region. The percussion note was quite dull below the eighth rib behind, the dulness shading off somewhat towards the mid-axillary line, but nevertheless it was apparent to a certain degree also over the axillary base. Auscultation revealed numerous râles of a crackling character over the dull area which were especially marked on deep breathing. Towards the extreme base the auscultatory signs were almost negative. The vocal resonance, so far as one could judge, was diminished This girl continued for months without any alteration in the physical signs and enjoyed good health. Her only symptoms were cough with considerable expectoration. One day last summer she presented herself, much changed for the better. The retraction of the left base was barely visible and there was some expansion outwards on deep breathing. No shadow movement was visible. The dulness had distinctly diminished except at the very bottom of the lung; the breathing, though feeble, was evidently becoming re-established and the râles were chiefly confined to the end of inspiration. The patient was now got to practise forced breathing. She continued to excite as deep respirations as she could, and on listening over the affected base during this process one heard the air during the first part of inspiration as if struggling with some obstacle, passing slowly and accompanied by a few râles. It then broke into a "puff," terminating with a number of crepitations. The latter part of expiration was also performed in a halting manner but without the râles. It was bronchial in character. After the patient had continued the deep breathing for several minutes it was found that the râles had disappeared, the breath sounds had become sufficiently loud and free, and the percussion tone was perfectly resonant. Moreover, the edge of the lung descended two inches to percussion—a distance equal to that obtained on the right side. Owing to the stoutness of the patient no shadow was visible on either side.

I have seen other cases in young persons wherein collapse, if not too extensive or deep-seated, could be overcome by this method. Forced breathing will also inflate the compressed lung to a certain extent during the existence of a pleuritic effusion or after its absorption. In the case of tardy recovery of the pulmonary elasticity after broncho-pneumonia or pleurisy it is probable that forced breathing should form part of the treatment and be performed as a daily exercise.

Not having seen the last patient from the beginning of her illness, I am unable to say what lesions she may not have had. But when she first presented herself the condition of the extreme posterior base of the left lung was somewhat difficult to diagnose—as the signs of collapse when uniformly affecting this zone are very similar to those of a small effusion or of thickened pleural membranes. As it turned out she was suffering from chronic or rather subacute broncho-pneumonia with pretty extensive collapse. If pleurisy had existed for so long a time it is very unlikely that it would have left no adhesions or thickening at the extreme base. The absence of such is proved by the extension downwards which was demonstrated by limitary percussion.

Perhaps the notes of these cases, out of a considerable number which I have collected, may suffice to indicate the importance of utilising the various procedures to which reference has been made.

Henrietta street, W.

NOTE ON A

CASE OF ARTHRITIS ACCOMPANYING OPHTHALMIA NEONATORUM.[1]

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FOR a recognition of the fact that the purulent ophthalmia of newly-born infants may be associated with joint complications analogous to those which not infrequently attend urethritis we are indebted to Mr. R. Clement Lucas.[2] His first observation, made so far back as 1885, was perhaps not unnaturally subjected to the ordeal of a somewhat incredulous criticism. From this, however, it emerged successfully and the suggestions that his case might have been one of epiphysitis or of syphilitic synovitis were successfully met by clinical arguments that can hardly be gainsaid. The lapse of time has provided further evidence. This is by no means abundant so far as volume is concerned, but it is supplied by a number of independent observers and contains elements which raise it to the level of established proof. To judge from systematic works dealing with the subject of ophthalmia neonatorum it would appear that Mr. Lucas's original observation hardly attracted the attention which it deserved, though for this some excuse may perhaps be found in the fact that, with one exception, recorded by Mr. R. G. Fendick,[3] also in 1885, no parallel case was recorded in Great Britain during a period of 13 years. And when Mr Lucas in 1899 introduced the subject to the Royal Medical and Chirurgical Society a search through European medical literature had resulted in the discovery of only 23 cases. Writers on gonorrhoeal rheumatism subsequently to Mr. Lucas's case, however, began to recognise the occasional occurrence of joint complications in ophthalmia neonatorum and the association was mentioned by Dr. Archibald E. Garrod[4] in 1890 and by Dr. J. Mitchell Bruce[5] in 1894. More recently Mr. Sydney Stephenson[6] has given some interesting particulars of the character of the joint affections, and Dr. L. Vernon-Jones[7] has also drawn attention to them. Yet, from what has been stated above the cases are anything but numerous, and so it seems desirable that examples of the condition should be put upon record, more particularly as in some instances the subacute character of the inflammation and its temporary duration may cause it to be overlooked.

The example now to be reported can only claim the interest that it confirms the results of the earlier observations, more especially as regards the possibly quiet nature of the arthritis and the prompt and thorough restoration of the efficiency of the affected joints. The diagnosis in this individual case was not confirmed by bacteriological examination, though this has been accomplished in other instances in reference both to the conjunctival discharge and the synovial effusion. But as we have medical warrant that the father of the patient had gonorrhoea two months before the child was born, that the mother was subsequently affected, and that the child began to suffer from purulent ophthalmia when two days old the diagnosis is not open to doubt.

The earlier particulars of the case, for which I am indebted to Dr. John Clarke, are as follows. The affection of the eyes commenced two days after birth and an abundant purulent discharge continued for fully three weeks. When the child was a fortnight old the right shoulder-joint became considerably, and the right wrist slightly, swollen without apparently causing the child much discomfort and the swelling subsided in the course of a fortnight without any very active treatment. When the child came under my observation he was six weeks old. There was still a slight amount of muco-purulent discharge from the conjunctivæ and the right cornea presented a small abrasion from which a diffuse haze spread through the corneal substance. It may perhaps be conjectured that here is to be found the explanation of a further outbreak of joint inflammation. For while the joints which were first attacked—that is, the right shoulder and wrist—had completely regained their normal characters the left elbow-joint was much enlarged and the swelling extended down the radial side of the forearm for a considerable distance, giving here a sensation of deep fluctuation, as though the sheaths of the muscles were involved. The skin was not reddened and though the child objected to manipulation of the joint he appeared otherwise to be free from pain and his general nutrition was entirely satisfactory. It was decided to fix the limb and to continue the local treatment of the ophthalmia and under these measures the patient made a rapid recovery, so that in from two to three weeks the elbow-joint and forearm had regained in every respect their normal characters.

Attention may first be drawn to the subacute character of the successive attacks of arthritis. Almost from the outset of his observations Mr. Clement Lucas recognised that two varieties of arthritis associated with ophthalmia neonatorum occurred—viz., (1) a very acute form with features suggesting a tendency to suppuration and (2) a milder form accompanied by a great deal of effusion and pain on movement but with little or no surface redness. The present case adapts itself exactly to this latter form. A second feature worthy of note is the extension of the swelling beyond the limits of the joint cavity. This is, of course, a well-recognised event in many cases of arthritis of urethral origin and Mr. Sydney Stephenson has drawn attention to "effusion into the sheaths of the tendons" in the neighbourhood of the affected joints in cases where the primary gonococcal inflammation involves the conjunctiva. The joints most commonly affected would appear to be the knees and the wrists, but in the present case the knees escaped altogether and the stress of the disease fell on the right shoulder and left elbow. It may be added that no history of injury could be obtained and there was no evidence of syphilis in either the child or the parents. Lastly, the promptness and completeness of the restoration of the joints to normal may be noted. This is in harmony with other records and supports and justifies the presentation of a favourable prognosis in these cases. It is a feature of the condition in pleasing contrast to the obstinate and often prolonged evil effects which so frequently attend the usual form of gonorrhœal arthritis. The explanation is doubtless to be found in the ease and readiness with which a purulent ophthalmia can be successfully treated as compared with the difficulty of bringing to a close the opportunities for absorption of a purulent discharge offered by the urethra and its related glandular recesses. The difference between the course of the arthritis in a case of gonorrhœa on the one hand and in ophthalmia neonatorum on the other lends emphasis to the statement that the checking of the urethral discharge is the first claim in a case of gonorrhœal arthritis. It can hardly be supposed that the delicate tissues of the child's joints are more resistant to the gonococcal poison than are those of the adolescent or adult, and the explanation of the contrasted joint complications must therefore be found in the readiness with which the supply of poison is removed in the one case and the difficulty with which it is checked in the other.

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[1] A paper read before the Society for the Study of Disease in Children on May 16th, 1902.

[2] Brit. Med. Jour., 1835, vol. i., p. 429; vol. ii., pp. 57, 699, 773; Transactions of the Royal Medical and Chirurgical Society, vol. lxxxii., p. 137.

[3] Brit. Med. Jour., 1885, vol. ii., p. 830.

[4] Treatise on Rheumatism, p. 185 (Charles Griffin and Co.).

Quain's Dictionary of Medicine, second edition, vol. ii., p. 631.

[6] Contagious Ophthalmia, 1900 (Baillière, Tindall, and Cox).

[7] Gonorrhoeal Arthritis, 1901 (H. K. Lewis).

Weymouth street, W.

THE ADVISABILITY OF PRELIMINARY TRACHEOTOMY AND LIGATURE OF THE EXTERNAL CAROTID IN SEVERE OPERATIONS ABOUT THE FACE.

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PRELIMINARY tracheotomy and ligature of the external carotid artery are indicated in excision of the upper jaw, excision of the lower jaw, and removal of the tongue in some cases. In the latter, where a small portion only has to be removed and that portion is at or about the tip of the organ, this method is unnecessary.

In advocating what at first appears to be a somewhat severe measure I am aware that there are many who can point to a large number of cases in which the operation has been most successfully accomplished without the preliminary tracheotomy and ligature of the external carotid artery and in which the patient recovered without any untoward symptoms. But I maintain that in the majority of instances in which the operation, especially of removal of the upper or lower jaw, is required it is practically impossible to tell beforehand what the difficulties will be. To some extent, no doubt, it may be surmised that in one direction—viz., hæmorrhage—there will or will not be much danger; for example, in dealing with a rapidly growing exceedingly vascular sarcoma, hæmorrhage is expected and arrangements are made accordingly, but it is impossible to foretell in any given case whether the jaw can be removed with ease and comfort to those chiefly concerned, these being the patient, the operator, and the anæsthetist.

The main reasons for advocating the triple operation are as follows. The almost complete absence of bleeding after the external carotid has been ligatured. Besides the danger to the patient from loss of blood, which in many cases can be efficiently controlled without tying the main vessel, hæmorrhage obscures the view of the affected parts and renders it more likely that some portion of the growth or diseased tissue may be left behind. The operator is much more at his ease and need not be in a hurry. This is especially an advantage in removal of the superior maxilla for malignant disease. All surgeons must have seen cases where in this operation everything goes quite satisfactorily up to the point of twisting out the bone with lion forceps and giving the last few cuts with the knife which sever the remaining tissues which still hold the bone in place. What so often happens at this point? In the large majority of instances the bone and growth crumple up under the pressure of the forceps and are torn out in pieces, soft masses of growth and hard spicules of bone being forced in all directions, often into the patient's pharynx or even into the larynx, and all is for the moment flurry and excitement, the surgeon endeavouring to get away the bone and growth and the anæsthetist sponging out the pharynx to enable respiration to be carried on. Even if these conditions are absent the last few strokes of the scalpel often divide some large vessel, such as the internal maxillary artery, and the field of operation is flooded with blood. With the external carotid ligatured and a tracheotomy tube in place, the pharynx being plugged with a sponge, none of these difficulties occur and the operator and the anæsthetist can proceed with deliberation and ease. Apart from a perhaps slight immediate danger of hæmorrhage there is another point: no blood enters the larynx and air-passages.

In a certain number of cases, no doubt much smaller now than formerly, broncho-pneumonia supervenes in a few days after operations such as excision of the tongue or jaw. This is nearly always septic in character and many patients have lost their lives from this cause when the operation has been quite successful in all other respects. I believe that the cause of this lung-trouble is almost invariably the result of putrefaction taking place in blood or blood-clot which has entered the air-passages at the time of operation. It is often stated that this complication is caused by the air which is inhaled passing over the wound and so carrying some virus to the lungs but the treatment of the cut surface nowadays is such that this cannot be reckoned as having much influence in the production of broncho-pneumonia. On this point I have quite recently seen two cases of partial excision of the tongue which bear on the question. Both were cases of epithelioma of the tongue; in one the patient was comparatively young and strong, the growth was of short duration, the tongue was not adherent, and there were no enlarged glands in the neck. In the other case a man was older and more feeble, the tongue was slightly adherent, and there were epitheliomatous glands in the neck. Both were operated upon on the same day by a well-known surgeon whose skill is beyond question. In the first case the growth was excised in the ordinary way by Whitehead's method. In the second case the glands in the neck were first removed and the external carotid was ligatured before removing the tongue. In this case the patient soon recovered and is now quite convalescent. The other, in whom the carotid was not tied, developed an irregular temperature, cough, and shortness of breath, and is still exceedingly ill. Signs of fluid in the chest appeared and a large horribly foul empyema was opened and drained. It had apparently been caused by an abscess in the lung and surgical emphysema developed all over the affected side of the chest. Although in the case given tracheotomy was not performed, the absence of all hæmorrhage and, in consequence, of all septic changes occurring in the air-passages, prevented any complication of the lung. I may also mention that the two patients are not only in the same ward and looked after by the same nurses, &c., but are in adjoining beds, so that the possibility of any external cause for the complication of the lung is extremely improbable.

It is of great importance to ligature the external and not the common carotid artery, as if the latter proceeding is done the hæmorrhage is very inefficiently controlled owing to the exceedingly free anastomosis through the circle of Willis and there is some danger of cerebral symptoms appearing subsequently. The most convenient position for the ligature is between the superior thyroid and lingual branches and in this situation the operation is not of great difficulty. Although, as mentioned above, there is not, as a rule, much danger to life from hæmorrhage if the carotid is not ligatured, yet within the last two years I have seen two fatal cases, one in which half of the tongue was removed for a papilloma and another in which excision of the upper jaw for sarcoma was performed.

There is no necessity to use a special tube or tampon for the trachea as an ordinary tube answers every purpose if at the same time the pharynx is plugged with a good-sized sponge. The following cases, which Mr. Herbert W. Allingham has kindly allowed me to publish, illustrate the kind of disease in which this method of operating is of use. The first four have already been published[1] but the remainder have not yet been recorded.

CASE 1.—The patient, aged 48 years, was suffering from epithelioma of the posterior part of the tongue, involving the anterior pillar of the fauces and the floor of the mouth. The submaxillary and the vertical chain of cervical glands were also infected. The left half of the tongue and all the glands were removed.

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[1] Practitioner, May, 1899, p. 572.

CASE 2.—The patient, aged 41 years, was suffering from a malignant ulcer of the right side of the tongue, involving the floor of the mouth, the submaxillary and the cervical glands. The right half of the tongue and all the glands were removed.

CASE 3.—The patient, aged 67 years, was suffering from a sloughing epitheliomatous growth involving the left side of the lower jaw. The latter was excised.

CASE 4.—The patient, aged 33 years, presented an enlargement of the superior maxilla with bulging of the palate downwards, and extension upwards on the face involving the skin and causing closure of the eyelids. The upper jaw was excised.

CASE 5.—The patient, aged 60 years, had extensive epithelioma of the anterior half of the tongue. This was removed.

CASE 6.—The patient, aged 48 years, was suffering from very extensive sarcomatous growth arising from the antrum and extending through the floor of the orbit and also into the ethmoid. The tumour was very soft and friable. The upper jaw was removed.

CASE 7.—The patient, aged 44 years, had very extensive carcinoma of the antrum which involved the nose, the pharynx, the lower jaw, and the tissues behind the internal pterygoid muscle. The upper jaw and all the growth were removed.

CASE 8.—This case was one of malignant disease of the lower jaw; this was excised.

In all these cases the triple operation was performed; there was practically no hæmorrhage or any cause for anxiety and all the patients made an excellent and rapid recovery. The tracheotomy tube may be removed on the day following the operation and there is never any trouble arising from the wound in the trachea. I feel sure that if these preliminary steps are taken in all such cases where extensive surgical proceedings are necessary, the operation of either excision of the upper or lower jaw will cease to be regarded as one of great difficulty or danger.

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NOTE ON TWO CASES OF "ULCERATED SORE-THROAT."

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IT will be thought incredible in 20 years' time that with means of rapid and accurate diagnosis at hand and with a remedy of proved efficacy available patients should have been allowed to incur serious and often fatal risks for want of the application of the one and the employment of the other. At the present moment, unfortunately, daily experience shows that a large number of medical men allow themselves to be bound by the old traditions, handed down from days when bacteriology was unknown, as regards both the diagnosis and treatment of throat affections of a more or less doubtful character.

The two cases with which I propose to deal have both occurred within my own immediate family circle and the results have been such as I have described. In the first, a slight attack, my request to be allowed to have a swab sent to me for examination was refused, and even when fluid began to return through the nostrils and speech was affected the practitioner in attendance strenuously denied that the attack had been one of diphtheria and said that he had seen paralysis follow tonsillitis. The patient has since suffered from paralysis of nearly all the chief motor centres, one after another, and is now only slowly and partially recovering. In the other case, unfortunately, the results have been far more serious. The patient, taken ill with an attack in which there was on the second day a "slough" upon one tonsil, which repeated itself upon the other and was followed by a similar patch on the uvula, succumbed on the fifth day to suffocation caused by extension of the disease to the larynx and trachea. In this case, but for the positive assurance up to the end of the fourth day of the practitioner in attendance that the case was not one of diphtheria, the parents would not only have permitted but insisted upon the employment of antitoxin and bacteriological examination.

It will be seen that the net result of the "ulcerated throat" heresy in these two cases has been disastrous and the practitioners in attendance have lost the confidence of the parents in each case because they relied absolutely upon their own unaided, and therefore necessarily uncertain, diagnosis, when the latter might have been made certain, or rather corrected, within a few hours.

My main object in drawing attention to these two cases is to repudiate in the strongest possible terms the idea that "ulceration of the throat"—i.e., the presence of a "slough" upon the tonsils or pharynx—can be due to other than one of two causes—namely, syphilis and diphtheria. Follicular tonsillitis, in which the follicles become blocked with a white secretion as hard as cartilage in many cases and containing usually only diplococci, has nothing in common with either of the two just mentioned. In this case the secretion can be removed and the surface of the tonsil is unaffected by the act. In quinsy I have never seen a membrane of any kind upon the surface of the tonsil, and scarlet fever does not enter into the question

I am well aware that in some cases which are genuinely diphtheritic the specific bacilli are not found. The explanation of this fact is twofold. First, in slight cases their number may be but small and it is necessary after about nine hours' growth to distribute the small number of minute colonies present over the surface of the medium—that is, to re-sow or to plant out the organisms in order to demonstrate their presence. The second point is that the material from which the culture is made may not have been properly taken. I attach the greatest possible importance to thorough wetting of the swab. The diphtheria bacillus does not possess a very high degree of resisting power, and when absorbed in addition into the interstices of a dry swab, possibly in very small numbers, the transference to the culture medium may be fruitless. I contend, however, that with a swab properly taken and sufficient care in the examination the cases of "ulcerated throat" in which the bacillus of diphtheria will not be found are infinitesimal in number. It may be worth while to add that since the culture medium is highly selective the use of ordinary water for wetting the swab is quite unobjectionable.

It may also be added with reference to treatment that there is no justification in a doubtful case for postponing the use of antitoxin. In a previous communication I stated that the use of antitoxin was as harmless as the injection of water. To this statement the Editors of THE LANCET rightly took exception. I admit, and apologise for, the error, as I should have stated that whilst water may conceivably contain germs of disease antitoxin properly prepared is a sterile fluid of unirritating qualities and therefore less likely to be injurious than water. Personally, I have never heard an objection raised by a patient or by the friends of a patient to the use of the remedy. Of course, if the medical attendant speaks doubtfully of the remedy and refers to the pain of the injection he has no one to thank but himself if the lead so given is followed. My experience is that the dread of diphtheria in the popular mind is rightly so great that the assurance of cure, or of a fair prospect of it, is eagerly welcomed, and that there is not the least difficulty in inducing persons exposed to infection to submit to prophylactic injections. At the moment of writing, having yesterday received a full prophylactic dose, I am absolutely unable by my sensations to locate the seat of injection, and the operation itself is one which I have frequently performed even upon young children with scarcely a whimper on the part of the subject.

The importance of the matter must be my apology for the length of this communication. Five years' work as a municipal bacteriologist has made me fairly well acquainted with the position of my brethren on this subject, and it is in the hope that a few more converts may be secured that I have been tempted to publish my own most regrettable experiences.

Old Kent-road, S.E.

PLYMOUTH BOROUGH LUNATIC ASYLUM, BLACKADON.—The report of the Plymouth Borough Lunatic Asylum for 1901, which has just been issued, states that there were 275 patients in the institution at the beginning of 1901 and 54 cases were admitted during the year. 19 deaths occurred and 28 cases were discharged recovered, four were relieved, and 10 were not improved. The cost of maintaining patients was 10s. 6d. per week per head. The committee reported that the sanction of the Local Government Board has been given to a loan of £40,000 for the extension of the asylum buildings and the work is to be shortly commenced.

RADICAL CURE OF INGUINAL HERNIA.

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So much has already been written on the subject of the radical cure of inguinal hernia that I feel a little diffidence in publishing some conclusions derived from 350 operations, 140 of which were performed by Halsted's, 120 by Kocher's, and 90 by Bassini's and other methods. As elsewhere stated[1] I had to abandon Halsted's operation owing to the too frequent supervention of orchitis, with consequent atrophy of the testis, which I attributed in part to removal of veins irrespective of varicocele—vessels which presumably have some functional reason for existence. I considered, also, transplantation of the cord from its normal conduit to be very questionable surgery, in that no one can determine the amount of pressure which may arise from subsequent cicatricial contraction, not to mention the immediate possibility of backflow from injudicious suturing. The cord naturally passes out of the abdomen through the internal ring, which is anatomically so constructed that no undue pressure can be exercised on its contents, yet we find ourselves performing operations by the hundred in which the capacity of outlet is left to speculation, for contractile living tissue is beyond the pale of mathematical calculation. Recently it has been reported that Professor Halsted has abandoned transplantation of the cord. If this should be so I think that he has made a move in the right direction, and he might further improve his operation by omitting the removal of veins which in many instances leads to fatty degeneration and ultimately to disappearance of the testicle.

These remarks as to tampering with the position of the cord apply equally to Bassini's method, in which it is placed between the oblique. This operation has a further important disadvantage in that an intermuscular space is created in which the cord rests, which obviously renders the procedure inferior to that of Halsted, who brings all the muscles into close juxtaposition and also affords a convenient site for the collection of serum which, taken in conjunction with buried sutures, only requires the ubiquitous coccus to create a sore which may weep for months or years. We are informed by some that buried sutures never cause any trouble, and by others, equally dexterous and aseptic, that they never use them if it can possibly be avoided as their experience is just the reverse. After a personal experience of over 1000 abdominal operations I confess that I am most sceptical as to the tranquillity of buried unabsorbable sutures, particularly silk, in the abdominal wall, and I think that the indiscriminate manner in which the latter is used in many hospitals is extremely reprehensible. Still, every surgeon must of necessity occasionally employ them, and a rule might with advantage be instituted never to bury an unabsorbable stitch in a submuscular cavity where serum and blood are prone to collect and to corrupt.

Bassini, Halsted, and Macewen have the same object in view—the approximation of the deeper muscles—and all credit must be given to their originality in establishing a practical and logical basis for any reasonable method of radical cure. Notwithstanding this Kocher's operation has many partisans, which I think must be attributed to its simplicity, yet I cannot admit that his method of fixing the stump of the sac to the abdominal wall, with or without inversion, can materially influence the cure or the probability of recurrence. As one's experience grows one is forced to place little reliance on peritoneal adhesions. At best their function is very temporary in plastic surgery; reference to the illustrations in the chapter on Hysteropexy in Howard Kelly's "Gynecology" will confirm fully this statement. Again, I have often puzzled over the *rationale* of his method of reefing the aponeurosis over the inguinal canal which is done by infolding. It stands to reason that the infolded external oblique must act as a buffer by which the deeper structures are prevented from approximating when the sutures are drawn taut. Notwithstanding these objections Kocher's operation has yielded me as good results as the others, with about 6 per cent. (reported) of recurrences, with decidedly less orchitis, and with a further advantage—no splitting up of structures which surgery cannot replace. No amount of cicatricial plastering can ever imitate the normal formation of the part, and as Professor Kocher truly remarks about his operation, if recurrence does take place the patient is no worse off than before. The same cannot be said of a Bassini, a Halsted, or a Macewen method, for it has fallen to my lot to undertake secondary operations in cases which had been treated by the latter methods, and in each instance I encountered an attenuated cicatricial jumble which not only rendered the execution of any operation difficult but taxed one's resources to the utmost to find material with which to build up even a pretence of a fortification. In other words, if recurrence follows division of the internal or external oblique the last state is emphatically worse than the first.

Having had ample opportunity of studying the merits of the various structures concerned with inguinal hernia (I wish here to express my gratitude to Professor D. J. Cunningham and Professor Moorhead of Dublin University for recently furthering my knowledge by demonstration on the dead subject), I have come to the conclusion that the keystone to any radical cure is the approximation of the conjoined tendon to the lower shelf of Poupart's ligament. The latter, by the way, is well known to students of anatomy but inferiorly comprehended by many surgeons who imagine themselves capable of performing an orthodox Bassini operation. Probably it would be expedient to dispense with the term "lower shelf" altogether and to stick to the anatomical one, "Gimbernat's ligament," which it may be well to remember *is continuous along its inferior margin* with some fibres of Cooper's ligament.

I have practised the following operation in 20 cases and so far with satisfactory results. A four-inch incision is made over the line of the inguinal canal, the sac is isolated from the cord, it is opened and its interior is carefully inspected, and it is palpated well into the abdominal cavity. (Some years ago, by the way, I had the misfortune to ligate and to excise an inch of cæcum which the above precaution would have obviated.) Next, my assistant draws the sac forcibly downwards, and while retaining my left index finger within the sac near to the internal ring in order to prevent intestine or omentum getting caught, I transfix and ligate with catgut and cut away the distal portion. Before complete separation takes place a pressure forceps is applied to its proximal end, in order that a final inspection may be made before it is allowed to fly back into the abdomen, for a chase after a bleeding point in a retreating stump is not pleasant. The conjoined tendon and Gimbernat's ligament are next thoroughly differentiated from the surrounding parts and with the left index finger introduced into the canal to act as a guide and protector of important relations four strong fishing-gut sutures are inserted by a curved hernia needle about half an inch apart, from within outwards through Gimbernat's ligament and the external oblique, the ends being retained outside the aponeurosis. The free ends are threaded in rotation on a hernia needle with an opposite curve and are carried from within outwards well into and through the substance of the conjoined tendon, these ends being similarly retained outside the sheath of the tendon. A straight aneurysm needle is next made to enter the suture hole in the tendon, passed across, and made to emerge through the corresponding suture hole in the external oblique. The end of this portion of suture is attached and drawn across and out through the aperture of entry of the needle; thus, the two ends emerge from the same hole in the sheath of the tendon and form a circular submuscular suture. When the four are thus applied—and this does not take a quarter of the time to insert that it does to describe—the assistant draws the cord downwards and the sutures are tied with sufficient force to draw the tendon backwards in front of the vas to Gimbernat's ligament, care being taken in the adjustment of the lower sutures not unduly to compress the vessels of the cord. The ends of the stitches are then snipped off, when the knots retreat into the substance of the conjoined tendon and are sealed over by a catgut suture through each aperture. The operation, which occupies usually from 10 to 15 minutes, is concluded by uniting the skin wound with a continuous blanket suture.

It may be germane to the subject of this paper to mention the treatment of adhesions in hernial sacs. In recent hernias adhesions may be brushed off with a piece of sponge or gauze or coaxed away with the pulp of the finger; in old cases it is quite another matter, for generally one finds the omentum so incorporated in the sac wall that a portion of the former must be excised and in performing this little operation it is most desirable to avoid the practice of surgeons who insert interrupted ligatures with sharp instruments, leaving a clear space between each; it is needless to state that this kind of procedure necessitates a fumbling procedure of ligaturing in the mass when the unoccluded vessels begin to spirt. Instead the omentum should be held up and kept well spread out by an assistant while the surgeon introduces a medium silk interlocking ligature, care being taken not to puncture a vessel with the point of the blunt introducer. The loss of one patient from post-operative omental bleeding is my reason for inviting serious attention to the matter.

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[1] THE LANCET, August 26th, 1899, p. 554.

In conclusion, the advantages which I claim for my hernial operation are that the two most suitable structures for effective barrier formation in the inguinal region are utilised without any anatomical sacrilege and without the formation of potential spaces which so often prove a bugbear to aseptic surgery.

Buenos Ayres.

A CASE OF APPENDICITIS WITH GENERAL PERITONITIS;

RECOVERY AFTER REMOVAL OF APPENDIX, FOLLOWED BY SECONDARY INCISION INTO THE CÆCUM FOR EXTREME PARALYTIC DISTENSION.

By FRANK COLE MADDEN, M.B., B.S. Melb., F.R.C.S. Eng.,

PROFESSOR OF SURGERY, EGYPTIAN GOVERNMENT MEDICAL SCHOOL SENIOR SURGEON, KASR-EL-AINI HOSPITAL, CAIRO.

The following case presents many interesting features and illustrates the grave complications that may result from appendicitis and the possibilities of recovery.

A man, aged 35 years, an American travelling in Egypt, was suddenly seized with pain in the abdomen and rapidly developed all the classical symptoms of appendicitis. I first saw him in consultation with Dr. F. M. Sandwith at the request of Dr. May, with whom he was travelling, on Feb. 19th, at 9 A.M. He was then in great pain and had a general distension of the abdomen, but no definite tumour could be made out. We at once decided upon operation. This was performed in a nursing home a few hours later, within 36 hours of the onset of symptoms. Although it was a first attack, on opening the abdomen by a curved incision in the usual situation thin lymphy pus at once escaped as soon as the peritoneal cavity was reached. There were considerable distension of the whole of the intestines and intense general peritonitis. The appendix was found very deeply placed in a pouch to the outer side and behind the cæcum and was with difficulty removed. There were patches of almost gangrenous inflammation on the cæcum and the adjacent coils of small intestine. The appendix itself was soft and gangrenous and contained two large concretions, just above the lower of which was a ragged perforation. There had been no attempt to shut off the appendix area from the general peritoneal cavity either by lymph or by adhesion of coils of intestine. The appendix was ligatured close down to the cæcum and removed, but all attempts to cover the stump with peritoneum were unsuccessful as the sutures cut through the soft inflamed tissues at once. Pus welled up everywhere between the coils but tended to collect towards the pelvis and in the pouch which contained the appendix. The peritoneal cavity was not washed out but the pelvis and the pouches round the cæcum were gently swabbed out with sterilised gauze and a gauze drain, running down to the stump of the appendix, was brought out through the middle of the wound in the abdomen, which was sutured in layers.

The day after operation there was a great improvement in all the symptoms. The pulse was good (82) and the temperature was 98·8° F. (103° before operation), but there were still a good deal of abdominal distension and rather troublesome hiccough. After an enema of soap-and-water and turpentine much flatus and some fæces were passed with considerable relief. One fluid ounce of peptonised milk was given every hour by the mouth, the quantity being gradually increased as there was no vomiting. One-fiftieth of a grain of strychnine was given hypodermically every four hours, the evening dose combined with one-quarter of a grain of morphia.

The wound was dressed after 48 hours and the drain renewed, though there was very little discharge. Small doses of calomel (one-tenth of a grain) were administered on the following day every half hour for three doses and then hourly until the bowels were moved. The patient's condition remained fairly satisfactory for six hours after the operation, but then the scene changed; the whole peritonitic blaze seemed to light up again and with it the distension rapidly increased to an alarming extent. Distended transverse colon could be made out nearly to the nipple line on both sides and there was considerable respiratory difficulty and cardiac distress. The temperature was 104° F., the pulse was 140 and markedly peritonitic, and the general condition became very grave. Vomiting also set in accompanied by hiccough and the vomited matters became rapidly fæcal. Large quantities of dark-brown fluid were pumped up which on standing precipitated a thick brown deposit of fæces and emitted a most offensive fæcal odour; in fact, the vomit consisted of pure fæces. During the night the distension appeared to become even greater than before in spite of turpentine enemata, strychnine injections, fomentations, turpentine stupes, &c., and the fæcal vomiting was practically continuous. The patient really appeared to be dying, but at 5 A.M. on the following morning, Feb. 20th, in response to Dr. May's earnest appeal "to try to do something," I removed the middle sutures of the abdominal wound and made an incision into the cæcum, which presented in the depths and which I had no hesitation in opening *in situ*, as I felt certain that all the parts in the neighbourhood must have become adherent all round and so have shut off the area of operation from the general peritoneal cavity. A large quantity of fæcal matter and brownish discharge and flatus came away at once from the incision and continued to do so for several minutes. The material obtained from the cæcum and the stomach was identical in character. The tube of an irrigator was then passed into the rectum and the whole of the large intestine was thoroughly irrigated with boric lotion, which all came away by the wound in the cæcum. To prevent any possible risk of leakage of fæcal matter into the peritoneal cavity four anchoring sutures were inserted to keep the cæcum in close contact with the abdominal wall. At the same time the patient was made to swallow two large draughts (one pint) of warm water, which were soon returned but fulfilled their purpose of washing out the stomach very thoroughly, and from that time the fæcal vomiting completely ceased. From the moment of the cæcotomy the patient's condition improved, his temperature gradually returned to normal, and all the grave symptoms subsided. The wound was left widely open and packed with gauze to induce it to heal by granulation from the bottom, while the fæcal fistula discharged freely in the centre. Apart from some irritative cough and occasional rather obstinate hiccough the further progress of the case was uneventful, and gradually more and more of the fæces were passed by rectum. On March 11th the skin and subcutaneous tissues around the whole area of operation were infiltrated with Schleich's fluid and several deep silkworm-gut sutures were inserted to approximate the granulating surfaces of the sides of the wound, leaving a small opening in the centre at the site of the fistula. The wound gradually filled up with granulations and later an attempt was made to destroy the redundant everted mucous membrane by frequent applications of silver nitrate. Finally, the projecting ring of membrane having been thus destroyed two rows of mattress sutures of fine silk were inserted across the fistula and completely closed the opening. This little operation was not, however, a complete success, as the middle sutures cut through and the fistula was re-established to some extent but was of much smaller calibre. A further attempt of the same kind also failed and the patient left for Europe in very good general condition but with a rapidly closing cæcal fistula. The bulk of the fæces passed by rectum, the discharge from the cæcum being soft and semi-fluid and only profuse to any extent at night.

The case is of interest for several reasons, but mainly from a practical point of view, because of the patient's recovery from an apparently hopeless condition. There is also the history of a first attack of appendicitis going on within 36 hours to a general peritonitis, which teaches the lesson of the dangers of delay in operation on these fulminating cases, and who is to say what course any attack of appendicitis will take? Further, the great improvement following the original operation, in spite of the fact that the peritoneal cavity was not washed out and was only partially drained, shows in this instance, at any rate, that the confidence we have in the power of the peritoneum to take care of itself is not misplaced, even though the membrane be already in a condition of intense inflammation.

I have often thought whether, if I had done an enterotomy at the first operation and perhaps injected sulphate of magnesia into the bowel as well, the further progress of the case might not have been quite satisfactory, although I did not think at that time that the distension was sufficiently marked to justify such a procedure. It seemed that a fresh wave of peritonitis occurred after seven days and this, rather than any intestinal condition, probably determined the excessive distension, for the bowels were acting fairly well at the time of the onset of the alarming symptoms. The intestinal obstruction was due entirely to the paralytic distension for which any operation other than the cæcotomy would have been impossible owing to the patient's exceedingly grave condition. The opening of the cæcum was done entirely without anæsthetics of any kind and it is rather an interesting fact that the patient has not the slightest recollection of what was happening during the few days when his life was trembling in the balance. He does not even remember being sick, which was a mercy, as the fæcal vomiting was anything but pleasant. All the ordinary methods for combating distension having failed and realising that an enterotomy was the only possible treatment but that it was quite impossible to attempt an abdominal section owing to the patient's condition, it occurred to me that the cæcum *must* be safe, for it must certainly be adherent at one point in the depths of the wound after the drainage and the matting together of the parts around it which must have occurred as the peritonitis subsided. Lockwood[1] writes: "I have seen my colleagues Harrison Cripps and Bruce Clarke in desperate cases of flatulent distension successfully establish a temporary opening in the cæcum or ileum. Hitherto, I have not been obliged to resort to this expedient after appendectomy." It must, however, be of comparative rarity that the recrudescence of general peritonitis a few days after an operation of this nature gives rise to such a treatable condition as paralytic distension, unless it leads to the formation of a localised abscess; for, unfortunately, cases that flatter the surgeon so much by their great improvements for a few days so often end fatally most insidiously, allowing him only the opportunity of making a diagnosis but without offering him justification for further operative treatment of any kind.

My best thanks are due to Dr. Sandwith for his valuable help in the after-treatment of the case, to Dr. May who was untiring in his devotion to his friend and irrepressible in his efforts to stimulate me to fresh endeavours, and to Dr. Beebe, in whose capable hands our patient eventually left Cairo. Finally, to Dr. Keen of Philadelphia, who happened to be passing through Cairo shortly after both operations, we are all indebted for his powerful moral support and for his kindly encouragement and advice.

Cairo, Egypt.

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[1] Appendicitis: its Pathology and Surgery, p. 269.

Complaints against a Public Vaccinator.—At the meeting of the Chipping Sodbury Board of Guardians held on May 21st a letter was read from the Local Government Board stating that their vaccination inspector had reported that one of the public vaccinators of the Chipping Sodbury Board of Guardians had not performed any vaccinations during the quarter ending March 31st, 1900, nor during the quarter ending March 31st, 1901, and that he did not comply with the directions of paragraph 6 of the third schedule of the Vaccination Order of 1898 as to the aseptic precautions to be taken in vaccination. The guardians eventually decided to forward the letter to the public vaccinator.

National Sanatorium for Consumption, Bournemouth (Open-air Treatment).—The annual general meeting of governors of the National Sanatorium for Consumption, Bournemouth, was held on May 8th, at the Westminster Palace Hotel, Mr. Arthur F. Jeffreys, M.P., being in the chair. The annual report of the committee, with the statement of accounts for the year 1901, was placed before the governors, showing a deficiency of £431 instead of a balance in hand, as in the three preceding years. This was attributed mainly to a falling-off in donations and to special expenses connected with efficiently carrying on the open-air treatment of patients now sucessfully adopted for some years past. Measures were considered for meeting the deficiency and for obtaining increased funds for carrying out the proposed extension of the building at a cost of about £1200 and it was resolved that a further appeal for donations and subscriptions should be made to the public.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—Morgagni *De Sed. et Caus. Morb.*, lib. iv., Procemium.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

A CASE OF PERFORATED GALL-BLADDER SIMULATING PERFORATED GASTRIC ULCER.

(Under the care of Mr. G. P. Newbolt.)

Perforation of the gall-bladder is generally the result of ulceration due to the presence of one or more gall-stones, but Dr. Norman Moore has described a case[1] in which there was very extensive ulceration of the mucous membrane of the gall-bladder without the presence of any concretion. In the following case perforation occurred without any previous symptoms pointing to the existence of biliary calculus. This also happened in a case recorded by the late Dr. W. M. Ord.[2]

On March 15th, 1902, Mr. Newbolt saw a married woman, aged 48 years, in consultation with her medical attendant. She was very ill and was evidently suffering from some grave abdominal lesion. She had suffered for some years from attacks of dyspepsia but had never had hæmatemesis or jaundice. There was nothing pointing to any affection of the gall-bladder. For about a week before Mr. Newbolt saw her she had been suffering from an attack of dyspepsia and for two nights had not slept on account of the pain in the abdomen which she referred to the umbilicus. During this time she had only taken a little liquid food. At 10 A.M. on March 15th she was seized with agonising pain at the umbilicus which caused her to double up and to collapse. On examination three hours later her pulse was 110, feeble, and easily compressible; her abdomen was not distended but was hard like a board and tender all over, and her temperature was 102° F. The liver dulness was present and her bowels had acted two nights previously. She was an unhealthy and delicate-looking woman. Having come to the conclusion from the acute pain and sudden collapse, together with the history of dyspepsia, that a gastric ulcer had perforated Mr. Newbolt advised the performance of an exploratory laparotomy, and as it was impossible to do this in her home she was removed in an ambulance to the Royal Southern Hospital.

The abdomen was opened in the middle line above the umbilicus and at once yellow, turbid, serous fluid was seen amongst the coils of small intestine. The abdominal muscles were very rigid though the patient was deeply under chloroform and some difficulty was experienced in getting the stomach into the wound. A thorough examination of this organ back and front revealed no perforation and so it was distended with a pint of water passed by means of an œsophageal tube. The fluid, however, did not escape and it was evident that the stomach was not at fault. The incision was therefore enlarged down below the umbilicus, and on introducing the hand into the right flank a large gall-stone was felt in the cystic duct, as well as a very much distended gall-bladder covered in by the liver which was enlarged and to the under surface of which the gall-bladder was adherent. There was a minute hole in the gall-bladder from which thin, puriform fluid was escaping. A transverse incision was next made into the right loin; the gall-bladder was exposed and opened freely and six large stones were removed, one being impacted in the cystic duct. It was necessary to cut away the sloughing part of the gall-bladder which was behind and to the inner side of the fundus; the edges were then inverted and sewn over, completely closing the cavity. Having thoroughly cleansed the abdominal cavity a gauze pack was left in leading down to the gall-bladder and the right flank was drained by placing a tube

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[1] Transactions of the Pathological Society of London, vol. xliii., p. 178.

[2] The Lancet, Nov. 5th, 1887, p. 912.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

National Association for the Prevention of Consumption and Other Forms of Tuberculosis, Dublin Branch.

A MEETING of the executive committee of the Dublin branch of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis was held on March 25th to consider an important proposition brought before it by Sir Christopher Nixon, President of the Royal College of Physicians of Ireland, with regard to the establishment of a sanatorium for the treatment of consumption among the poor of Dublin and its suburbs. Sir Christopher Nixon mentioned that the sisters of mercy had recently acquired the house and demesne of Beaumont, embracing some 110 acres, for the purpose of providing a convalescent home for the patients of the Mater Misericordiæ Hospital. It occurred to him to suggest that advantage might be taken of the site to establish a sanatorium for the reception and treatment of cases of consumption among the destitute poor who could not be treated with hope of beneficial results in a general hospital. He explained that the sisters of mercy were ready to offer their services in taking charge of the institution and nursing the patients on the following conditions: (1) that the sanatorium should be built and fully furnished, and (2) that the expenses should be defrayed for the maintenance of the patients and the proper working of the institution. Sir Christopher Nixon also laid before the committee a letter from Dr. Walsh, the Roman Catholic Archbishop of Dublin, in which he (Dr. Walsh) stated that he approved of the project and would do anything he could in aid of it. The following motions relative to the project were passed unanimously :—

Resolved—That the Council of the Dublin Branch of the National Association for the Prevention of Tuberculosis have heard with deep interest and sympathy of the probability of the establishment of a sanatorium in the vicinity of Dublin in which the destitute poor of the city and suburbs afflicted with pulmonary consumption may be satisfactorily treated in the early and remediable states of that complaint.

Resolved—That the council are of opinion that the advantages likely to accrue to the public health from the establishment of the proposed sanatorium are of a twofold kind: first, far-reaching benefit to the patients themselves; secondly, a widespread influence for good from an educational standpoint, patients and their families being taught how to prevent the spread of the infection of tuberculosis.

The Royal Victoria Hospital, Belfast.

At the annual meeting of the friends of this institution, which was held in Belfast on March 18th, it was reported that 2080 patients had been treated in the hospital during the year and 354 in the convalescent home, 29 in the consumptive department, and 137 in the children's hospital, making a total of 2600 cases; in addition to which 25,463 patients had been treated in the out-patient department. The receipts from all sources were £12,487 9*s.* 5*d.* and the expenses were £11,589 5*s.* 2*d.* The necessary expenditure exceeds the legitimate income by £2051 15*s.* 9*d.* The new hospital will be ready early next year and the better and greater accommodation it will afford must necessarily involve a much larger expenditure: therefore it is necessary to make timely preparation for this additional outlay. A cordial vote of thanks was given to the medical and surgical staff for their services during the year.

Small-pox in Belfast.

So far only one case of small-pox—introduced from Glasgow—has occurred in Belfast. At the meeting of the Belfast Guardians on March 18th a resolution was passed requesting the Local Government Board to make arrangements by which persons suffering from any infectious disease shall not be removed from the gaol, where there is sufficient hospital accommodation provided, as there is grave danger incurred in the transit of these cases through the centre of a crowded city. The guardians say that the police authorities have no right to rid themselves of responsibility by driving a small-pox patient from the gaol to the workhouse through a crowded city.

Ulster Medical Society.

An adjourned meeting of this society was held in the Pathological Laboratory of Queen's College, Belfast, on March 20th, Professor W. Whitla, the president, being in the chair. Dr. J. McLiesh read a paper on the Blood in a Case of Skin Disease; Dr. R. Allen read a paper on Granular Leucocytes in Tumours, illustrated by microscopic sections; Dr. H. L. McKisack and Lieutenant D. McCay, I.M.S., read Notes of Pyelitis in Young Children; Mr. R. J. Johnstone showed the organs from a case of Molluscum Fibrosum with Fibrous Tumours in the Stomach and a specimen of a rare form of Enlargement of the Prostate; Dr. Eleanor R. Sproull gave a demonstration of the Structural Changes in the Liver and Kidneys in a case of Acute Yellow Atrophy of the Liver; and Professor J. Lorrain Smith demonstrated the Deposition of Iron in the Liver in a Case of Pernicious Anæmia.

The Royal Commission on Irish University Education.

The commission is to begin its sittings in Belfast, in the Library of Queen's College, on April 2nd. The members are to be entertained to dinner by the Professors of Queen's College and the President has issued invitations for an "afternoon" to meet the Royal Commissioners. It is understood that several very important witnesses will be examined and that the case of the Northern College will be fully presented.

April 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A New Method of Producing Analgesia of a Tooth for Extraction.

M. Regnier and M. Didsbury recently communicated to the Academy of Medicine a new method of analgesia in dentistry which does away with the use of cocaine, of carbolic acid, or of any of the well-known anæsthetics which are all more or less toxic, and in the use of which the patient runs a risk of poisoning quite out of proportion to the insignificant operation of an extraction. The method is to use an electrical current of high frequency which produces absolute insensibility of the tooth. The current is applied to the tooth by means of a gutta-percha cap lined with gold leaf, and in this way the field of application of the current is limited to the tooth which it is desired to extract. Perfect analgesia is obtained in a few minutes and the tooth can be removed without the patient feeling anything. The application of the current is easy and harmless and the method would seem capable of application to other operations of minor surgery.

A Federation of French Anti-Tubercle Societies.

On March 16th there was held in the hall of the Society of Civil Engineers, the President of the Republic being present, a formal inauguration of the federation of all French societies for the prevention of tuberculosis. These societies, which previously have wasted their strength by acting separately, will now be increased in power by being united. Representatives from 76 societies and 37 cities were present. The President of the new federation is Professor Brouardel and the objects of the federation are to favour the spread of knowledge about tuberculosis and the various methods for its prevention and to unite for the purposes of effective action all societies and persons who have studied the subject from its different aspects. The example of England, where the mortality from tuberculosis has declined by 45 per cent. in 40 years, and of Germany, where it has declined by 12 per cent. in 10 years, should give great encouragement to the struggle in a country like France, blessed in the possession of a beautiful climate, to enjoy which the sick of all nations come in the hope of cure. The central bureau of the federation will serve as a link between the different sanatoriums and as a guide to patients. One case of tuberculosis, for instance, will require treatment in the isolation ward of a hospital; another will do better at a seaside sanatorium and another at a high altitude; another will be so far convalescent that he will be sent to an agricultural colony. The Bureau will in addition organise a system of relief for patients and for this purpose friendly societies will be asked to contribute as well as ordinary charitable persons. The railway companies, so many of whose employés are affected with tuberculosis, will be asked to subsidise local sanatoriums in the respective districts served by them and the military charities will also be asked to help so that soldiers who are on their books may be sent to a sanatorium instead of being allowed to spread infection broadcast by remaining at large.

Professional Secrecy and Hospital Practice.

The Consultative Committee of the Assistance Publique has just formulated an answer to a problem laid before it by Dr. Bonnaire, the obstetric physician to the Lariboisière Hospital. In pursuance of this decision a circular has been sent out to all the hospitals pointing out that professional below the kidney. The patient stood the operation well and promised *at first to make a good recovery; she sank, however,* five days after the operation, apparently from exhaustion. There were troublesome vomiting and slight distension unrelieved by salines or enemata. As far as the wound went all was satisfactory and there was no extravasation. The *gall-bladder was shut off from the general peritoneal* cavity and there were no signs of general peritonitis.

Remarks by Mr. NEWBOLT.—In those cases in which a stone ulcerates through the gall-bladder mischief is usually avoided by the adhesions which glue the affected organ to neighbouring parts, either the viscera or the abdominal wall. There are several cases on record by different observers in which acute peritonitis has been set up by a perforation of the gall-bladder the contents of which have escaped into the abdominal cavity, and there are one or two instances also which have been successfully operated upon. In the case related above it was impossible to make a diagnosis from perforated gastric ulcer and for this reason, though the result was fatal, I think that it is desirable to publish it. A close interrogation of the patient never elicited any history of gall-stones and she had always referred her pain to the region of the stomach. She had never been jaundiced at any time and was most definite on this point.

ROYAL NAVAL HOSPITAL, PLYMOUTH.

A CASE OF MULTIPLE ABSCESSES IN THE LIVER SECONDARY TO PERFORATING ULCER OF THE STOMACH.

(Under the care of Staff-Surgeon EDWARD R. D. FASKEN, R.N.)

MULTIPLE abscess *of the liver is* a very rare complication of gastric ulcer, whether perforated or unperforated, and very few cases have been put on record. C. Murchison has published an instance of this condition [1] but in that case general pyæmia also occurred. In the following case no signs or symptoms pointed to the existence of gastric ulcer. This latency occurs in no small proportion of cases. Savariaud [2] estimated the latent cases to form 20 per cent. of all cases of gastric ulcer.

On Feb. 22nd, 1902, an able seaman was admitted into the Royal Naval Hospital, Plymouth, under the care of Staff-Surgeon Fasken, complaining that he had suffered from abdominal pain on or off for about two years, situated chiefly in the right iliac fossa near the umbilicus. The bowels were *acting irregularly. There was no history of vomiting.* The temperature was 102° F. The hepatic dulness in the right mammary line measured five inches vertically. There was considerable jaundice. The pulse was 76. The abdomen was somewhat distended and palpation caused a good deal of pain, especially over the cæcum. The tongue was thickly coated. Fomentations and a glycerine enema were prescribed with bismuth and the patient was placed on a milk diet. On the evening of March 1st he had a rigor and complained of severe pain over the hepatic area. The temperature was 102·2°. On the 3rd he had more rigors and complained of a tender spot over the liver in the region of the gall-bladder. Paroxysmal rigors came on at irregular intervals and were followed by profuse perspiration with great prostration. The tongue became dry and brown and tenderness over the liver area was greatly increased. On the 22nd he vomited a quantity of greenish bilious fluid during the night. Two exploratory punctures were made into the liver below the costal margin but only a few drops of blood were extracted. On the 24th two more exploratory punctures were made behind in the eighth intercostal space, but again with a negative result. A few days later ascites and œdema of the lower extremities appeared, also a distinct pleuritic rub was heard on the right side. The hepatic dulness in the right mammary line was now six and a half inches but the enlargement was uniform and free from nodulation. On April 10th he was much weaker and greatly emaciated. The skin and conjunctivæ were markedly jaundiced. There was great tenderness on pressure below the lower margin of the right ribs, with incessant severe pain across the upper part of the abdomen and between the shoulders, which had to be relieved by injections of morphia. The area *of splenic dulness was increased. The above* symptoms all became gradually more aggravated. He still had irregular paroxysms of rigors, followed by fever and sweating. He gradually sank and died on the 15th.

Necropsy.—At the post-mortem examination there was found near the œsophageal end of the stomach on its anterior surface a circular ulcer of the size of half a crown with its edges slightly elevated and undermined. From the base of *this ulcer a small* fistulous channel passed into an abscess of the size of a hen's egg in the right lobe of the liver close to the gall-bladder. The liver was enlarged generally, weighing 96 ounces; both lobes were thickly studded with abscesses varying from the size of a pea to that of a walnut and containing *thick yellow pus; the abscess cavity in connexion with* the stomach was, however, filled with food material. The intervening hepatic tissue was very hyperæmic. There was evidence of considerable surrounding peritoneal inflammation; the stomach, transverse colon, duodenum, pancreas, and liver (the under surface) were all firmly matted together, the great omentum being adherent to the upper surface of the left lobe of the liver. The spleen was large, dark, and firm. The pancreas was hard and lumpy and was firmly adherent to the left kidney and spleen. The abdomen contained a quart of yellowish serous fluid. The right pleural cavity contained fluid and was encroached upon by the enlarged liver, the right lung being pushed up and collapsed and adherent at the base. The other organs were healthy.

Remarks by Staff-Surgeon FASKEN.—This case is of interest, as although the symptoms pointed to the probability of a pyæmic abscess in the liver, inasmuch as the patient had never been abroad, nothing in the history of the case led one to suspect ulceration of the stomach. There had never been any hæmatemesis or even definite history of vomiting, the only symptom complained of being general abdominal pain.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Etiology of Leprosy as observed in the Soudan and in South Africa.

A MEETING of this society was held on May 27th, Mr. ALFRED WILLETT, the President, being in the chair.

Mr. T. J. TONKIN made a communication on Some General and Etiological Details concerning Leprosy in the Soudan. Mr. Tonkin began his paper by defining briefly the particular leper area referred to—namely, the Soudan—and by giving a short sketch illustrative of the extent to which the disease prevailed there. Enormous quantities of the disease were to be found in the Soudan and northern Nigeria—an area of 500,000 square miles. *He then passed on to describe* what he believed to be the ordinary course of contagion in the Soudan. He had satisfied himself that it was a process of mediate contagion in which clothes played the chief part of vehicles. The customs of the Soudanese lent themselves to this. In the Soudan clothes were almost never washed. The native cloth was woven in narrow strips which were subsequently sewn together to make a piece. Cloth made in this way did not stand much washing. Rich men bought their clothes new and when they became soiled sold or gave them away. Through the working of this custom any one robe might have during its existence an almost unlimited number of owners, any of whom might have suffered, among other communicable diseases, from leprosy. Natives did not mind buying and wearing robes that had been worn by mutilated lepers. They might even see them *stiff with leprous* exudations without thinking it necessary to have them washed. Such robes as these they would wear all day and roll about at night with nothing between the prominences of their bodies and the hard matted surfaces which served them as beds but these leprous garments. Mr. Tonkin applied these facts to the explanation of the mode of dissemination of the disease by pointing out that it was exactly upon those prominences that (in the Soudan at least) the first sign of the disease most usually appeared. In attempting to account for the predisposition to leprosy Mr. Tonkin laid down what he referred to as the anitrogenous theory. In every *leper field in the world if the average diet* of the affected classes were tabulated it would in each case probably present the same specific defect. That defect was the lack of a sufficient quantity of nitrogenous elements. To the effect of this dietetic imperfection he traced the liability to the disease. This factor of diet could not be regarded as the only one, but he considered it as the essential one. Turning to the question of heredity, out of 220 of Mr. Tonkin's cases in only 18 could an hereditary predisposing tendency be traced, and he did not regard hereditary predisposition as a necessary, or even an important, causal factor in the disease.

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[1] THE LANCET, Feb. 29th, 1868, p. 278.

[2] Robson and Moynihan: Diseases of the Stomach, p. 104.

Mr. JONATHAN HUTCHINSON made a communication on Leprosy in Cape Colony and Natal. The paper was based upon the experiences gained during a tour in Cape Colony and Natal during the months of December, 1901, and January, February, and March, 1902. The tour was undertaken in order to examine as to the prevalence and distribution of leprosy in South Africa and more especially as to its connexion or otherwise with the Cape fish-curing trade. Among other conclusions arrived at by Mr. Hutchinson as the result of his investigations were the following:—1. That leprosy was almost, if not absolutely, unknown in South Africa before the Dutch occupation of the Cape; and that before the record of the first cases the Dutch had brought over Malays from Java to establish a fish factory at Cape Town. 2. That salt fish with rice was the staple food of the Dutch farmers and their Hottentot slaves at the time that leprosy was first observed, in 1756; and that since the first cases were observed the disease had gradually spread around Cape Town, in the first instance, and ultimately over almost the whole of what was now British territory, including the Free State and the Transvaal. 3. That the disease had prevailed very slightly in towns such as occurred in highly infectious maladies, but it had affected chiefly agricultural labourers; and that the disease, although very widely spread, was unequally distributed—dotted about amongst the agricultural and mining populations throughout Cape Colony who used very largely as food badly cured salt fish. 4. That in the Kaffir kraals of Natal there was good reason to believe that the disease was communicated from person to person and especially to young children, it being suggested that the mode of communication was by eating food direct from a leper's hand contaminated by secretions containing the living bacillus. This it was proposed to call "commensal communication." It seemed probable that in Cape Colony *de novo* production—i.e., without hereditary transmission or direct infection—by the use of salt fish had been the common cause of the disease, whilst in Natal commensal communication had been more frequent. The two hypotheses of fish-production and commensal communication taken together satisfactorily explained several difficulties which had hitherto been felt in reference to leprosy, such, for instance, as the non-occurrence of spread in well-civilised communities and its irregularity and uncertainty even amongst the most careless; the frequency with which young children suffered; the universally observed but varying disproportion of the sexes; and the scattered distribution of the disease without, as in the case of South Africa, any foci of great prevalence. Turning to the question of heredity, the facts which had come to his notice did not support the idea that this played any important part in the production of the disease. The chief object of the present paper, however, was to maintain two principal propositions. The first was that leprosy was undoubtedly communicable from person to person but that the mode of its communication was peculiar and did not come under the head of contagion properly so called. The second was that, although personal communication could not, of course, explain the *origin* of any disease, the facts as regards the origin and distribution of leprosy in South Africa strongly favoured the belief that it could arise without direct personal contagion as a specialised form of disease, possibly tuberculosis, from the eating of imperfectly cured fish. The facts which convinced Mr. Hutchinson on the first point were the following. Near the village of Howick, in Natal, on the open veldt, he saw young lads unquestionably the subjects of leprosy who had never left their native kraals and concerning whom it was morally certain that they had never eaten salt fish. They were living in the same kraal with adults who were the subjects of leprosy and who had probably obtained it in Cape Colony. Subsequently in other parts of Natal he met with precisely similar facts. Now, leprosy was not endemic in Natal; it could not be suggested that there were any conditions as regards food or mode of life which could conduce to it. The kraals were widely separated from each other on the open hillside and their inhabitants had usually enjoyed good health. Leprosy was of recent introduction and was met with only very sparingly. In all instances in which young persons were its subjects there was the history of its introduction into the affected kraal by an adult who had previously sojourned in a fish-eating district. The inference seemed inevitable that the disease in these cases had been communicated from one person to another. Nowhere, however, had it spread to many. Its incidence appeared to have been most erratic. A few had been taken and a great many who had apparently been equally exposed had been spared. The facts which seemed to support the hypothesis that in all cases in which the disease spread from person to person the bacillus was received by the stomach were very strong. The first symptoms of leprosy were almost always those of a blood disease. There was never any primary sore or other indication of local infection. The earliest phenomena, whether affecting the skin or the nervous system, were, as a rule, bilateral and implied blood contamination. It was impossible to believe in communication by the breath, for attendants in leper-houses and others who might be in constant and close communication with lepers never took it. It was also for the same reason impossible to believe in contagion through the skin. It was very rare for both husband and wife to suffer; and many experiments in inoculation had been tried without result. A comparison between syphilis and leprosy was also against the idea of the inoculability of the latter. These facts had been felt to be so strong that prior to the discovery of the bacillus there was a very general disbelief in the contagiousness of leprosy; and this was the verdict given by the Royal College of Physicians of London after a detailed inquiry. They were now confronted with the proved existence of a parasite and with evidence beyond dispute that in some way the disease could be communicated. The suggestion that the bacillus was received into the stomach by the direct contamination of food by leprous discharges met the requisite conditions. Such contamination of food was not likely to occur excepting under conditions of extreme carelessness as to feeding, and it was only amongst those who fed very carelessly that proofs of the communication of leprosy were met with. Amongst the cleanly communities of Europe and America, although there were plenty of leper patients who might serve as sources of infection, no such communication appeared to occur.—The discussion on the etiology of leprosy as raised in these two communications was adjourned until the next meeting on June 10th.

CLINICAL SOCIETY OF LONDON.

Inheritance of Recurrent Attacks of Jaundice with Hepatosplenomegaly.—Subsequent History of Three Cases of Colitis in which Right Lumbar Colotomy had been Performed Several Years Previously.—Annual General Meeting.—Election of Officers and Council.

A MEETING of this society was held on May 23rd, Mr. HOWARD MARSH, the President, being in the chair.

Sir THOMAS BARLOW and Dr. H. BATTY SHAW communicated a paper entitled, "Inheritance of Recurrent Attacks of Jaundice and of Abdominal Crisis with Hepatosplenomegaly." The observations giving rise to this paper were made upon two patients—a lad, aged 19 years, and his mother, aged 47 years. The youth when born was noticed to be a very delicate child and was pale and waxy-looking. At five years of age he was noticed to be jaundiced for the first time and since then there had been attacks of semi-jaundice lasting three or four days accompanied by pain in the upper part of the abdomen. For the last six years he had been troubled with indolent ulcers about the ankles. None of the patient's brothers or sisters suffered from attacks like these, though a brother had jaundice once in childhood. On admission into University College Hospital in 1899 the patient was found to be undersized for his age and looked anæmic and yellow. The liver was only moderately enlarged; the spleen was very enlarged, reaching two inches below the level of the umbilicus; there were signs of cardiac dilatation, more particularly of the left ventricle. The stools were repeatedly examined and were always found to be brown in colour. The urine very often was highly coloured; no bile could be demonstrated, but urobilin was detected spectroscopically. Examination of the blood showed signs of secondary anæmia. The temperature rose a little but was never more than 99·6° F. The boy was again admitted in May, 1901. There was practically no change in the size of the spleen but a slight reduction of the liver dulness below the right costal margin. A few glands were noticed in the neck. Besides a reduction in the number of red corpuscles of the blood and of the hæmoglobin, poikilocytosis, nucleated red corpuscles, and basophile cells were met with, and during the earlier part of his stay in the hospital the leucocytes numbered 14,000 per cubic millimetre. The woman had her first attack of jaundice when about five years old and had had repeated attacks since. With the jaundice there were pains in the upper abdomen and vomiting. She had one attack whilst pregnant with the child whose condition had been described. In an attack observed in September of last year the liver and spleen were found to be considerably enlarged. Urobilin and bile were absent from the urine. The examination of the blood showed the same characters as that of the son except that there were no nucleated red corpuscles. She had an indolent ulcer on the right leg, its onset dating before marriage. Both patients had always resided in England. There was no evidence in either case of septic infection; both mother and son were very temperate; during infancy a little brandy was given to the son daily for about a year. Very similar attacks occurring in three generations had been described by Dr. Claude Wilson and Dr. James Finlayson had called attention to the occurrence in several collateral members of a family. The special points to be noted in the above two cases were: (1) the chronicity of the affection, lasting in the son at least 14 years and being probably congenital and in the mother for a much longer period; (2) the occurrence of indolent ulcers in both cases; (3) the jaundice was always slightly present and underwent periodic intensification and was then associated with pain in the liver or spleen or in both; (4) the mother appeared to be a case of Hannot's cirrhosis of the liver, whilst her son could not but be considered as an earlier incomplete stage possibly of the same malady; and (5) finally, attention was called to the extremely guarded prognostic view to be held in such cases. The woman had grown to maturity and had had a family of several children and but for the disturbance caused by the periodic attacks of jaundice and abdominal pains was able to enjoy life. Sir Thomas Barlow added that the important point of these cases was the heredity of the disease. It was interesting to compare groups of inherited diseases; such, for instance, as Friedreich's disease which was an inherited form of locomotor ataxy. These inherited diseases differed from the corresponding acquired diseases. It would be premature to regard the cases which he and Dr. Shaw had recorded as biliary cirrhosis. He then discussed the relation of these cases to splenic anæmia. In the latter the liver was hypertrophied but there was no increase in the connective tissue.—Dr. H. D. ROLLESTON drew attention to an important observation of Boinet where in one family some members had well-marked hypertrophic biliary cirrhosis with chronic jaundice, while other members had no symptom of that disease but had an enlarged spleen and might be regarded as latent cases of that disease. The cases brought forward by Sir Thomas Barlow and Dr. Shaw appeared to lie between such cases and cases of splenic anæmia, especially as splenic anæmia might terminate in hepatic cirrhosis. There were two forms of splenic anæmia, one occurring in children related to intestinal toxæmia and the other occurring in adults not so related, and the latter terminated in "Batty's disease"—i.e., cirrhosis with recurrent attacks of jaundice. He inquired whether the jaundice referred to might be regarded as due to an exacerbation of toxic processes in the spleen, there being periodic intervals of immunity, or, on the other hand, was the jaundice thought to be mechanical?—Dr. HERBERT S. FRENCH insisted upon the fact that one of the chief features of splenic anæmia was the occurrence of hæmorrhages and this feature was wanting in the cases before the meeting. In reference to the count of leucocytes, which were said to have shown 10 per cent. of small leucocytes, he pointed out that the special characteristic of splenic anæmia was an increase to 30 or even of 40 per cent.—Dr. BATTY SHAW, replying, said that they had been unable to examine the serum of the patient's blood so that they could not say whether urobilin was present in the blood or whether it was true bile. In another case much urobilin was found in the urine, while in the blood only bile was found. He added that some of the counts had given a percentage of nearly 40 per cent.

Dr. W. HALE WHITE and Mr. C H. GOLDING-BIRD read a paper on the Subsequent History of Three Cases of Colitis in which Right Lumbar Colotomy was performed several years ago and in which the artificial anus was subsequently closed. Two of these (one membranous colitis and one chronic dysentery) were perfectly cured, remaining so after the artificial anus was closed In the third (one of membranous colitis) complete relief was given, the patient remaining well for 18 months after closure of the wound; she then relapsed and was not now materially benefited. The points to which the authors particularly directed attention were: first, that the operation was in some cases curative, acting by giving rest to the colon; secondly, that the artificial anus should be left open for a considerable time—in their cases one year, one and a half years, and two and a half years were the periods—and they were of opinion that in a severe case 10 years would not be too long; and lastly, reasons were given for always preferring a right lumbar colotomy to a cæcotomy. Irrigation was harmful rather than beneficial.—Dr PERCY KIDD asked whether irrigations were always found to be harmful in these cases, mentioning that in a recent case irrigations had seemed to do good for a time; injections of nitrate of silver had been tried but had to be abandoned. This patient appeared to be going on quite satisfactorily when hæmorrhage occurred with much pain and in the course of a few days she died quite unexpectedly. No post-mortem examination was allowed.—Mr. A. E BARKER mentioned the case of an elderly woman who was admitted to hospital with a huge abscess the result of appendicitis. This had been opened very widely by a colleague and she made a good recovery but with a large opening into the cæcum which gave rise to much trouble. He then cut down and anastomosed the lower part of the ileum to the colon. This was followed by great improvement but a very serious leakage persisted which prevented healing Finally, some months later, he again operated, cutting right through the colon, and she made a good recovery. That case had made him doubt whether the operation of uniting the ileum and the sigmoid flexure would be a success unless the latter were cut clean through.—Dr. SIDNEY COUPLAND asked whether right lumbar colotomy could be performed satisfactorily in the insane, adding that it would be a great boon seeing that colitis was very prevalent in large asylums, accounting for 10 per cent. of the total deaths.—Dr. NORMAN DALTON suggested that it might be well to open the lower part of the ileum rather than the colon in cases of colitis, and he related the case of a man who had had dysentery in South Africa and had undergone colotomy. Six months after the operation he was passing blood and mucus. On examining him they found a large hernia of the posterior wall of the bowel which effectually prevented anything from the ileum passing into the colon. The man was treated by irrigation and got well. Mr. F. F. Burghard then operated for the purpose of closing the wound and found that it was a piece of the ileum that was attached to the abdominal wall, and this enormously facilitated the closure of the bowel. In many of these cases the cæcum was much diseased and after colotomy the fæcal matter would get into the cæcum, whereas with an ileotomy it would not.—Mr MONIER-WILLIAMS related the case of a man who passed 20 hæmorrhagic stools every day with great emaciation in consequence The colon was opened on the right side and then he steadily improved The skin, however, became much excoriated by the liquid fæces and they had great difficulty in controlling the motions. He ultimately got quite well. With regard to irrigations he found that they improved matters greatly.—Mr. GOLDING-BIRD, in reply, admitted that in ulcerative colitis antiseptic irrigations were very useful and indeed indispensable. His remarks on this heading did not relate to membranous colitis He agreed that a better spur might be obtained from the ileum than from the colon.—Dr. HALE WHITE suggested that if anybody did make the anastomosis of the ileum into the sigmoid they would in many cases not get below the seat of the disease. After Mr Monier-Williams's experience one might well fight shy of opening the cæcum, the discharge from which was very acrid and irritating

The annual general meeting was then held The PRESIDENT referred to the loss which the *Clinical Society* had sustained in the death of Dr. W. M. Ord who was the type of a great physician, being an enthusiastic physiologist as well as a pathologist. The council's report showed the society to be in a flourishing condition and after the usual votes of thanks the following officers and council were elected for the session of 1902-3:—

President: Mr. F. Howard Marsh. Vice-Presidents: Dr. G. Vivian Poore, Dr. D. B. Lees, Dr. H. A. Lediard, Mr. A. E. Barker, Mr. R. Clement Lucas, and Mr. H. H. Clutton. Treasurer: Dr. Frederick Taylor. Council: Mr. J. Kingston Barton, Dr. J. Mitchell Bruce, Dr. C. W. Chapman, Dr. Lee Dickinson, Dr. S. H. Habershon, Dr. H. P. Hawkins, Dr. F. H. Hawkins, Dr. Percy Kidd, Dr. Hector Mackenzie, Dr. A. F. Voelcker, Mr. Gilbert Barling, Mr. Leonard A. Bidwell, Mr. Walter Edmunds, Mr. J. Hutchinson, jun., Mr. Raymond Johnson, Mr John D. Malcolm, Mr. H. Betham Robinson, Mr. Charters J. Symonds, Mr. C. S. Wallace, and Mr. F. C. Wallis. Honorary secretaries: Mr. Anthony A. Bowlby and Dr. William Pasteur.

HARVEIAN SOCIETY OF LONDON.

Exhibition of Cases and Specimens.

A CLINICAL evening of this society was held on May 22nd, Mr. WATSON CHEYNE, the President, being in the chair.

The PRESIDENT showed a boy the subject of Congenital Syphilis who had suffered from Necrosis of his Nasal Bones and the bridge of whose nose Mr. Cheyne reproduced by the injection of paraffin having a melting point of 120° F. at the first injection and 104° for the second, after a week's interval, Mr. Cheyne having read of an injection by another surgeon with paraffin having a melting point of 104°. After the two injections the point of the nose, which had been held down during the operation, remained depressed and a presentable organ resulted. The operation was difficult on account of the rapid freezing of the paraffin immediately it touched the tissues. One objection to the parraffin at 104° was that it had a tendency to run into the space between the eyes, above the bridge of the nose. No inflammatory reaction had followed the injection. Greater improvement was possible but the skin was at present stretched to its limit.—Dr. LEONARD HILL thought cosmetic operations such as the present were justifiable, provided there was no risk of complications. He instanced several operations that had been done on the continent in which the paraffin had travelled into other parts subsequently. In one case shown before a meeting of the British Medical Association the results were splendid, but later some of the material escaped into the eyelids and 12 months after the operation the eyes were completely closed by the escaped wax.—The PRESIDENT, in reply, said that his injecting needle went practically down to the remains of the nasal bones. He used an ordinary serum syringe. The great point was to have the hot water quite close to the patient's face so that there was no time for the paraffin to cool. No pain was complained of during the injection.

Dr. A. MORISON showed a boy, aged 11 years, the subject of Early Mitral Constriction showing the triple rhythm. The boy had acute rheumatism two years ago and had had two attacks of chorea. He showed the usual phenomena of an ordinary mitral case. He did not think the triple rhythm could be regarded as diagnostic of the condition. The triple rub could be originated in pericarditic conditions, and under those circumstances the second sound might be spurious. Dr. Morison gave a review of the various theories held—namely by Sansom, Stacey Wilson, and others—and stated that in his view the triple rhythm was very much a matter of rate. If a patient with mitral disease and a triple rhythm was sat up in bed and the pulse-rate thereby quickened the triple character of the beat vanished. When the patient lay down and the pulse-rate slowed there was a quadruplication of sounds. He had verified that by sphygmographic tracings. In mitral cases one could sometimes, by the help of digitalis, produce quadruplication simply by slowing the heart.—Dr. SUTHERLAND thought Dr. Morison's theory plausible but it required carefully thinking out. He would have thought that the irregularity would have been more pronounced when the pulse-rate was increased than when it was slowed. He could only recall one case—that of a woman, aged 60 years, in which there was quadruplication of the heart sounds and in that case he thought the innervation of the heart was at fault. An important diagnostic point in his view was the duplication of the second sound. If Dr. Morison had a case of slightly accentuated first sound and definite reduplication of the second sound, would he be prepared to diagnose mitral stenosis fom those signs alone? His own view was that if those two signs were present the case was very likely one of mitral stenosis. In his experience, also, especially in children, the typical dilatation of the mitral orifice was more likely to be accompanied by irregularity of the heart's action than stenosis.—Dr. MORISON replied.

Mr. JAFFREY read notes of a case of Torsion of the Testicle and showed the specimen. The text-books mentioned that torsion of the testicle most frequently occurred in undescended testes but in the present case the testicle was completely descended. The patient, an errand boy, aged 15 years, came to the hospital with an ordinary hydrocele of the tunica vaginalis. The swelling was of the size of a hen's egg. When riding a bicycle he fell over the handle and struck his hydrocele which caused him much pain. A week later he again fell off his bicycle and struck the same part, causing him extreme pain, which brought him to the hospital. Hæmatocele was diagnosed. On operating Mr. Jaffrey found no hæmatocele, the swelling being more or less due to œdema of the scrotum. The testicle was enlarged, very hard, and black. On careful examination it was found that the testicle, instead of being attached to the posterior wall of the tunica vaginalis, had a mesentery of its own attached at the lower end of the epididymis. It was twisted three half-turns inwards. As it was a useless testicle he removed it.

Dr. E. CAUTLEY showed a specimen of Congenital Hypertrophic Stenosis of the Pylorus. He said that the disease was rare and was but seldom diagnosed during life. Dr. Cautley had seen two cases when he read his paper before the Royal Medical and Chirurgical Society three years ago and collected 18 others. Since then about 50 cases had been recorded. He believed the affection was commoner than was supposed because the present was the fifth which he had had under his own observation. The infant was two months old, the age at which such subjects usually died, and the stomach was decidedly large for that age. The pylorus, instead of being a thin ring, was three-quarters of an inch long and consisted of dense muscular tissue. Before it was laid open it formed a very definite tumour, in shape like the last joint of the little finger. From the stomach side it was funnel-shaped, the funnel being closed largely by a fold of mucous membrane. After death the constriction was so pronounced that only a fine probe could be passed and no fluid could be squeezed from the stomach through the orifice. The infant was apparently born healthy, at full term, and seemed normal. After a period varying from a few days to weeks the child started vomiting, but it was a regurgitant vomit; two or three meals would perhaps be kept down and then a very large quantity would be brought back. The appetite seemed unaffected. The tongue was clean and might remain so throughout the whole illness. The breath was not sour. Constipation was often, but not invariably, present and was often noticed at birth. Occasionally there was diarrhœa. No bile was found in the vomit. Towards the last such infants got very marasmic and died practically from starvation.—Dr. SUTHERLAND, Dr. MORISON, and the PRESIDENT discussed the specimen.—Dr. CAUTLEY replied.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Sleep in relation to Narcotics in the Treatment of Mental Diseases.—Surgical Treatment of Delusional Insanity.

AN ordinary general meeting of this society was held on May 21st, Dr. OSCAR T. WOODS being in the chair.

Dr. HENRY RAYNER read a paper entitled "Sleep in relation to Narcotics in the Treatment of Mental Diseases." He pointed out the importance of the subject at the present time, when so many narcotics were being introduced and supplied to the public with little check or control. He expressed the opinion that a considerable portion of the nervous and mental disorders of the well-to do classes was due to the abuse of those drugs. He alluded to the various theories of sleep and adduced arguments indicating the large share which the body took in the production of sleep. Contrasting sleep and narcotic stupor, he described the psychic state in the former as one of unconsciousness without loss of sensibility and the latter as unconsciousness with insensibility. Dr. Rayner said that the general physiological state in sleep was one of increased rather than decreased nutritional activity, while in narcotic conditions secretion, excretion, and general nutritional repair were greatly interfered with. The vaso-motor, respiratory, circulatory, and other centres were depressed. The reparative effects of sleep on the brain cells, as described by Hodge and others, was contrasted with the evidences of disordered nutrition found by Hamilton Wright, especially in the brain-cells of narcotised animals, corresponding to the psychic cells in man. The defects in insomnia, however caused, were summed up as consisting in defective nutrition of the *brain cells, variously associated with toxic conditions of the* blood, with anæmia and hyperæmia of the brain and irritation of it, either from the body or from the environment. The question was asked whether narcotics could be shown to be curative of these states of disorder, or whether benefit could be expected from their use, except in states of physical or mental pain from irremoveable conditions in the environment. Dr. Rayner arrived at the conclusion that in narcotic doses any good resulting from their use must be in spite of the disorder of nutrition to which they gave rise, and if given to produce sleep that object could be more satisfactorily attained by other remedial agencies, which helped at the same time to restore the associated vascular and nutritional conditions. He believed the occasions for the use of narcotics were very few, and stated that for many years he had rarely had occasion to use them. He hoped in a future paper to discuss the methods of treatment by which he had been able to obviate the use of narcotics.—Dr. G. F. BLANDFORD said it was evident that Dr. Rayner had a great prejudice against sedatives and narcotics of all kinds, but that was not his own view. He had been treating patients for 40 years, many of whom had come to him in a state threatening insanity, in which insomnia was a very marked feature, and he felt as certain as he could of anything that a great number of those patients had been materially benefited by the use of medicines given to induce sleep. Of course, such medicines could be abused and could be given until that state of insensibility had been produced to which Dr. Rayner referred. But doses could be given which would have a thoroughly therapeutic effect and produce a state which was indistinguishable from natural sleep. But it was necessary to select the drug suitable to the particular case. He was convinced that among the general body of the profession far too large doses of sedatives were given and that they were continued for too long a time. With so many drugs available chloral was now much less used than formerly. One of the best and safest was paraldehyde. At one time the only drug available for acute mania was morphia, which did not send the patient to sleep, and if it were pressed death resulted *from opium-poisoning, especially since the introduction of* hypodermic injection. There was the class of case where there was no danger of death from want of sleep and in which the giving of narcotics night after night prolonged the case. In such cases it was better to give no drug at all.—*Dr. G. H. SAVAGE said that the symptom* which more than any other he was consulted about was sleeplessness. Of course, if sleep could be obtained by natural means so much the better, but the cause of the sleeplessness must first of all be ascertained. One heard much about anæmia of the brain but in *many cases he was* certain that a nightcap of grog and a little food were more likely to produce sleep than sedatives of the opium type. He agreed that there were cases in which hydro-therapy was of the utmost use—namely, those already loaded with toxic agents, those who had taken *too much alcohol, or* who were gouty. *For* such patients a dose of calomel followed by saline waters and baths would be of great value in inducing sleep and curing the patient. It was a working axiom with him that in painful conditions opiates and narcotics assisted in procuring sleep, especially in *cases with mental pain.* Though opium generally upset the digestion the rest it procured was the means of the digestion being improved. He had seen extremely mischievous patients narcotised into dementia and on recovery from that get perfectly well. A morphinomaniac could be given an ounce of *bromide per day for several days* and be found to have recovered at the end of that time. One could say much the same of narcotics as of restraint. In years gone by his character was taken away because he declined to bow to the worship of non restraint. It had been *said of narcotics that they produced simply a form of laziness*—that the alienist thereby made a desert of the mind and called it peace. He agreed with Dr. Blandford that in many cases narcotics were of the greatest benefit in warding off threatened attacks of insanity.—Dr. FLETCHER BEACH said that his work lay *more in nervous diseases than in actual insanity.* In many cases of neurasthenia and brain fag, unless sleep could be procured very little could be done in the way of treatment. He practically always used sulphonal for the purpose and he had not been able to find any evidences of *emaciation or any kind of indigestion likely to lead to emaciation.* On the contrary, he believed it to be instrumental in keeping up the weight of the patient. He thought that it was wrong to give narcotics continually for weeks. He thought it important for all the bodily functions to be made active. In a case of *hysterical mania* he tried the effect of hyoscine injections, beginning with one-two-hundredth grain and working up to one-seventieth, and in three weeks the patient was cured.—Dr. T. B. HYSLOP said that it was important to know what normal sleep was, not from the physiological or pathological points of view, but from the clinical. He referred to the investigations of Russian and German authorities and the charts they had constructed, and spoke of the importance of distinguishing between restful sleep and that produced through the agency of narcotics. He had always been a little doubtful about the experiments of Hodge and the effects of fatigue upon the nerve cell of small animals. He thought that the effect of an electric current upon such a cell would be commensurate with the effect of lightning upon an ordinary person; and the amount of previous preparation of the cells was enough to make one sceptical about the results. He defended the practice of physical restraint. The great point, which he had verified by experiment, was that if one cut off the physical expression of emotions one also cut off the emotions themselves. The questions of food and the free action of the skin were important.—Dr. T. CLAYE SHAW thought the discussion had taken an experiential form, whereas he had hoped to have heard more scientific facts about sleep. Very little was known about either sleep or narcotics. Sleep was either a nervous or a vascular condition; and where insomnia was connected with the vascular state it was probably unwise to treat it by narcotics. He suggested that in many cases of insanity the highest functions were inactive, that those parts of the brain were really at rest. In such cases was it not wise to abstain from poisoning the cerebral cortex with narcotics?—Dr. R. PERCY SMITH referred to those violent cases which required to be dealt with at once in the patient's own home, of which he gave an instance. He thought Dr. Rayner would agree that in such a case a sedative was required. With regard to sulphonal, at Bethlem Hospital he had found it to give rise in some cases to indigestion and hæmatoporphyrinuria. Some patients could not sleep at nights and he thought that they *should be allowed to sleep* when they felt inclined. General practitioners as a body did not yet realise that other drugs would produce sleep without the very bad effects of morphia. It was undesirable to continue narcotics without giving the patient a chance to do without them.—Dr. ERNEST W. WHITE *spoke of the importance of a regular round of events* in asylum life as a factor in producing quiet nights. He believed that there were many forms of melancholia in which morphia was the sheet-anchor. In acute mania he had given up the exhibition of bromide and chloral *for many years, the cases were* taken for an hour or two's exercise and they gradually fell into line with the other patients and got to sleep without drugs.—Dr. J. S. BOLTON said that he had had considerable clinical and pathological experience of sulphonal. Pathologically for every case of *hæmatoporphyrinuria he had seen 10 of hæmatoporphyrinæmia.* The prolonged use of sulphonal was most pernicious from the point of view of auto-intoxication. Clinically the drug was most valuable in early cases of insanity, but in ordinary acute insanity with extreme rest*lessness and sleeplessness* sulphonal, even in moderate doses, was injurious.—Dr. L. A. WEATHERLY *spoke of the value of* continually renewed air in the induction of sleep as seen in sanatoriums.—Dr. W. JULIUS MICKLE thought that the chief necessity was that narcotics should be given with *brains—i.e.,* that the medical man should make a careful estimate of each particular case before giving any drug. In most cases he would find that the patient did not require a narcotic at all.—Dr. WOODS thought that there were three stages or periods which required *to be taken* into consideration: (1) that before the onset of actual insanity, (2) acute insanity; and (3) chronic insanity. In the first class the judicious employment of sedatives would do a great deal of good. In many cases the dose given was much too large. In cases of insanity with a great deal of motor excitement in which exhaustion rapidly ensued it was necessary to produce sleep by means of sedatives but they should not be continued too long. He laid great stress upon diet and hygienic measures in the third class and feared that sedatives were administered much too freely.—Dr. RAYNER briefly replied. He said that if the injunction to use one's brains were obeyed the practitioner would rarely wish to use a narcotic. The necessity to give a narcotic to avoid alarming the household was quite apart from its curative merits. He agreed with the use of narcotics in cases of bodily pain. In all cases one should try to get rid of the cause of the sleeplessness. Altogether the speakers seemed to be in fair agreement with him.

Dr. T. CLAYE SHAW read a paper entitled, "The Surgical Treatment of Delusional Insanity, based upon its Physiological Study." He said that it was often necessary to argue from effect to cause on account of want of knowledge of the details of the machinery. He proceeded to argue as to what might be supposed to be the physical conditions of a psychic content and from this to draw conclusions as to the probability of there existing a system of "local signature" in the brain in completion of Kulke's theory of specific qualitative colouring. The difficulties under which they at present laboured in treating directly localised lesions in the brain were referred to, and it was suggested that attempts should always be made to trace in which centres they for the most part arose. The importance of localisation was insisted upon and it was argued that if this could be perfected the proper plan was to deal with the disorder surgically, so as to have immediate access to the seat of disturbance—a method attended by little danger and likely to afford valuable results as to progress and ultimate cure.—Dr. HYSLOP referred to his investigations on the same subject and thought that the time was far distant when surgery could be employed with success in the class of cases referred to.—Mr. C. B. LOCKWOOD said the patients he had operated upon for Dr. Claye Shaw were, in his opinion, proper subjects, and where there was a chance of relieving patients from intense pain by surgery it should be done. He gave details of some very successful cases so treated.—Dr. CLAYE SHAW briefly replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Intestinal Resection.—Perforated Gastric Ulcer.—Exhibition of Cases and a Specimen.

A MEETING of this section was held on May 9th, Mr. THOMAS MYLES, the President, being in the chair.

Mr. R. LANE JOYNT read a paper on a Successful Case of Double Resection of the Intestine for Injury. The patient was a youth, aged 16 years, who had been struck in the abdomen by the shaft of a van. He was taken to the Meath Hospital, Dublin, and laparotomy was performed. A portion of the jejunum was found to be torn from its mesentery. The bowel above was severed from the last portion of the duodenum. The rents in the mesentery extended deeply to its roots. The injured bowel, 22 inches in length, was removed, and end-to-end anastomosis was effected by a Murphy's button. The transverse mesocolon was also torn through and only a tube of intestinal mucous membrane over one inch in length stripped of its peritoneal and muscular coats was left connecting the colon. This was excised and a second end-to-end anastomosis was effected with sutures by Cheatle's method. The button was passed on the seventeenth day and recovery was perfect; no disturbance of nutrition had followed. Surgeons were at some disadvantage from want of practice in suturing bowels. The difficulty was to get bowels to suture, for the intestines in the cadaver were so wholly unlike those in the living subject that they were of no use for the purpose. He intended to try the suturing on the carcasses of pigs. The Cheatle suture he found easy to use and capable of being rapidly executed. It had the great advantage that in its application the bowel was not mauled.—The PRESIDENT said that he agreed with Mr. Joynt as to the inadvisability of using a Murphy's button in the operation on the large bowel, especially as one had been used to connect the surgical wound surfaces in the small bowel. The Murphy's button, being liberated earlier in the small intestine, would very probably clude the Murphy's button in the colon. Suturing the bowel had the great advantage of being free from the risk of occlusion; the surgeon was not kept for 17 or 18 days in a state of anxiety waiting for the passing of the button, and with a little practice the bowel could be sutured almost as quickly as the button could be fixed in position. He was much impressed with the fact that the boy was kept for some days without food. Abdominal operations had taught surgeons that food might be safely withheld from patients for some days. In this case delirium supervened but was quickly subdued by the giving of some nourishment.—Mr. L. H. ORMSBY said that when he came to assist Mr. Joynt the case looked hopeless. The operation took two hours to perform. He saw the boy a few days since and found him looking strong and well.—Mr. J. P. DOYLE, Mr. A. J. MCA. BLANEY, Mr. JOHN LENTAIGNE, and Dr. A. R. PARSONS also discussed the case.

Mr. BLANEY read a paper on two cases of Perforated Gastric Ulcer. The first patient, a female, aged 24 years, was operated on 21 hours after the occurrence of perforation. The aperture, situated on the anterior surface near the pylorus, was readily found and sutured. The abdomen was flushed out and was closed without drainage. The patient did well for the first six days; but her temperature then rose and eventually she died from general peritonitis due to the bursting of a localised abscess into the general peritoneal cavity. The second patient, a female, aged 21 years, was operated on 19 hours after the perforation took place. The ulcer was found on the anterior surface near the cardiac end and lesser curvature. There was a great amount of surrounding induration, rendering the application of sutures very difficult. On the eighth day a slight rise of temperature took place; the fever continued, and on the eleventh day the wound was reopened and a large perisplenic abscess was disclosed. This was drained through the ninth intercostal space, a portion of the anterior wound being packed with gauze. The temperature did not subside for a considerable time. Eventually both wounds healed and all stomach symptoms disappeared, but another abscess formed under the scar and it was opened more than two months after the original operation. The patient took raisin tea as it was desirable to avoid the use of proteids in such cases. She was now quite well.

Mr. D. KENNEDY exhibited (1) a case of Excision of the Shoulder for Necrosis of the Humerus and (2) a case of Congenital Dislocation (Sub-spinous) of both Shoulder-joints, with skiagram.

Mr. LENTAIGNE exhibited a case of Tuberculous Disease of the Ankle-joint, with extensive Disease of the Tibia, Astragalus and Os Calcis, cured by raclage. The patient had been already exhibited on March 30th, 1900, and was again exhibited by special request

Mr. W. TAYLOR exhibited a Prostate removed by the suprapubic method.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on May 16th, Dr. W. A. Wills being in the chair.—Dr. James Taylor showed (1) a case of Paroxysmal Hæmoglobinuria in a child who had suffered from Syphilitic Ulceration of the Palate; and (2) a case of Raynaud's Disease in a boy who had lost the Terminal Phalanges of several Fingers and in whose urine oxalates were present in abundance.—Mr. Herbert L. Carre-Smith showed a case of Sporadic Cretinism that had been under treatment for four years with thyroid extract. The mental and physical condition had greatly improved, but a relapse was experienced as soon as the treatment was omitted.—Mr. A. Bruce Roxburgh showed a child with a fatty growth occupying the left side of the perineum and scrotum. The testicle lay in the perineum and a hydrocele of the tunica vaginalis was present. The enlargement was noticed a few months after birth.—Dr. J. Porter Parkinson showed two instances in the same family of a curious congenital depression of the frontal and parietal bones on one side of the cranium. The children, aged respectively 11 months and two years and a quarter, seemed to be intelligent and had never suffered from fits. There were no other evidences of maldevelopment.—Mr. E. W. Clapham alluded to a similar case shown by him before the Clinical Society of London last year.—Mr. Sydney Stephenson showed a case of Keratomalacia in an emaciated infant of the age of seven months who was suffering from tuberculosis, probably of the disseminated variety. The disease already had led to complete destruction of one eye. In the remaining eye the corneal ulceration had healed with the production of a nebula. There had been no ophthalmia neonatorum. The symptoms did not begin until the third month and were those of keratitis and not of conjunctivitis. The latter, indeed, had been absent throughout the case. Clinically, at all events, the gonococcus could therefore be put aside.—Mr. Walter Edmunds exhibited a girl, 11 years of age, suffering from Subluxation of the Left Shoulder-joint. This he regarded as one of the after-effects of epiphysitis with which she was affected as a baby. The arm could be freely moved in any direction except upwards.—Mr. R. Clement Lucas alluded to a somewhat similar case that had been under his care.—Mr. Clapham mentioned another case of the same kind seen in a healthy man who was examined for life assurance.—Mr. H. Betham Robinson showed an example of Springel's Deformity of one shoulder in a girl, 11 years of age. It had been noticed for two months only.—Dr. Travers R. M. Smith alluded to a case shown last year by him at the Polyclinic. Springel's theory was that in utero the arm got behind the back and the shoulder was raised, thus bringing about the deformity.—Dr. James H. Sequeira exhibited a large Sarcomatous Tumour of the Left Supra-renal Body from a girl, aged 11 years, who exhibited the phenomena of "precocious puberty." She had *menstruated for 15 months*, the mammæ were very large, and there was a large growth of hair on the pubes, the chin, and the lip. Secondary deposits were present in the lungs and in the liver.—Mr. Lucas, Dr. F. Parkes Weber, Mr. Robinson, Dr. George Carpenter, and the Chairman discussed the specimen.—Dr. Parkinson showed an Organised Intra-cardiac Thrombus obtained from a boy, aged eight years.—Dr. Douglas Drew exhibited a specimen and sections of an Adeno-myxo-sarcoma of the Testis taken from an Infant.—Dr. C. O. Hawthorne read a note on a case of Arthritis accompanying Ophthalmia Neonatorum which is published at p. 1529 of our present issue.—Mr. Lucas said that it was pleasant to know that a clinical observation made almost in the pre-bacteriological days had been so amply confirmed. His first case was so acute that it appeared as if the joint must suppurate, but as a matter of fact it did not. The peculiarities of the affection were the tendency to recovery without suppuration and the association of suppuration in the conjunctiva.—Mr. Sydney Stephenson remarked that it was a pity that gonococci had not been demonstrated in the eye-discharges from Dr. Hawthorne's patient, but the other circumstances of the case rendered the existence of gonorrhœa quite conclusive. He had personally seen five instances of what might be termed "Lucas's joint disease," and of those cases four of the patients made perfect recoveries under simple treatment. In the fifth case the joint was aspirated and ultimately it became ankylosed.—Dr. Hawthorne, in reply, admitted that the discharge from the eye ought to have been examined for gonococci, but there could be no reasonable doubt as to the diagnosis.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on May 23rd, Dr. Arthur T. Davies, the President, being in the chair.—The President showed: 1. A woman, aged 35 years, with visible Pulsation under the Left Clavicle, with tenderness of the skin over that area. There was a loud systolic noise over the whole chest anteriorly, the loudest being at about the left third costal cartilage. The radial pulses were equal. By the x rays a pulsating mass was seen but with what connected could not be determined. 2. Two men with marked Emphysema of the Lungs who were benefited by wearing Dr Ewart's emphysema jacket. 3. A specimen of Mitral Stenosis with associated Tricuspid Dilatation from a woman, aged 34 years, who died suddenly. 4. A Tuberculous Ulceration of the Epiglottis from a man, aged 36 years.—The President introduced a discussion on Chronic Bronchitis. He advocated the use of the inhalation of a 2 per cent. atomised solution of potassium iodide or similarly ipecacuanha wine. The syrupus picis compositus, U.S.P., with the syrupus pruni virginianæ was chosen, though if fœtid sputa were present the exposure to the fumes of crude creasote in the manner of Dr. T. H. Arnold Chaplin was most useful. The old remedy to relieve the right heart, venesection, might be, at least to some extent, displaced by tartar emetic. For children emetics were undoubtedly very useful. Oxygen, though perhaps not curative, at least induced euthanasia. Climatic treatment was sketched and special praise was given to the Canary Isles, where a variety of climate could be found by going up the mountains.—A general discussion followed.

Reviews and Notices of Books.

On Disorders of Assimilation, Digestion, &c. By Sir LAUDER BRUNTON London: Macmillan and Co., Limited. 1901. Pp. 495. Price 10s. 6d.

THIS book consists of a series of papers on miscellaneous subjects bearing more or less on the question of assimilation and digestion. Most of these papers have been read before learned societies or published in medical journals. In a certain sense this work is a continuation of the author's well-known book on the "Disorders of Digestion," published some few years ago, although in order to avoid confusion between the two books the volume under review has been given an independent and distinguishing title. Comparing this supplementary volume with "Disorders of Digestion" we are forced to the conclusion that the author has not kept his best work for this later publication, and although an apology is offered in the preface for frequent repetition we cannot help thinking that readers who are at all familiar with Sir Lauder Brunton's writings will come to the conclusion that they are justly entitled to an apology of this kind. Two main ideas seem to run through the majority of these essays, one of them is the great importance of rational organo-therapy and the second one has reference to a theory which the author hazarded many years ago when he was working under the direction of Professor W. Kühne—namely, that carbohydrate combustion in the animal system is largely dependent on the presence of a glycolytic ferment in muscular tissues. The influence of enzymes in the physiological processes of the body is undoubtedly great and the more recent discoveries of oxydase and lipase ferments add considerably to their importance, but the underlying and fundamental operations of protoplasm itself and of the nervous system which controls them deserve the equal consideration of any author who discusses the pathology of such diseases as diabetes or the vagaries of an incompetent liver. Nearly one quarter of the book is occupied by a reprint from "The Book of Health" and refers to the influence of stimulants and narcotics on the human organisation. Written in a popular form and bearing a date of nearly 20 years ago, it contributes little to our scientific knowledge of this important subject, and, further, it does not make mention of the more recent and extremely interesting researches on the subject of toxic bodies contained in alcohol which the author himself has carried out. The hereditary effects of alcohol and its relationship to crime, lunacy, and pauperism are now such familiar topics that it is a debateable question whether even Society would learn much that it did not know before by reading this reprint from "The Book of Health." A paper on Bile, Biliousness, and Gall-stones, which was originally read before the North-West London Clinical Society, constitutes one of the most interesting essays of this series. Although subsequently printed in the *Clinical Journal* for January, 1900, it has perhaps not been very extensively read. In this paper appears the curious statement that freshly formed bile is not bitter and that in all probability it only becomes so from absorption of bitter substances formed during digestion. According to the view held by the author it is this bitterness of bile which causes "biliousness." This somewhat expansile term has a more definite meaning to Sir Lauder Brunton than it probably conveys to the mind of most pathologists. Great stress is laid upon the stagnation of bile in the liver as a cause of biliousness and gall-stones, and the want of exercise which mechanically accelerates the flow is held chiefly responsible for the determination of these conditions. Although this explanation has the charm of simplicity it does not explain the association of east winds with so-called biliousness. Nor does it supply a satisfactory explanation of the biliousness of nervous origin or of that connected with railway travelling. Any solution of this problem which does not recognise as pathogenic factors hepatic inadequacy from overwork and nerve exhaustion or hyper-stimulation must necessarily be incomplete if not unsound. The value of flushing out the system with copious draughts of hot water as a prophylactic measure against bile stones and biliary colic will be generally endorsed whether Sir Lauder Brunton's explanation of the *modus operandi* is accepted or rejected. On the subject of constipation and diarrhœa, many useful suggestions are contained in more than one article. Soft food, the consequence of later-day civilisation, is considered to be the principal factor in the etiology of constipation. From the point of view of the general practitioner the volume has many features to recommend it. It is pleasantly written and contains, if we may employ the expression, a large number of useful "tips" in treatment. It is the narrow conception of disease processes and the want of the application of general principles to the particular phases of physiology and pathology which will probably deprive the volume of the enduring appreciation of posterity.

Atlas und Grundriss der Histologie und Mikroskopischen Anatomie des Menschen. (Atlas and Elements of Human Histology and Microscopical Anatomy.) By Dr. J. SOBOTTA. Munich: J. F. Lehmann. 1902. Pp. 247, with 80 coloured plates and 68 illustrations in the text. Price 20 marks.

THIS compact volume, which belongs to a series devoted to the subjects required to be studied by the candidate for medical degrees in Germany, is one of the very best books upon histology which we have seen. It possesses so many merits that we cannot but express this strongly favourable opinion. The text is subsidiary to the illustrations, which is an advantage to those whose business it is to learn the ascertained facts without reference to disputed opinions and to debateable points. The illustrations, with a few necessary exceptions to which we shall revert later, are actual copies of sections which as a rule have been prepared with a view to the present handbook. Being actual copies the author has taken care that they reproduce exactly the very tints used in staining the tissues of which they are representations. Various methods of staining are reproduced in the beautiful plates with absolute fidelity, and to anyone with the slightest experience of microscopical preparations are convincing as representations of actual fact. There is nowhere the slightest trace of any "faking" such as is apt to be seen in drawings of a similar character. Indeed, this pitch of excellence may possibly, in the opinion of some, have been carried a little too far. It is difficult to understand fully the figures of the spleen and of the lymphatic glands. A little judicious explanation in the way of more diagrammatic figures might in these two cases have been of some assistance. With so much that is excellent it is difficult to pick out any one plate or series of plates for especial praise. Among those figures which have struck us as being of particular merit are the drawings of the ovary and the ovarian ovum. The early condition of the corpus luteum is represented with minute fidelity; but perhaps a more highly magnified drawing of the ovum might have been given to illustrate the fact that the neighbouring cells of the follicle do apparently take a share in the nutrition of the ovum in mammals as the corresponding cells unquestionably do in lower vertebrates. The large "glandular" cells of the follicle in the Elasmobranch fishes are, of course, well known. Now Dr. Heape has shown that in the ovum of the mole there are similar prolongations of the follicular cells through the pores of the egg membrane. But in all probability this has not been demonstrated in the case of man, and after all the book is a text-book of human, and not of mammalian, histology.

Nor does the author figure or mention the cell which Professor Schäfer discovered to lie within the ovum, a cell apparently derived from the surrounding follicular layers and corresponding possibly with the cells which penetrate the ovum in the Ascidians. But we may have overlooked some recent proof that these cells are really cells which enter the decaying ovum, as is the case in the eggs of some other and lower vertebrates, during the retrogression of ova that have been ripened but not extruded. It is a little remarkable that Dr. Sobotta does not figure an adult spermatozoon though he gives several figures illustrating the structure of the testis. The illustrations given of the kidney (Fig. 2 on Plate 49 as well as a diagrammatic and explanatory figure) are much to the point in emphasising the probable correctness of the current view that the cavity in which the glomerulus projects is not a part of the kidney tube at all but a segregated part of the body cavity. Dr. Sobotta's drawing shows that the epithelium of this capsule is thin and of a "pavement" character, while the uriniferous tubule begins sharply with columnar epithelium; the columnar region is, of course, at the commencement the equivalent of the funnel of a nephridium in many animals, though it is not ciliated, or perhaps we ought to say, in view of a recent change of opinion, not of a nephridium but of a "cœlomo-duct." It is generally to be inferred from the descriptions of the minute structure of the liver given in many text-books, even if the statement is not actually made, that that alimentary gland is *sui generis* and unlike the other glandular outgrowths of the alimentary canal. This erroneous mode of regarding that organ will be dispelled by a comparison of Fig. 2 on page 22 with Plate 46, Fig. 2. It is rather a pity that the two drawings were not put as nearly side by side as possible. For it is apparent from a glance at both of them that the ductules of the pancreas give off branches running into the actual interior of the pancreas cells just as they have been long known to do in the liver. It happens that in the latter organ these minute ductules form a network, while they do not in the case of the pancreas. But the actual fact of penetration of the cells by microscopic branches of the ultimate ductules occurs in both organs. The study of this fascinating little volume has positively made us long for our remote student days. We can indeed say that in those days there was nothing of such artistic excellence and clearness of explanation to entice the learner into the ways of histology. We distinctly advise every intending student of this branch of anatomy to possess himself of this trustworthy and alluring guide to the mysteries of cell structure.

Plant Relations: a First Book of Botany. Second Edition, revised. Pp. vii.-266. *Plant Structures: a Second Book of Botany.* Pp. vii.-348. Both by JOHN M. COULTER, A.M., Ph.D., Head Professor of Botany, University of Chicago. London: Hirschfeld Brothers. 1902. Price 6*s*. net.

THE first of the above-mentioned books chiefly deals with the ecological relations of plants, or, to use the author's own words, "is dominated by ecology and also contains certain fundamentals of physiology that are naturally suggested." The work does not profess to form a course complete in itself but rather "is intended to serve as a supplement to three far more important factors: (1) the *teacher*, who must amplify and suggest at every point; (2) the *laboratory*, which must bring the pupil face to face with plants and their structures; (3) *field-work*, which must relate the facts observed in the laboratory to their actual place in natur and must bring new facts to notice which can be observed nowhere else" (Preface). Provided these three points are borne in mind by those who use it, the book will not fail to prove of great value and assistance in the study of this most interesting branch of botany. That there is need for such a work there can be no doubt. Unfortunately here in England ecology is very much neglected both by investigators and by teachers. This lack of research is the more to be regretted since much could be done by many who for various reasons are unable to work on the same lines of investigation which are more generally followed by many botanists. The volume is illustrated by over 200 figures, a number of which have been obtained from Kerner's "Natural History of Plants" and Schimper's "Pflanzengeographie," now being translated, we understand, for the use of English students.

The second book—Plant Structures—deals essentially with the morphology of the main groups of the vegetable kingdom. The ground covered may appear to be too wide for the elementary reader, but it must be remembered that it is not intended by the author that the whole of the contents should be used for laboratory exercises, but to form a means of coördination and "to develop some philosophical conception of the plant kingdom." Although the work is quite good on the whole there are a few points to which exception must be taken.

In Chapter 12 the Fertilisation of Angiosperms is described. The process outlined is that which was taught up to 1899—that is to say, no mention is made of the important discoveries of Nawaschin, Guignard, and other observers on the "double-fertilisation" of certain flowering plants, both Monocotyledons and Dicotyledons. Hence we find that the endosperm is compared to, and said to be homologous with, the prothallus of Gymnosperms. This theory, though still held by some, is not by any means considered to be true by all. Again, on p. 291 it is stated that "the large club-mosses and *Isoetes* usually have an apical group of meristem cells, as among the seed plants." As regards *Isoetes* there is some evidence which points to the fact that the stem-apex may grow by means of a single apical cell, as Hofmeister supposed 50 years ago. While dealing with *Isoetes* attention also may be drawn to another statement which might be improved upon. We find that on p. 292 it is stated that in the plant in question "the vascular bundles may be said to be collateral." It is only fair to point out, however, that some of the above points objected to may be due to the fact that although the volume is dated 1902, it does not appear to have been revised since the time of its first publication in 1899. The work is illustrated by 289 excellent figures and will doubtless prove of much use.

A Text-book of Medical Jurisprudence, Toxicology, and Public Health. By JOHN GLAISTER, M.D. Glasg., D.P.H. Camb., F.R.S. Edin., Professor of Forensic Medicine and Public Health in the University of Glasgow, &c. With 238 illustrations. Edinburgh: E. and S. Livingstone. 1902. Pp. 820. Price 15s.

IN this work the plan has been adopted of combining in a single text-book the subjects of medical jurisprudence, toxicology, and public health. We consider this method a good one both for practitioners and students. All three subjects imply relationships subsisting between the medical man and the State and at most of the qualifying examining boards the subjects are now conjoined for examining purposes. Dr. Glaister modestly remarks that on none of the subjects does the volume pretend to be exhaustive. He has, however, produced an excellent manual, fully carrying out all that is claimed for it—that is to say, that in its pages will be found a consideration of the most important problems in each of the departments of which it treats.

The experience gained by the author in the field of medico-legal work and practice and in the teaching of the subjects comprised in the book for many years has convinced him that the kind of book most needed by practitioners and students alike is one which combines the exposition of principles with practical details. On this point we entirely agree with him. Unless interspersed with illustrative cases a text-book on forensic medicine is found to be somewhat uninteresting reading. If, however, certain cases are selected and are then compared with theoretical considerations valuable lessons are acquired. Not only will the student more readily grasp the principles of the science, but he will gain an insight into the manner in which medico-legal cases should be conducted and will be warned against the many pitfalls into which an inexperienced medical witness or officer of health may fall.

The book is divided into three sections. Section I. deals with Medical Jurisprudence. The earlier chapters describe legal criminal procedure in England, Scotland, and Ireland and the methods which should be adopted by the expert witness when giving evidence in court. The vexed question of professional secrecy is ably discussed. It is interesting to note that medical men in certain parts of the world are in different positions in this matter. In England a medical witness must disclose, when a judge so rules, any secret information of which he may be possessor by virtue of his professional relationship to a party in the case. In New Zealand, on the other hand, all communications made to a physician or surgeon in his professional character by any of his patients are held to be privileged and are not admissible in evidence in any civil or criminal proceedings, except with the express consent of the person who is alleged to have made such communication; a similar rule prevails in certain American States.

The chapter on Personal Identity is also well arranged. Full accounts are given of the methods employed in the identification of prisoners by the Bertillon system and by the finger-print systems of Galton and Henry. The chapter on the Medico-legal Forms of Death—namely, drowning, suffocation, hanging, strangulation, and throttling—contains a full account of the appearances which may be present in such circumstances, together with the deductions which may be drawn from them. Other chapters deal with Death by Lightning and Electricity, Death by Cold and Exposure, Wounds in their Medico-legal Bearings, and the Examination of Blood-stains. The medico-legal relations of the sexual functions, rape, and infanticide are also duly discussed.

A useful and instructive chapter is one on the Differential Diagnosis of States of Insensibility, a subject which frequently comes under the notice of the resident medical officers of the general hospitals and which occasionally presents problems of the greatest difficulty. The chief points are described upon which an opinion may be formed, but the main object of the chapter is to warn the young practitioner against coming to a too hasty conclusion. The instruction given to house surgeons and house physicians never to send away an unconscious patient is a good and sound one and should never be departed from.

Section II. is concerned with Toxicology and an account is given of the symptoms, mode of detection, and treatment in cases of poisoning by organic and inorganic substances. The directions given for chemical analysis are unusually full and complete.

Section III. is headed "Public Health." The high standard of description and reasoning exhibited in the previous parts of the book is fully maintained in this section. The chapter on Air and Ventilation is particularly worthy of attention and the principal appliances which are adopted for the ventilation of closed spaces, large and small, are described in detail. Especial attention is paid to the mode of testing practically schemes of ventilation, and the information thus given should prove of considerable value to medical officers of health and to those practitioners who are charged with the supervision of workshops and factories. The subject of house drainage is likewise dealt with at length, as are also those of sewage disposal and methods of sewage destruction.

Some interesting chapters are added which are not always to be found in a text-book of this nature. Chapter 9 is headed "Preventable Diseases." Brief accounts are given of the mode of spread of the infectious diseases, particular attention being drawn to yellow fever, plague, and malaria. Then follow chapters on Methods of Prevention of Infectious Diseases and Modes of Disinfection of Individuals, Clothing, and Rooms. The sanitary law relating to infective diseases is also explained. Chapter 13 is concerned with the Construction and Requirements of Isolation Hospitals and the final chapter deals with the Effects of Occupation on Health and the Duties of Medical Practitioners regarding Industrial Poisoning.

Taking this work as a whole we can unhesitatingly pronounce it to be one of the best text-books dealing with medical jurisprudence, toxicology, and public health which we have met with. It is well written throughout, the information contained in it is full and accurate without being redundant, and the illustrations are appropriate and well executed. We can cordially recommend it to medical practitioners and students and also to members of the legal profession who will find therein a useful guide in a class of cases which are often perplexing to the legal mind.

LIBRARY TABLE.

Contributions from the William Pepper Laboratory of Clinical Medicine, University of Pennsylvania. No. 2. Philadelphia. 1901.—This volume is made up of reprints of a number of papers by various observers. Dr. W. G. Spiller is responsible for seven articles on subjects connected with diseases of the nervous system, including the following: "The Pathological Changes in the Neurone in Nervous Diseases," "A Case with the Symptoms of Cerebro-spinal Meningitis, with Intense and Cerebral Alteration of the Nerve-cell Bodies, but with little evidence of Inflammation;" and (in conjunction with Dr. W. E. Robertson and Dr. W. S. Wadsworth) "Cerebellar Lesions without Cerebellar Symptoms." An interesting communication is that by Dr. A. Stengel and Dr. C. Y. White on "The Blood in Infancy and Childhood." Another paper well worthy of notice is by Dr. C. Y. White and Dr. William Pepper on "Granular Degeneration of the Erythrocyte." The observers studied more especially the granular degeneration found in the erythrocytes of lead workers and were able to demonstrate the granules very early in cases under the influence of lead salts before subjective or other objective symptoms could be detected. Dr. White and Dr. Pepper believe these granules to be a true degeneration of the erythrocyte and to have no relation to nuclear fragmentation or to polychromatophilia.

De la Conjunctivite Granuleuse. Par le Dr. Z. Hourmouziadès, Aide de Clinique Ophtalmologique à l'Hospice National des Quinze-Vingts. Avec préface par le Dr. A. Trousseau. Paris: Société d'Éditions Scientifiques. 1902. Pp. 190. Prix 4 francs.—The conjunctiva is the most extensive, the most superficial, and the most easily examined of the membranes of the eye. Yet the diseases to which it is liable from its exposed position are so diverse that with all the aid that the microscope can afford there is by no means complete uniformity of opinion in regard to the etiology, diagnosis, symptomatology, and treatment of certain forms that to the casual observer seem identical. The truth is that the conjunctival sacs are favourable to the retention of various kinds of low organisms which find in the warmth and moisture of these folds of membrane conditions favourable to their multiplication; suppuration is then easily established and, when abundant, masks the primary disease, and hence the affections named chronic catarrh, chronic purulent ophthalmia, military or Egyptian ophthalmia, granular lids, follicular conjunctivitis, and trachoma have been by different authorities classed together as forms of the same disease. The author of the present little *brochure* regards military ophthalmia and trachoma or granular conjunctivitis as two quite distinct affections and considers trachoma as invariably chronic. His inquiries show that in 1888 there were in the Prussian army two cases of trachoma in every 1000 soldiers and in the Austrian army at about the same date there was a ratio of 8 per 1000. The pathological conditions present in trachoma are well described and illustrated. He quotes in full the description of Larrey in regard to military ophthalmia as he observed it in Egypt, and the account given in Mackenzie's treatise of the outbreak of contagious ophthalmia on board the slave ship *Rôdeur* and shows that these were examples of contagious ophthalmia. He gives as the consequences of trachoma symblepharon posterior, xerosis, entropion, ectropion and trichiasis, blepharitis, pannus, ulcers, abscess, and opacities of the cornea, and, which is not generally admitted, secondary glaucoma. In regard to the etiology of the disease he has no doubt that it is contagious, the contagium being a special but not yet isolated microbe. A chapter is devoted to the geography of the disease in which it is shown to be very widely distributed, diminishing in frequency from the south towards the north. In the section on the Treatment of Trachoma reliance is placed by the author on the internal administration of arsenic, quinine, cod-liver oil, iodide of iron, glycerophosphate of lime, and citrate or malate of iron, and the topical action of nitrate of silver, sulphate of copper, petroleum, corrosive sublimate solutions of various strengths, tannic acid, alum, subacetate of lead, chloride and sulphate of zinc, chromic acid, protargol, binoxide of mercury, tincture of iodine, iodoform, boric acid, mercury cyanide, salicylic acid, pyoctanine and ichthyol—an array of drugs that in themselves sufficiently attest the obstinacy of the disease, leaving out of the question the surgical measures that have been often fruitlessly employed—such, for example, as the thermo-cautery, scarification, *brossage*, extirpation of the superior sac, and other proceedings. Though the treatise is small it contains much information and may be read with advantage by all who are working in ophthalmic wards or hospitals.

Four Epochs of Woman's Life: A Study in Hygiene. By Anna M. Galbraith, M.D., Fellow of the New York Academy of Medicine. With an introductory note by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. London and Philadelphia: W. B. Saunders and Co. 12mo., pp. 200. 1902. Price 5*s.* net.—In this work the author discusses many questions of interest to mothers and their daughters. She considers the four epochs of a woman's life as maidenhood, marriage, maternity, and the menopause. Under the first heading a short account is given of the anatomy and physiology of the female generative organs and of some of the anomalies of menstruation. The second part deals with such matters as the marriage question mainly from the medical point of view and the ethics of married life. In the section on maternity some useful information is given as to the care of the mother during her pregnancy, confinement, and the lying-in period, and the care of the newly-born infant. Lastly, the troubles likely to assail a woman at the menopause are considered and some hints are given for home treatment. The book is interestingly written and should prove of value to women.

secrecy must be strictly observed by every member of a hospital staff. The law is quite plain on the matter, recent decisions of the Court of Cassation having laid down the principle that professional secrecy is never to be violated and that not even in a court of justice can any statement involving such violation be accepted as evidence. The circumstances leading up to Dr. Bonnaire's question were cases of criminal abortion, many of which come under his care. He was anxious to know whether after an admission on the part of the woman herself that such an operation had been performed he, as the *accoucheur* in charge, was justified in informing the authorities, so that the accused might be arrested and such nefarious practices put a stop to. The answer, however, was in the negative.

The Analysis of Urine and the Illegal Practice of Medicine.

The Tenth Chamber of the Correctional Tribunal has just given judgment in a case involving the illegal practice of medicine. The case was that of a pharmaceutical chemist who was accustomed to make analyses of urines. Some patients were sent to him for the purpose by physicians and some came of their own accord. So far there was nothing wrong in his action, for every patient has the right to have his urine examined by whomsoever he wishes. But the pharmaceutical chemist did not stop there, but when he sent the result of his analysis he also formulated a diagnosis and what he considered to be appropriate treatment. He was accordingly prosecuted and the tribunal decided that to make a diagnosis and to prescribe treatment did not fall within the normal province of an analyser of urines and that such conduct trespassed on the preserves of the medical man. The accused was convicted of illegal practice and had to pay 50 francs fine and 50 francs damages to the syndicate of medical men.

April 1st.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Preventive Measures against Small-pox over a Large Area.

THE prevalence of small-pox in the United States is unprecedented and it has led to extraordinary measures to control its spread. The city of Chicago as a centre of trade and travel has an area of 600,000 square miles in 10 States and the remotest boundaries of this area are within a few hours' travel of that city. Between Dec. 28th, 1900, and Jan. 24th, 1901, there were 1070 cases of small-pox reported in that territory, while during the same period ending Jan. 24th, 1902, there were 10,000 cases reported, an increase of 911 per cent. To meet this emergency the Chicago health authorities held a conference with the representatives of the railroads entering the city and submitted a plan of procedure which the railroad officials accepted and will aid in enforcing. The plan contemplates a wholesale vaccination and re-vaccination in every infected locality. The details are as follows. The work along each line of railway will be under the direct charge of the medical director or chief surgeon of the company and a central office will be opened and maintained in the city for the receipt of reports, requisitions, &c., from all persons engaged in the campaign. Competent vaccinators and supplies of pure lymph thoroughly tested will be furnished gratis in all proper cases. Special attention will be paid to the condition of employés in manufacturing establishments, particularly those of textile fabrics, and the railway officials will set the example by still more rigorously making recent vaccination a condition of further employment. Provision is also made for the maintenance of suitable isolation hospitals where necessary and for the thorough disinfection of all premises and their belongings where small-pox has occurred. The officers of the railroads engage to maintain a rigid inspection of all persons wishing to travel from infected localities and to refuse to carry those who do not comply with the requirements.

State Quarantine against Consumptive Persons.

There has been much agitation over the reported action of certain States, reputed to have climates favourable to persons suffering from pulmonary tuberculosis, favouring quarantines against persons suffering from consumption. This is especially true of Colorado, the resort of the larger number of this class. Such action of State officials is now authoritatively denied by past and present officers of the State Board of Health and of the State Medical Society. In a circular these deny (1) that any member of the Colorado State Board of Health ever proposed to prevent tuberculous persons from entering the State; (2) that any member of the legislative or executive branch of the State of Colorado ever suggested such action; (3) that there is any law to that effect on the statute-book; (4) that there is any ordinance of any city or town to that effect; and (5) th assert that, on the contrary, the Colorado State Board of Health issued in 1900 a circular, stating that the climate the State had saved the lives of many who had come ear could not be doubted and that there was no need quarantine against consumptive persons, such a course bein both unnecessary and impracticable. They added the following in conclusion: "Doubtless, many persons with advanced tuberculosis should not be sent here, but for those who can be benefited by coming Colorado should have nothing but a warm welcome."

Responsibility for the Deaths from Tetanus following the Use of Diphtheria Antitoxin.

The fact that 13 deaths occurred in St. Louis from tetanus after the injection of diphtheria antitoxin has been noticed in a previous letter. The public alarm at the possibility of such an accident has discredited the use of antitoxin obtained from laboratories under municipal management. The finding of the court appointed by the Board of Health to fix the responsibility for the accident is as follows: "1. The diphtheria antitoxin heretofore issued by the city was prepared, bottled, and distributed by and under the supervision of Dr. Amand Ravoid who was employed by the Health Commissioner, with the approval of the Board of Health, in 1894, as consulting bacteriologist and to have charge of the preparation and distribution of diphtheria antitoxin, and that he was responsible for the quality of material so prepared and distributed. 2. That horse kept by the city under the supervision of Dr. Ravoid as a producer of diphtheria antitoxin serum was bled by him on Sept. 29th, 1901, and on Oct. 2nd was found to have tetanus and was killed. 3. From Dr. Ravoid's testimony the poisonous character of the serum from this bleeding of Sept. 29th was known to him but he failed to cause the serum to be destroyed. 4. That owing to this inexcusable negligence the poisonous serum was, in part, bottled and issued to physicians between Oct. 10th and 23rd with deplorable results." The recommendation is to the effect that Dr Ravoid be discharged from the service of the Health Department and that the city do not hereafter manufacture diphtheria antitoxin.

Dispensing with the Term "Insane."

The Butler Hospital for the Insane at Providence, Rhode Island, has dropped the word "insane" from its title and from all its letter-heads and bills, leaving only the term "Butler Hospital." The object of this action is to remove from its inmates the stigma which attaches to their admission to an institution devoted to the care and treatment of the insane. The superintendent, Dr. Blumer, remarks: "Many of our patients come to us needing treatment merely and destined soon to leave restored to perfect health. It is almost a wrong to these patients that it should be said and remembered of them that they have been insane or the inmates of an 'insane asylum' or a 'hospital for the insane.'" This action of the managers of that old and reputable institution is destined to be followed by other similar institutions and the day is not distant when the meaningless terms "insane" and "insanity" will be abolished in this country.

Military Hygiene to be Taught at West Point.

The Secretary of War has directed the academic faculty at West Point to consider and to prepare a course of study to be given to the cadets which shall include full instruction in military hygiene. This addition is strongly favoured by the superintendent and other progressive line officers who believe that the object lessons of the war with Spain should not be disregarded and that the scientific and technical training of the cadets should, if necessary, be cut down so as to permit of their proper instruction in the care of troops. The superintendent is impressed thoroughly with the belief that military efficiency depends upon the attainment of four great essentials—viz., suitable armament, proper food, efficient transportation service, and careful sanitary government; he therefore favours a course of instruction in practical military hygiene to the cadets extending over not less than 30 hours in each academic year.

An American Hospital in Paris.

The American residents in Paris have long felt the need

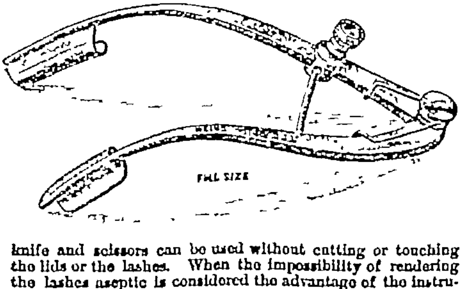
An Introduction to Physiology. By WILLIAM TOWNSEND PORTER, M.D., Associate Professor of Physiology in the Harvard Medical School. Part IV., Physiological Optics. Cambridge, Mass.: University Press. 1902. Pp. 99. Price 2s.—This little work is intended to teach the student how by means of a few lenses and some easily made apparatus he can perform physical experiments that will enable him to understand the principles of refraction and reflection of light. The apparatus, of which a drawing is given, consists of a small lantern containing an electric light and having an opening at one side into which a tube containing three lenses and a diaphragm are fixed. The light emerging from this chamber, owing to the disposition of the lenses, is composed of parallel rays and enters an orifice in the side of an adjoining optical box. The course of the rays in this chamber is rendered apparent by burning some Japanese incense. The position of the principal focus and of the conjugate foci, the laws of reflection and refraction, can with a little ingenuity on the part of the student be easily demonstrated. Having mastered these fundamental facts the phenomena of refraction in the eye are discussed and a good account of the mechanism of accommodation as explained by Helmholtz is given. The views of Tscherning are not mentioned. Sections are, of course, devoted to the subjects of myopia, hypermetropia, and astigmatism. In small compass the author has compressed a large amount of useful information.

ERRATUM.—In reply to a correspondent we inadvertently stated in THE LANCET of April 26th, p. 1224, that the price of "The Operations of Surgery," by W. H. A. Jacobson and F. J. Steward, was 34s. This was quite true as regards the third edition but the price of the new (fourth) edition is £2 2s.

New Inventions.

AN EYE SPECULUM.

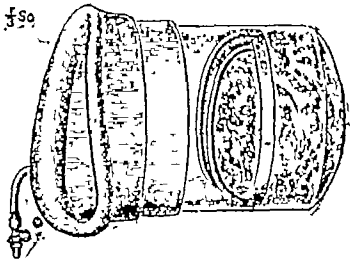
THE accompanying drawing illustrates a modification in Clark's speculum which has been made for me by Messrs. Weiss. It consists in the eyepieces being solid, to keep the lashes out of the field of operation during the extraction of cataract, iridectomies, discission of capsule, and similar operations. This end it fulfils perfectly, and although the increase in the bulk of the eyepieces limits slightly the width of the palpebral opening, still the surgeon soon accustoms himself to this trifling inconvenience, which is more than compensated for by the free way in which both knife and scissors can be used without cutting or touching the lids or the lashes. When the impossibility of rendering the lashes aseptic is considered the advantage of the instrument, which keeps them away from the wound, will be recognised by everyone who does not cut off the lashes before operating.

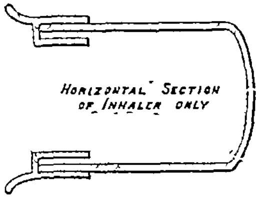


Cavendish-square, W. WILLIAM LANG.

A NEW ANÆSTHETIC INHALER.

WHILST administering the A.C.E. anæsthetic with the celluloid cap and sponge inhaler, my attention has been drawn on various occasions to the two imperfections in this method of administration. These are: first, in prolonged operations the sponge becomes saturated with the anæsthetic with the result that the excess of liquid and exhaled moisture flows down the inner surface of the inhaler on to the patient's face, causing blistering or cutaneous inflammation, which though slight in character is not infrequently irritating and troublesome; secondly, the sponge, unless fitting accurately and rather tightly to the concavity of the inhaler, tends to fall, especially when saturated with the anæsthetic, on to the patient's face.





To obviate these two possibilities Messrs. Down Brothers made, according to my instructions, the celluloid inhaler here shown and described. For the prevention of blistering of the face I have devised the detachable face-piece with an inner lip, leaving a space between it and the inner surface of the inhaler of sufficient depth to contain any excess of moisture which flows down the inner surface. This face-piece can be detached at pleasure and any excess of liquid in the space between the two lips can be shaken out over a towel. With regard to the possibility of the sponge falling on to the patient's face, this is prevented efficiently by the light metal spring with cross-bars fitting the inner circumference of the inhaler. After giving the inhaler a thorough trial I am confident that these two simple additions are effectual and add greatly to the comfort of the administration. I must draw special attention to the importance of removing the face-piece as soon as the administration is over as the action of the anæsthetic is liable after a time to cause adherence to the inhaler. A. WARING, M.B. Lond.

Nottingham.

COLCHESTER MEDICAL SOCIETY.—The spring meeting of this society was held at the Cups Hotel, Colchester, on May 20th. In the absence of the President (Mr. J. Taylor of Earl's Colne) Mr. Alderman H. Laver, J.P., took the chair. 18 members sat down to dinner and afterwards the general meeting was held. Dr. E. Chichester read a paper on Methods of Detecting the Diphtheria Bacillus, with microscopical demonstrations. Dr. Sinclair read a paper on Albuminuric Retinitis in Pregnancy. The Secretary (Dr. B. H. Nicholson) showed the following: (1) A case of Phelps's Operation for Talipes, with complete cure after four years; (2) Bow-legs, Osteotomy of the Tibia and the Fibula with x-ray photographs; and (3) a case of Excision of the Tongue by Whitehead's Method with Ligature of the Lingual Artery.

THE LANCET.

LONDON: SATURDAY, MAY 31, 1902.

Army Medical Efficiency.

THE Secretary of State for War and Sir FREDERICK TREVES in the course of their speeches at the late annual gathering of officers of the volunteer forces who have served in the South African war made some allusions to the Army Medical Service which are not without interest at the present time seeing that the competitive examination for admission into the Royal Army Medical Corps in July next is the first examination which will take place under the terms of the new Royal Warrant. The probable results of that examination have given rise to a good deal of speculation and curiosity. Meanwhile, Sir F. TREVES, in speaking about "The Imperial Forces," alluded in eulogistic terms to the way in which Mr. BRODRICK had set about doing the hard and responsible work which it had fallen to his lot to encounter. Sir F. TREVES remarked that as to the Army Medical Service it was the Secretary for War's avowed object to obtain the best that could be provided. This afforded Mr. BRODRICK an opportunity of recognising and very graciously thanking Sir F. TREVES and his colleagues not only for their great services in the field during the most arduous portion of the campaign but also for the valuable aid which Sir F. TREVES and other distinguished members of the medical profession had subsequently rendered by their unremunerated labours in the reorganisation of the Army Medical Department.

Speaking of the amendments and changes which had been found necessary in the Army Medical Service "owing to the greatness of this war," Mr. BRODRICK expressed his confidence in the success of the task that had been committed to them because of their having had at their back for the first time the heads of the civil medical profession, who he hoped in future would work hand in hand with the Royal Army Medical Corps to the immense advantage of the British soldier and of the nation. In saying this the War Minister is expressing a view which we have always held. The public medical services and the great body of the civil profession are bound up with one another; their interests and relations are mutual and reciprocal, and the heads of the civil profession in reality constitute the only special scientific jury that can properly estimate and judge of the value or otherwise of the work done by the public medical services. So long as these services are recruited from the medical universities and schools of this country it is obviously necessary that the terms and conditions held out by the Government should be such as to commend themselves in the main to the great body of the profession. Speaking broadly, what is best for the public is best also for the medical service and the profession. A medical department [illegible] scientific, technical, and specialised branch of service, and the nation has a right to expect that its members shall be of good quality, well trained, and up to date in their acquirements and practice. Efficiency in the army is now the cry, and if the alleged disclosures in the forthcoming report of the Committee on the Education and Training of Army Officers be well founded there would seem to be plenty of room for radical changes and reform in other directions than the Army Medical Department. To say that what is wanted is a really efficient medical service is no doubt merely to state a platitude but the means to secure it are nevertheless apt to be lost sight of. It means money for one thing, but it means other things besides money.

Taken as a whole the new Warrant is, as we have said, a good Warrant; it contains a number of new and excellent points and goes a long way towards securing efficiency. Increased facilities for professional study will call for an increase of the medical establishment by which it is to be hoped that the amount of foreign service on the part of medical officers will be lessened. We have no doubt about the sincerity of Mr. BRODRICK'S intentions and efforts, as Sir F. TREVES assures us is the case, to provide the army and the nation with the best medical service. There is an important matter, however, to which, although we have frequently touched upon it already, we must again refer. It is as to the position and rates of pay of medical officers whilst serving in India under the Indian Government. Candidates for commissions in the Royal Army Medical Corps are, it seems to us, entitled to have some definite information on this head and to know also whether it is proposed to take any steps to lessen the undue amount of foreign service which medical officers have had to perform for some years past. We venture to suggest that it would be very useful and opportune if Mr. BRODRICK were to seize an early occasion for enlightening us on these points.

Hæmatology.

WE have on several occasions drawn attention to the advances which have been made of late in our knowledge of the pathology of the blood. The results which have been published by numerous observers go to show that valuable clinical information may be obtained by systematic examination of the blood. The technique required is gradually being simplified and the more recent methods are neither elaborate nor difficult to learn. The time required for counting the blood-corpuscles may in the early endeavours be considered rather long, but with practice will come celerity.

The rapid growth and development of this particular branch of medical science have caused it to be distinguished by a separate name—"hæmatology"—and in conjunction with the investigations that have been made many terms hitherto little known have now come into common use and several new ones have been introduced. Thus the red blood corpuscles are denominated "erythrocytes," whilst according to their size and nuclear characteristics they are designated as normoblasts, megaloblasts, and microblasts, whilst certain intermediate forms are known as mesoblasts. The white blood corpuscles are, of course, now referred to as "leucocytes." It has been shown, however, that no less than six distinct varieties of leucocytes may be recognised in the healthy blood of an adult. They occur in varying numbers and percentages under different physiological and pathological influences, and an accurate knowledge of their appearances and the conditions under which they are seen or are absent will lend considerable aid in many cases of doubtful diagnosis. The leucocytes are, under certain circumstances, increased in number, yielding the condition known as leucocytosis. This phenomenon is being investigated by many observers and if a complete knowledge of its mode of production has not yet been arrived at it is not for want of much intelligent observation and work. Leucocytosis has been shown to exist under both physiological and pathological influences. Under the former are included leucocytosis of digestion, of pregnancy, and of parturition. A transient increase in the number of leucocytes of the blood drawn from a peripheral vessel, and not involving a disturbance of the normal ratio between the different forms of cells, is produced by active local or general muscular exercise, by brief exposure to atmospheric cold, and by the application of electricity and of massage. Dry or moist heat, if long applied, also increases the number of leucocytes. Terminal or pre-agonal leucocytosis is a term which has been given to the increase in the number of white cells which has been observed shortly before death. Under the term "pathological leucocytosis" a number of conditions are included—inflammatory and infectious leucocytosis, post-hæmorrhagic leucocytosis, toxic leucocytosis, and the leucocytosis associated with malignant disease. The estimation of the percentage of hæmoglobin of the blood also affords useful information, especially in the diagnosis of pernicious anæmia. Other processes have been introduced, but at present most of these are only in the experimental stage and their clinical indications have not been accurately determined. Amongst them we may mention the estimation of the relative volumes of corpuscles and plasma, estimation of the specific gravity of the blood and of its alkalinity, determination of the rapidity of coagulation, and the counting of the blood-plaques. The other procedures which are better known, and which we need only mention to complete the list of processes to be resorted to in a complete examination of the blood are simple microscopic examination of the fresh blood, bacteriological examination, determination of the serum reaction, and spectroscopical examination.

It will thus be seen that hæmatology is rich in results that have already been achieved and also in possibilities that future research may develop. A practitioner wishing to keep abreast with modern methods of clinical examination cannot afford to disregard the work which has already been done. The indications yielded by the observation of changes which occur in the blood under varying conditions have now a definite value. They may be divided into two main classes—namely, phenomena which are pathognomonic of certain diseases; and auxiliary data, which may prove most helpful in establishing the precise nature of a disease when considered in connexion with other clinical manifestations. Of the first class, the most typical examples are afforded by the results of hæmatology in connexion with leukæmia, malarial fevers, and filariasis. In the second class we may mention as instances in which an examination of the blood is almost essential for diagnosis, Hodgkin's disease, splenic anæmia, and secondary anæmias dependent upon various causes. With regard to the last-named, the blood has been shown to give valuable information in the diagnosis of appendicitis, malignant disease, enteric fever, sepsis, and diabetes, and in many cases prognostic indications are also yielded. In hæmatology we have a factor in clinical diagnosis which is likely to take a prominent position in the near future. We have referred only to the principal facts which have been established but there are many minor ones which may presently be considerably elaborated. Students of the present day, therefore, will do well to familiarise themselves with the methods involved in the examination of the blood, for a knowledge of hæmatology bids fair to be of great value in practice.

Cancer Research.

A MEETING of the directors of the Royal Infirmary, Dundee, was held on Thursday, May 8th, at which a letter was read from Mr. J. K. CAIRD intimating that he was prepared to give the munificent sum of £18,500 to build a new hospital exclusively for cancer patients. The fact was briefly announced at the time by one of our Scottish correspondents. The building, we understand, will contain three wards for males and three wards for females of from 16 to 20 beds each, also one ward of six beds and 12 rooms of one bed each for paying patients. Provision will be made for six dining-rooms for convalescents, six kitchens, six rooms for patients' clothes, six pantries, and six store-rooms, besides bathrooms and sanitary accommodation. The upper floor will have about 26 bedrooms for nurses, with three sitting-rooms, a box-room, and a lavatory. The tentative plans for the new hospital, which it is proposed to erect behind the infirmary, show a design for a building in two pavilions each complete in itself, so that one half can at any time be used for other than cancer patients in relief of the present infirmary. Mr. CAIRD proposes that "one of the wards which may not at first be occupied might be fitted as a laboratory for original work in the investigation of the disease and its cure, for which an additional sum of £1000 each year for five years will be guaranteed." The directors at once decided to avail themselves of Mr. CAIRD'S generosity, to build the new hospital according to the donor's plans, and to take upon themselves the responsibility of furniture and maintenance.

Mr. CAIRD by his generosity displays not for the first time a desire to lighten the sick man's burden, a desire which cannot be held in too high esteem. His philanthropy could not be directed towards a more worthy and deserving purpose than the relief of patients suffering from cancer, while his wish to further scientific research shows that he appreciates the value of what has been done of late years in our physiological and pathological laboratories. If we venture to criticise the conditions of the second portion of his gift to his native town it is with full appreciation of the excellence of his motives. We may perhaps suggest, however, that at the present time Mr. CAIRD'S intentions to benefit the victims of cancer would be more speedily fulfilled if the £5000 to be spent on research work were handed over to the committee appointed by the Royal College of Physicians of London and the Royal College of Surgeons of England for the systematic study of this terrible disease. In a leading article in THE LANCET we recently commented on the general character of the scheme proposed by the Royal Colleges to be set in motion for the investigation of cancer. We criticised certain points in the scheme that we thought might have been bettered, but our criticism was directed to detail. Any well-organised attempt to protect our population from the terrible scourge of malignant disease must in its main object command our approbation. The Royal Colleges need funds in order to carry out the proposed measures of research and Mr. CAIRD'S munificence to Dundee will, we hope, encourage other wealthy philanthropists to dower the efforts of scientific research in London.

We cannot help wishing that it had occurred to Mr. CAIRD'S generous mind to adopt this course. This we say with no desire to detract from the merits of his admirable action or to deprive Dundee of any of the fruits of her open-handed citizen's generosity. We congratulate Dundee upon possessing Mr. CAIRD and Mr. CAIRD upon his resolute intention to benefit his sick neighbours in a thoroughly practical manner, but we have some doubts whether the course that he has adopted in subsidising a school of special research in Dundee is the one that will best serve his ultimate purpose. The prevention of cancer is a pressing matter and if Mr. CAIRD'S idea is carried out it will involve a delay of perhaps two years before the new efforts of research will be initiated at Dundee. The buildings are not ready and when they are erected and equipped officers with sufficient experience will have to be found and appointed to carry out the investigations and to use their best endeavours to get into touch with the other workers in the same field. Isolation in scientific research almost inevitably means that much work is done that is unnecessary, because it is done over ground that has already been thoroughly tilled by others. The supervision of the investigations accomplished by various observers by a competent central committee obviates such repetition.

Annotations.

"Ne quid nimis."

A NOVEL WITH A PURPOSE.

RATHER more than three years ago Mr. Rider Haggard entered into honourable competition with Ibsen and Zola by attempting to cure with a novel the deafness and blindness of those for whom blue-books and statistics are vain things fondly invented. In "Dr. Therne" he wrote a didactic treatise which is also an excellent story and there is no doubt that in so doing he served admirably the cause of public health by his vigorous advocacy of vaccination. We have received copies of an interesting correspondence which has taken place between the well-known author and a convert whom he has made. Mr. George J. Battle of Rushden, in his letter to Mr. Haggard, states that "Dr. Therne" has controverted theories concerning vaccination which he has held for 20 years. "At Wellingborough," he says, "in 1898 I was fined for non-compliance with the Vaccination Act and I have since obtained exemption certificates for my three children under the conscientious objectors' clause in the Act of 1898. Your 'Dr. Therne' has made me think that non-compliance with the Vaccination Act is the worst course to take and I shall not only have my children vaccinated but shall submit to the operation myself." Mr. Rider Haggard, in replying to the letter, after saying that he wrote the book out of the fulness of his faith in vaccination, tells the following story: "A week or so ago the local papers reported an outbreak of small-pox at Ipswich. From the report it would seem that the father of the family had the elder children vaccinated. He then became an anti-vaccinist, with the result that the younger children were not thus protected. Small-pox got amongst the family and (according to the report) the unvaccinated children were all stricken down, while so far the vaccinated had remained immune." Stories equally convincing might be multiplied and it is not infrequent for our readers to ask us why we do not lay stress upon such cases. As a matter of fact such occurrences told in our columns have no particular effect, as our pages are read by an audience already in no doubt as to the benefit of vaccination. But when a popular novelist like Mr. Haggard, who has also shown himself to be a serious and responsible politician, narrates them in the columns of a lay paper they have great weight. We congratulate Mr. Battle on having the pluck to announce a change of mind. We are often invited to do honour to the courage of persons who remain true to their convictions in the face of opposition, but everyone knows that in these liberal-minded days no particular courage is required for the exhibition of such constancy. The faithful, or it may be obstinate, persons are sure of approval. Now the man who changes his mind, because to remain of the original opinion would be false to his inner convictions, has to incur the reproaches of those whose side he has left, and these are sometimes hard to bear.

THE ETIOLOGY OF CANCER.

IT is a widespread and popular idea that a blow or injury of some kind or other is sometimes followed by a malignant growth at the place in question. This view recently found expression at an inquest held by the Fulham coroner on a man, 58 years of age, a coalman, who had died in the Poor-law infirmary. It was stated in evidence that about a year ago the deceased occupied a house in Little Clarendon-street, Somers Town, and on asking one of his lodgers for rent which was owing he was struck and kicked, and that in consequence of this violence he developed cancer of the jaw and his teeth fell out. The alleged assailant and his wife, however, gave evidence at the inquest, admitting an altercation but denying the infliction of serious injury. They also stated that the incident occurred at least 23 months ago and that the deceased had previously suffered from "gumboil" and decayed teeth. Dr. C. T. Parsons, medical superintendent of the Fulham Infirmary, said that death was due to cancer of the jaw, but that it was impossible to say whether this arose from injury or from natural causes, and the jury returned a verdict in accordance with this evidence. The nature of the new growth does not seem to have been precisely described, and perhaps rightly so, for a coroner's inquest is not the proper occasion for discussing questions of histological minutiæ. Among the facts to be accounted for by those who incline to the popular view that cancer may follow an injury, are the following: that although males suffer much oftener than females from accidents and injuries yet females are much more liable to malignant disease than males; while the parts of the body most apt to be attacked by malignant growths are not the most exposed parts. Even in the female breast, one of the principal localities of selection, the disease seldom affects the nipple or the skin but usually originates as a nodule in the gland. On the other hand, there is good reason to suppose that a continuance of slight irritation may create a predisposition to cutaneous cancer, as was pointed out long ago in the case of chimney-sweeps and more recently in the case of workers in paraffin factories; while the connexion between *betel* chewing and oral cancer, to which we refer in another place, has the same probable explanation. From the frequency of malignant disease in the mouth and perioral region dental surgeons often see it in the early stage, a circumstance which provides opportunities for the exercise of skill in diagnosis and for the practical advancement of our knowledge of the disease. The "gumboil" from which the man who formed the subject of the inquest was said to have suffered may have been epulis, a chronic manifestation of alveolar sarcoma very different in its nature from an ordinary acute abscess connected with a carious tooth.

"MILK-BLENDED" BUTTER.

THERE can be no doubt that the Board of Agriculture intends to give the question of "milk-blended" butter very serious consideration with a view to check the unfair competition which its sale has introduced. A strong deputation representing the colonies as well as the mother country waited upon Mr. Hanbury at the House of Commons on May 27th and urged upon him to clear the law from the confused state in which it was at present in order that the sale of watered butter could be placed under more effectual control. Mr. Hanbury gave a very reassuring answer. He not only agreed that legislation was required but that it was required without delay. He expressed the desire of the Board of Agriculture to keep up the standard of agricultural products and to protect the public by making certain that the buyer of butter should be quite sure of getting what he asked for.

THE NAVAL MEDICAL SERVICE IN GERMANY.

IN a recent leading article[1] we called attention to the regulations which prevail in Germany for maintaining a high standard of professional knowledge in the naval medical service. Our remarks having excited some comment we think that a more detailed account of the regulations to which we alluded may be interesting to our readers. In the German naval medical service every medical officer without exception has to attend a course of four weeks' duration at the universities of Kiel, Rosto, Greifswald, and Berlin respectively. The course includes every branch of practical medicine and is given during the university holidays by the professors of the universities. The medical officers of the navy (and those of the army likewise) are ordered to attend these courses at least twice, once when in the rank of Ober-Assistenzarzt and another time when in the rank of Stabsarzt. A great many of the medical officers, though not all, have to attend the course a third time when in the rank of Ober-Stabsarzt. The courses are held at the expense of the Government. The medical officers receive their regular pay and also their travelling expenses. Medical officers of the navy who have received specially good training are allowed, or rather deputed, to hold civil appointments for one year or two years whilst continuing to belong to the service. They receive the pay of their rank during that time and at the expiration of their appointments they return to the navy. The following civil appointments are among those open to naval medical officers: assistantships at the Hamburg General Hospital, at the clinics of the Kiel University, and at the Berlin Institution for Infectious Diseases, while there are also posts at the Imperial Health Office which they may be invited to fill. Until two years ago assistantships at the Charité Hospital of Berlin were open to naval medical officers but since the complete separation of the naval medical service from the army medical service these appointments are now given to members of the army medical service exclusively. At the great naval hospitals of Kiel, Wilhelmshafen, and Cuxhafen ample opportunity is afforded to naval surgeons for professional study. From all of this it will be seen that the officers of the German naval medical service are encouraged to look upon their profession in the proper way. They are enabled at no expense to themselves, and at different points in their career, to get into touch with modern university teaching, while their professional attainments and records are taken into account in allotting to them civil appointments. The opportunities which they have of holding clinical posts in great general hospitals should be simply invaluable in keeping them up-to-date in practical therapeutics.

THE DISTRIBUTION OF PLAGUE.

THE report of the medical officer of health on the state of plague in Cape Colony during the week ending May 3rd says that at the end of the previous week six persons remained under treatment—namely, five Europeans and one native. There have been no fresh cases during the week ending May 3rd. Mr. D. C. Rees, the senior Government plague medical officer of Cape Colony, has, we understand, been appointed medical inspector on the staff of the medical officer of health of Cape Colony. A *Times* telegram dated Paris, May 27th, states that a note published by the Colonial Office announces the existence of eight cases of plague at Mojanga. There have been four deaths since May 19th. Mojanga has been declared infected and all the neighbouring ports have been informed of the outbreak of the disease in Madagascar. 33 cases of bubonic plague were reported at Hong-Kong for the week ending May 24th.

REPORT ON DIETING OF PAUPER LUNATICS IN SCOTLAND.

THE Commissioners in Lunacy for Scotland have presented a supplement to their forty-third annual report which deals with the dieting of pauper lunatics in the asylums and poor-houses of Scotland and which has been drawn up by Dr. J. C. Dunlop of Edinburgh in compliance with instructions issued by the General Board of Commissioners in Lunacy in March, 1900. A very full and exhaustive examination was made of the returns of the regulation dietaries in the various asylums and poor-houses and in many instances by visits to the institutions the returns were verified as correct. A careful study of the composition of the foodstuffs used in asylum dietaries, according to the proportions of proteid, fat, and carbohydrate present in them and estimates of their "energy values" according to established physiological principles were made. For dietary purposes the male working lunatic was considered as an able-bodied man doing a moderate day's work, as it appeared from the scheduled returns that in most asylums the working male patient was employed about six or seven hours a day at agricultural or other manual labour. The standard of energy value necessary for such a patient was taken at 3500 calories, while for the working female patient the amount estimated as required was 2800 calories, or four-fifths of that of a male. It was also calculated that the average male asylum dietary should have an energy value of 3000 calories per male patient and 2650 calories per female patient when both working and idle patients were considered. On the basis of these requirements the various dietaries were critically examined. Attention was also paid to the facts that variety in food and a proper supply of fresh vegetables and of condiments were a *sine qua non* for all dietaries, as it was only when these conditions were satisfied that any dietary could be regarded as adequate. Calculations were then made of all the dietaries as regards their food value and the results were classified into three groups—viz., dietaries which were excessive, dietaries approximating to the standard, and dietaries which were defective. Thus among the dietaries for male patients in 39 specified institutions 11 were found to be excessive, 13 were approximately standard, and 15 were deficient; and among the corresponding dietaries for female patients 25 were excessive, eight were approximately standard, and six were deficient. Excessive feeding was thus found to be more prevalent in female than in male departments, and it was clearly evident, says the report, that some of the dietaries might safely be reduced and others with much advantage might be increased. Excess of carbohydrate food was noted in the dietaries of three institutions. The report concludes with valuable suggestions regarding the proper feeding of asylum patients. Bread is recommended to be given *ad libitum* with all meals, "an improvement which is called for in nearly all the asylum dietaries," and little fear is entertained of undue waste arising from this source. The minimum weekly amount of meat uncooked without bone should be 24 ounces per patient distributed into four meals, of potatoes three pounds, and of other fresh vegetables one and half pounds. A fish dinner, or a fifth meat dinner, should be given weekly. The weekly allowance of butter should be not less than five ounces and tea, coffee, or cocoa should be given twice in each week. The report forms an important document on the dietetics of the insane in pauper asylums.

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[1] THE LANCET, April 26th, 1902, p. 1193.

THE DUST PROBLEM ON THE RIVIERA.

THE motor car has produced one great evil—it has caused a most serious increase in the quantity of dust on the roads. On the Riviera, where the motor-cars are numerous, the nuisance is so great that it has been described as "the dust plague." Even the strong and healthy feel the discomfort, and invalids, especially those with affections of the chest for whom the Riviera has been a favourite resort, are beginning to find the place intolerable. With considerable ingenuity and assiduity Dr. Guglielminetti of Monte Carlo has endeavoured to find a remedy for the evil. In the *Gazette Médicale de Paris* of May 17th he advocates as the result of his labours the tarring of the roads. Thorough watering would be very expensive. The use of sea water is open to the objection that after evaporation salt would remain which would injuriously affect the eyes of pedestrians and the dresses of ladies. Moreover, the heat is so great that the roads rapidly dry after being watered. Dr. Guglielminetti therefore turned his attention to the processes which have been substituted for watering roads. In California and other American districts water has given place to petroleum as a dust-layer. In Algiers olive oil and naphtha oil have been used since 1896. The American method is to cover the roads with a layer of heavy unrefined petroleum heated to 80° C. An asphalte-like deposit, which is solid and durable and forms but little dust in summer and no mud in winter, is formed. This roadway is greatly appreciated by cyclists and drivers and a saving of 45 per cent. of watering expenses is effected. Two applications of petroleum a year are sufficient; 5000 litres of petroleum, which cost 400 francs, are required per kilometre. But in France the cost would be five times as much. Dr. Guglielminetti therefore turned his attention to coal-tar which has been applied to roads in the Haute Garonne and in Ravenna in 1901. In the latter town 246 metres of roadway were treated with excellent results. The authorities at Monte Carlo have been induced to try the tar method on [illegible] the Vaccinão, the slaughter-house. In [illegible] obtained exemption certificates for the results surpassed hard and compact that it was difficult to break up. There was no dust and rain did not penetrate the layer formed by the tar. After 40 days' traffic the surface was not damaged and had resisted the wear and tear of wheeled traffic. The cost was from six to seven centimes per square metre. The prefect of Alpes Maritimes and the engineer-in-chief of roads and bridges have favourably received the idea and are willing to allow experiments on public roads provided that they are made at private expense. The municipal authorities and hotel-keepers of Monte Carlo are moving in the matter. We trust that Dr. Guglielminetti's efforts to combat "the dust plague" will be crowned with the success which they deserve.

VOLUNTARY AID FOR THE SICK AND WOUNDED IN SOUTH AFRICA.

AN account of the voluntary organisations in aid of the sick and wounded during the war in South Africa has just been issued in the form of an interesting and instructive Blue-book,[1] illustrated by a number of well-executed reproductions of photographs and diagrams. In the book will be found articles dealing with the work of the National Aid Society, the Red Cross Commissioners in South Africa, the St. John Ambulance Association and St. John Brigade, and the Army Nursing Service Reserve, together with a description of the hospital ships and trains. The work of the foreign Red Cross societies is described and there is an account of the voluntary aid received from British colonies and other British possessions. Private hospitals and minor schemes also receive notice and there is a chapter on the organisation of convalescent homes in the United Kingdom. The object of the report is not so much to give an account of the actual work done as to indicate the manner in which the several schemes were initiated and carried out; and as showing generally the resources that are likely to be made available in future wars the information contained in the pages of the report is of great value. It is interesting to note that "the total value of the voluntary aid resources placed at the disposal of the sick and wounded of the army must have amounted to close on £1,000,000." Among the conclusions arrived at in the final chapter of the report are that the voluntary aid organisations such as exist in connexion with continental armies are not applicable to the genius and spirit of the British nation and that the best organisation for this country would be the formation of local committees in time of peace.

THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

ON the occasion of the annual dinner of the members of the Pharmaceutical Society of Great Britain at the Whitehall Rooms, Hôtel Métropole, on May 27th, presided over by Mr G. T. W. Newsholme, the speeches turned chiefly upon the desirability of pharmacy having a representative in the House of Commons. There are certainly points connected with the administration of the Pharmacy Act and the sale of poisons which can only be properly understood by a pharmacist. Sir William Church, in reply to the toast of "The Medical Profession," agreed that it was desirable that his own profession should have a better knowledge of pharmacy and should pay greater attention to pharmacology than they had done before. He instances the extraordinary ignorance shown by some candidates at medical examinations of the composition of simple and familiar preparations of the British Pharmacopœia. It was only quite recently, he said, that it had been discovered that ferrum redactum invariably contained arsenic, which obviously must seriously modify the therapeutic action of the preparation. Referring to the bibliography of the subject he thought that the first pharmacopœia was issued at Nuremberg, although some held that drugs and their preparations were codified for the first time at Florence. Mr. H. G. Howse acknowledged that the medical profession was greatly indebted to pharmacists for the extraordinary advances which they had made in regard to the purity and preparations of drugs and to their standardisation and accuracy of dosage. The dinner was very well attended and amongst those at the President's table were Sir Frederick Abel, Dr. J. Attfield, F.R.S., Sir J. Crichton Browne, Professor Norman Collie, Sir William Church, President of the Royal College of Physicians of London, Sir Dyce Duckworth, Mr. H. G. Howse, President of the Royal College of Surgeons of England, Dr. W. H. Allchin, Dr. Donald McAlister, Sir William Turner (President of the General Medical Council), and Professor W. A. Tilden, F.R.S.

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[1] Report by the Central British Red Cross Committee on Voluntary Organisations in Aid of the Sick and Wounded during the South African War. London: His Majesty's Stationery Office.

DYED MILK.

EVIDENCE is accruing that the practice of adding artificial colouring matter to milk is increasing. Samples are commonly met with thus coloured to give them a rich but false creamy aspect. The natural colour of milk bears no relation necessarily to the amount of cream present. It is very desirable that this practice should be stopped. The recommendation of the Departmental Committee on Preservatives and Colouring Matter in Food that the use of any preservative or colouring matter whatever in milk offered for sale in the United Kingdom should be constituted an offence under the Sale of Food and Drugs Act should speedily be put into force. We believe that annatto is the dye commonly employed and it is fortunate that it is harmless, though that fact does not justify the device. Certain coal-tar dyes have, however, been detected in milk and amongst them methyl-orange or, in chemical nomenclature, the sodium salt of dimethylaniline azobenzene-sulphonic acid.

POISONING FROM THE APPLICATION OF CARBOLIC ACID TO THE UNBROKEN SKIN.

WE have published some cases of poisoning by carbolic acid from application of compresses to the unbroken skin.[1] In the following case, which is recorded in the *Boston Medical and Surgical Journal* of April 3rd by Dr. J. W. Wainwright, the same result was produced by the simple application of carbolic lotion to the skin. A vigorous man, aged 50 years, used a 2 per cent. solution of carbolic acid as an application for pruritus with temporary relief and without ill-results. One day at noon, after taking a hot bath, he used a 4 per cent. solution. He applied it to the abdomen, the thighs, and the lumbar region with the usual relief. At 7.30 next morning while dressing he suddenly felt a peculiar pain which he referred to the bladder. It increased and radiated through the abdomen. He could not finish his toilet and the administration of morphine became necessary. A quarter of a grain was injected without relief and the dose was repeated in half an hour. There were frequent rigors, each of which lasted for a few minutes, profuse cold perspiration, vomiting, and a desire to defecate. The eyes were prominent and fixed. There were vertigo and weakness of the lower limbs. After one and a half hours another quarter of a grain of morphine was injected. For 18 hours no urine was secreted. Appendicitis, renal calculus, and ptomaine poisoning suggested themselves. Four and a half hours after the onset of symptoms he became drowsy and would doze for a few minutes to be awakened by the recurring pains. The pulse was frequent and at times barely perceptible and the skin was moist and cold. Relief from pain began about four hours after the onset of the symptoms and at midnight he was comparatively comfortable. Examination of the urine revealed the characteristic smoky appearance of carboluria. For three days there were great depression and symptoms of acute nephritis. Recovery was complete in 10 days.

THE PREVALENCE OF SMALL-POX.

ON Saturday, May 24th, 50 cases of small-pox were admitted to the institutions of the Metropolitan Asylums Board; on Sunday, May 25th, 43 cases were admitted; on Monday, May 26th, 58 cases were received; on Tuesday, May 27th, 32 cases were accepted; and on Wednesday, May 28th, 35 cases passed through the hands of the authorities. In the county of Essex the small-pox cases notified for the week ending May 24th numbered 50.

AN ANALYSIS OF 155 CASES OF TABES DORSALIS, WITH ESPECIAL REFERENCE TO CAUSATION, SYMPTOMS, AND LENGTH OF LIFE.

IN the Spring Number of *Brain*, 1902, Dr. Byrom Bramwell publishes a lengthy and interesting article based on an analysis of 155 cases of tabes dorsalis met with in hospital and private practice. In a considerable proportion of the cases the course of the disease was followed during periods of several years and in most of the fatal cases the total duration of the disease and the immediate cause of death were ascertained. Of the total number of cases 140, or 90·3 per cent., were males, and 15, or 9·6 per cent., were females, a proportion which agrees closely with that of Gowers—viz., 10 males to one female. The ages at which the first symptoms of disease developed were noted in 151 cases, and in 112 of these, or 74·1 per cent., the disease commenced between the ages of 30 and 50 years. As regards etiology, syphilis was ascertained to have existed in 59·8 per cent., in the remaining cases its existence was doubtful or denied or not ascertained. The percentage of cases in which a definite history of syphilis was obtained was, however, higher in the last than in the first moiety of cases, probably because, as Dr. Bramwell thinks, the inquiries made were more stringent. In three at least of the syphilitic cases the patient had been treated very thoroughly for long periods of time with mercury and yet developed tabes, showing, says Dr. Bramwell, that prolonged and thorough mercurial treatment did not, in all cases, prevent the subsequent appearance of tabes—an important practical point as regards life insurance. The length of time between syphilitic infection and the development of tabes was less than 20 years in the vast majority (91 per cent.) of cases, the second, third, and fourth quinquennium after infection claiming each nearly a fourth of the victims. As regards general physique it was noted that many of the patients were robust and strong men of fine muscular development. Dr. Bramwell regards syphilis as the most important, but not the sole, cause of tabes dorsalis. The toxins produced by the syphilitic virus, says Dr. Bramwell, have a widespread effect upon the nervous system, rendering it liable to be affected injuriously by other conditions such as various forms of strain and irritation (including exposure and alcoholic or sexual excesses) which are probably the exciting causes. The commonest initial symptoms were "lightning pains" in 53 per cent. of the cases, diplopia and ataxia in 8·6 per cent. each, loss of vision in 6 per cent., derangements of urination in 4 per cent., gastric crises in 3·3 per cent., and numbness in the feet in 2 per cent. Lightning pains were also the commonest symptoms in the course of the disease. They were present in 148 out of the 155 cases, or 95·4 per cent., and were in every case felt in the legs and less often in the trunk, arms, and head. In several cases in which optic atrophy developed the severity of the lightning pains lessened with the loss of sight. The relative frequency of the other symptoms was as follows: loss of knee-jerk was present in 82 per cent. of the cases, ataxic gait or ataxia in standing with the eyes closed in 77 5 per cent., derangements of the bladder in 74 per cent, and Argyll-Robertson pupil in 72 per cent. Mental symptoms in the form of general paralysis developed in 16 cases, impairment of memory was noted in five cases, and mental depression in four cases. In the great majority of cases, however, mental activity was unimpaired, even in the later stages of the disease. As regards prognosis it appeared that 31 of the 155 patients were dead, 75 were alive, and 49 could not be traced at the time of writing the article. Of the 31 fatal cases the average duration of the illness was 8 3 years, the longest being 22 years and the shortest one and a half years.

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[1] THE LANCET, April 6th, 1901, p. 1011.

THE MEDICAL SOCIETY OF LONDON.

THE annual conversazione of the Medical Society of London was held on May 26th. After a reception by the President, Dr. W. H. Allchin, the annual oration was delivered by Dr. Stephen Mackenzie on the Powers of Natural Resistance or the Personal Factor in Disease of Microbic Origin. This excellent address is published in full at page 1513 of our present issue. A vote of thanks to the orator was proposed by Dr. Sidney Coupland and seconded by Mr. J. Bland-Sutton. Music was provided in the hall and in an adjoining room there was exhibited a collection of etchings and drawings of Old London and its vicinity belonging to Mr. Jonathan Hutchinson, jun., who was himself in several instances the artist. The collection included certain of Whistler's "Set of Thames Etchings," among others the famous "Limeburner" and "Rotherhithe" (the largest plate in the set), a fine impression of Sir F. Seymour Haden's magnificent etching, "The Breaking up of the *Agamemnon*," "The Guardship at the Nore" by J. M. W. Turner (a beautiful rendering of sea-scape), and Mr. D. Y. Cameron's "London Set." Among the miscellaneous etchings and drawings from Mr. Hutchinson's pen we may choose for particular commendation "Southwark Bridge from St. Paul's Wharf Pier." The collection was a remarkable one and its contemplation formed an agreeable change to the ordinary routine of these functions.

SUPPURATIVE PERIODONTITIS—PYORRHŒA ALVEOLARIS.

IN the last issue of the Transactions of the Odontological Society of Great Britain Mr. Kenneth Goadby publishes a preliminary account of his investigations into the pathology of suppurative periodontitis. One point of some interest would seem to be that cultural examinations have demonstrated in many cases the presence of members of the yeast family in the discharge from the sockets of the teeth. Mr. Goadby has, moreover, found yeast in the small masses of tissue adhering to the apices of teeth extracted in cases of suppurative periodontitis, and culturally he finds they appear to correspond to the yeasts found in the so-called chronic abscesses. From direct examinations of the pus he finds a marked difference in the species of bacteria morphologically represented in early and late cases, it being rare to find many cocci present in the later stages, the field being, as a rule, occupied by bacilli of various kinds and a good number of threads, the latter showing a tendency to stain irregularly and in patches. In discussing the question of the causal relation of certain bacteria to suppurative periodontitis he refers to an organism, a coccus hitherto not described. This organism is frequently present in cases of dento-alveolar abscess and appears to have some relation to the curious thick viscid pus found in some cases of suppurative periodontitis. The coccus is also found in septic pulpless teeth associated with abscesses. It produces a marked stringy viscous growth upon solid media and is extremely difficult to remove from the agar slant. The broth cultures also form stringy viscous growths, which at times adhere to the sides of the tube in the form of a cloud of colonies about 0·5 millimetre in diameter that are strongly adherent to the glass. Mr. Goadby considers it highly improbable that the ordinary pus organisms have any direct share in the production of suppurative periodontitis.

CANCER IN INDIA.

THE subject of cancer in India is exciting some interest at the present time in connexion with the scheme which has been launched in this country for the organised investigation of that and other allied forms of malignant disease. The *Indian Medical Gazette* for the month of May contains two excellent papers having a direct and special bearing on the subject. The first is by Captain W. J. Niblock, I.M.S., of the General Hospital, Madras, embodying the results of the experience obtained at that hospital, for which purpose the hospital registers for the past 10 years have been carefully gone through. All cases of carcinoma, sarcoma, and rodent ulcer—using the term malignant disease as synonymous with that of cancer in its broader sense—which have been admitted into that institution have been extracted, tabulated, and analysed. The other paper, by Dr. Ernest F. Neve, briefly summarises the history and results of "A Decade of Tumour-Surgery in the Kashmir Mission Hospital." While there are no published statistics showing the frequency of admissions for cancer in the various hospitals throughout India, together with the regions of the body affected, cancer seems to be in Madras, at any rate, by no means rarely met with, and the same may be said of Kashmir. In looking over the tables compiled from the Madras Hospital registers one of the first things to strike us is the enormous number of native patients admitted for carcinoma of the cheek and jaws—a fact which is stated, and apparently on strong grounds, to be accounted for by the habit prevalent among Hindus and Mahomedans of both sexes of the chewing of *betel*. In Dr. Neve's paper it is stated that the total number of tumours operated upon between the years 1890 and 1899 was 2020, more than 50 per cent. of these being malignant.

ASSOCIATION OF ASYLUM WORKERS.

THE annual meeting of this association, formed in 1895 to promote the interests of asylum workers by improving their status and enlisting public sympathy in their work, was held on May 22nd at 11, Chandos-street, London, W., Sir James Crichton Browne presiding. There was a large attendance of medical officers of asylums and the Commissioners in Lunacy were represented by Dr. Sidney Coupland. A considerable number of nurses and attendants were also present. After the election of the officers and executive committee the President (Sir J. Crichton Browne) moved the adoption of the report (which was presented by the honorary secretary, Dr. G. E. Shuttleworth) in an interesting speech in which he reviewed the work of the association. The membership had increased from 2868 in 1900 to 4116 in 1901, and several additional asylums in all parts of the kingdom were now represented on the roll. The monthly organ of the association, *Asylum News*, had been from time to time enlarged, and its present size demanded, for free distribution among members, an increase of the annual subscription from 1*s.* to 1*s.* 6*d.*, which had been cheerfully conceded. In addition to intelligence of special interest to asylum workers the journal had contained valuable articles upon nursing the insane and upon other matters of an educational character. Sir J. Crichton Browne advocated the culture of the literary faculty amongst asylum workers, specially recommending the reading of sound novels, "free from insanity and idiocy," as a wholesome recreative measure. Referring to lunacy legislation he thought that there was no immediate prospect of its introduction, but he hoped that when a Bill was forthcoming they would obtain a modest provision for old age or for any disability incurred in the course of duty. One of these days the increase of insanity and of all nervous diseases would startle the public, and then perhaps justice would be done to those battling with this stupendous social evil. The adoption of the report (with a code of rules) was seconded by Dr. T. B. Hyslop and was carried. The distribution of two gold medals and two silver medals for long and meritorious nursing service in asylums followed, the former being awarded respectively to Mr. W. Hope, now inspector at Colney Hatch Asylum (36½ years' service), and Miss M. Riches, head nurse at Heigham Hall Asylum, Norwich (35½ years' service); and the latter to Miss A. Garry, chief nurse at Gloucester County Asylum (28½ years' service), and Mr. C. Walker, charge attendant at Caterham Asylum (28½ years' service). By the kind liberality of the President bronze medals were also given to 28 approved competitors for the association medals in recognition of their high recommendations. A vote of thanks to Sir James Crichton Browne, moved by Dr. Oscar T. Woods, President of the Medico-Psychological Association, brought the proceedings to a close.

MEDICAL REPORTS OF THE CHINESE IMPERIAL MARITIME CUSTOMS.

THE medical reports of the Chinese Imperial Maritime Customs deal with the health conditions of the European population in several Chinese cities and are written by the Customs medical officers there stationed.[1] The contributors to the present series, together with the names of their respective towns, are as follows:—Dr. William Kirk, Ichang; Dr. J. D Thomson, Hankow; Dr. H. J. Hickin, Ningpo; Dr. R. J. J. Macdonald, Wuchow; Mr. J. H. Lowry and Dr. H. M. McCandliss, Hoihow and Kiungchow; Mr. A. S. Deane, Pakhoi; and Dr. Ortholan, Szemao (who writes in French) The periods under consideration are either the year or the half-year ended Sept. 30th, 1900. Dr. Thomson discusses a variety of medical and surgical questions at some length and gives detailed clinical histories of cases of malaria, enteric fever, heat-stroke, and dysentery. In the treatment of malaria he used quinine both by the mouth and hypodermically, as well as calomel purges, frequent sponging, guaiacol inunctions, phenacetin, antikamnia or antifebrin combined with caffeine, digitalis, and brandy. One of the malaria patients was suffering from his third attack of the pernicious algid type and his symptoms closely resembled those of the collapse stage of cholera. Another had many injections of quinine between the shoulders without any untoward result, but an injection of 15 grains of the sulphate dissolved with the aid of hydrochloric acid and divided between the two thighs caused much inconvenience. In one thigh the solution was injected under the deep fascia and three days afterwards there was high fever with painful swelling and emphysema of the tissues. These alarming symptoms, however, subsided rapidly without leaving any ill-effects behind them and Dr. Thomson thereupon ascribed the evolution of gas to the contact of the acid of the injection with the alkaline juices of the tissues. In the other thigh, where the remainder of the dose was injected into the subcutaneous tissues, these broke down for a considerable distance and a portion of skin measuring about one inch by half an inch became necrosed. The patients suffering from heat stroke, three in number, all had axillary temperatures of 110° F. and all died. Among the illustrations Dr. Thomson gives a reproduction of a skiagram of the Chinese woman's "small foot." Dr. Macdonald states that in Wuchow the plague was even more severe in 1900 than in the previous year Dr. McCandliss and Mr. Deane also make reference to the presence of plague in their towns, not, however, among the European community.

THE ROYAL LONDON OPHTHALMIC HOSPITAL.

IN 1901, as in previous years, the Royal London Ophthalmic Hospital accomplished much beneficent work but a perusal of the annual report makes it only too obvious that the usefulness of the charity is sadly impaired by want of funds. The total number of in-patients during the year was 1866. Out of an aggregate number of 138 beds 68 were compelled to be unoccupied by reason of financial straits, so that there remained only 70 beds available for in-patients, and of these the average number occupied was 64. The new out-patients numbered 31,258 and the total number of attendances was 100,673. The year 1901 began with a financial deficiency of £2591 and the excess of expenditure over income during the ensuing 12 months amounted to £2577, making a total deficiency at the end of last December of £5169. It was, in fact, only by raising a loan of £5000 from the Charity Commissioners that the committee was able to keep the hospital open during the year. The grants from the three hospital funds for London amounted to £2067—namely, £623 10s from the Hospital Sunday Fund, £193 10s. from the Hospital Saturday Fund, and £1250 from King Edward's Hospital Fund; the latter fund also contributed an additional sum of £900 as an annual grant to open 18 closed beds, on the condition that by the opening of these beds 18 more were made available for the sick poor. One of the most pressing difficulties of the hospital since its removal from its old site to the better one which it now occupies has been the question of local rates and the item of £948 charged under this heading in the expenditure seems to be disproportionately high, exceeding as it does the combined outlay for meat and grocery. The exemption of hospitals from local rates is a subject which has on various occasions been discussed in our columns, and the present case is undoubtedly one in which some such relief is urgently needed. In addition to a special appeal for further annual subscriptions the committee asks for donations to the Rent Fund, the interest of which is to be devoted towards meeting the ground rent of £1210 per annum.

THE Duke of Connaught has fixed Friday, June 20th, at 4 P.M., for the laying of the foundation-stone of the new buildings of Charing-Cross Hospital. His Royal Highness, as M.W Grand Master of the United Grand Lodge of England, will perform the ceremony with full Masonic honours and will be attended by the officers of Grand Lodge.

MR. ALBAN H. G. DORAN has been appointed to deliver the Harveian Lectures for the Harveian Society next November and has chosen for his subject "Uterine Fibroids considered from a Clinical and Surgical Standpoint"

THE Princess Christian of Schleswig-Holstein will open the new home for the nurses in connexion with Friedenheim Hospital (Home of Peace for the Dying) on Saturday, June 7th.

AT Merthyr Tydvil police-court on May 12th the magistrates selected Mr Cornelius Biddle, L.R.C.P. Lond., M.R.C.S. Eng., to be high constable of the town for the ensuing year.

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[1] Published in Shanghai by order of the Inspector-General of Customs and sold in London by Messrs. P. S. King and Son, Westminster.

OBSERVATIONS ON DIET.

BY HARRY CAMPBELL, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL; PHYSICIAN TO THE WEST-END HOSPITAL FOR NERVOUS DISEASES, WELBECK STREET, W.

II.—QUANTITY OF FOOD (*continued*).[1]

Excessive Dietary.

Inducements to over-eating.—Animals in a state of nature are little likely to over-eat—first, because their constant search after food entails a highly active life and this demands a correspondingly large supply of food; secondly, because their food, except in the case of the carnivora, is seldom in a highly concentrated form; and, finally, because it is of such a simple and monotonous kind that the appetite is appeased when a sufficiency has been consumed; so that, far from having a surfeit, most animals have as much as they can do to obtain the needful supply. Civilised man, on the other hand, is not only not compelled to lead a muscularly active life, often taking little or no exercise at all, but his food is highly concentrated, consisting largely of such articles as sugar, butter, cheese, and meat, and far from being monotonous it is of a varying kind, and in the case of the well-to-do is rendered appetising by the manifold resources of the culinary art. While, then, it is practically impossible for a wild animal habitually to over-eat the modern Human has many inducements to tempt him to excess and as a matter of fact he often yields to them. In this respect men are greater sinners than women.

Extreme instances of over feeding.—Some remarkable instances of gourmandising have been placed on record, but how far they are legendary and how far genuine it is difficult to say. They are told chiefly of the inhabitants of cold climates. The Esquimaux, it is said, eat as much as 20 pounds of flesh and oil daily. We have it on the authority of Sir George Simpson that two Yakuti men ate at a sitting 36 pounds of beef and 18 pounds of butter each. He remarked that "after such surfeits the gluttons remain for three or four days in a state of stupor, neither eating nor drinking, and meanwhile are rolled about with a view to promoting digestion."

EVILS OF OVER-EATING.

Over-distension of the stomach.—One of the immediate effects of a surfeit is undue distension of the stomach which may not only cause organic dilatation of this organ but, by thrusting the diaphragm upwards, compress the lungs and dislocate the heart, disturbing its action even to the point in extreme cases of checking it altogether. Those with failing hearts or feeble breathing power should beware never to overload the stomach; their maxim should be "little and often." Meals that are few and far between are apt to be unduly bulky. When, for instance, only one meal is taken in the day the individual, especially if leading an active life, is compelled to consume at one sitting more food than the normal stomach can hold and dilatation is the necessary consequence. Moreover, this large mass of food makes such demands upon the digestive organs as to render the individual for the time being lethargic and inert. The one-meal plan also leads to wastage, for when a large quantity of food is taken at once and the blood is surcharged with nutriment much of it is, as already hinted, apt to be katabolised as so much useless excess in the hours immediately following the meal. It is a fact, however, that many races subsist on a single daily meal. This is the case with the majority of the natives of India and doubtless the system is suited to their requirements, though one would have thought that the bulkiness of their diet, which is mainly vegetarian, would constitute a serious objection to the custom.[2] But whatever may be true of certain of the inhabitants of warm climes the fact remains that the plan of taking but one meal a day is not suited to the average European. For him three meals during the 24 hours would appear to be on the whole the wisest arrangement.

A further word on the subject of over-distending the stomach. It has to be noted that a diet may cause undue distension of the stomach without being excessive—namely, by containing a large quantity of non-nutrient substances, as in the case of green vegetables, or by causing flatulence. Accordingly, when it is desirable to distend the stomach as little as possible we prescribe concentrated foods and such as are least likely to cause flatulence, and we forbid the drinking of large quantities of fluids with meals. It is now known that very little fluid is absorbed by the stomach, and consequently when liquid is taken at meal-time it has to wait for the food to be digested before it can escape into the duodenum, thus adding materially to the bulk of the gastric contents. Fluid taken with meals may also retard digestion by diluting the gastric juice, though it is doubtful whether much harm is done in this way. It is, moreover, often used as a means of softening the food and washing it down, and may thus do harm by encouraging the individual to shirk mastication. For these reasons liquids should for the most part be taken on an empty stomach, say half or three-quarters of an hour before meals, so as to give time for them to leave the stomach before food is eaten. Hence, too, the advantage of giving aperient salines on an empty stomach—e.g., the first thing in the morning.

Excessive storage of fat.—The most obvious evil result of chronic over-eating is obesity. In some cases obesity is a disease—e.g., in myxœdema and in certain obscure diseases of the nervous system in which there may be a phenomenal laying on of fat. I have seen two such cases in children. In the majority of instances, however, it is due to over-eating. We have seen that the amount of food required is governed by several circumstances, of which the most important is the amount of exercise taken, and as might be expected the obese person generally takes very little. Those who exercise their muscle system a great deal are but rarely obese; I do not remember ever to have seen a fat postman and a fat navvy is rarely met with. Let the fact then honestly be faced by the obese that except in those rare cases which are due to disease inordinate fatness is due to over-eating and should be met by apportioning the diet to the needs of the individual.

Evils in connexion with the Blood and Circulation.

The digestion of food imposes extra work on the heart by the increased activity of the splanchnic circulation which it entails, and when a large quantity of food is taken there is a substantial augmentation of cardiac action.[3] If, therefore, we are dealing with a case of grave cardiac failure where it is of paramount importance to save the heart as much as possible we see how imperative it is that we should administer food sparingly. An excess may, moreover, as we have seen, disturb the action of the heart both by distending the stomach and by inducing obesity. It may also affect it, as we shall see in due course, by increasing peripheral resistance and through its influence on respiration.

Plethora.—Just as starvation tends to impoverish the blood and to diminish its mass, so may over-feeding cause excessive richness of the blood, and perhaps also augmentation of its mass. Cohnheim denied the possibility of the latter, but, be this as it may, it is certain that the condition known as plethora, characterised by vascular turgescence of the face and often accompanied by a feeling of fulness in the head, giddiness, and other symptoms, all of which are relieved by bleeding, may result from chronic over-eating. Whether there is an actual augmentation of the blood-mass in these cases, or whether, as some think, the condition is rather one of arterial plethora due to high peripheral resistance with a powerfully acting heart, is a question which we need not stop to discuss.

Anæmia.—Curiously enough, over-eating may lead to the opposite condition, anæmia, not indeed to a diminution of the blood-mass (oligæmia), but certainly to a defective condition of the chromocytes. It is now known that these are very susceptible to the action of toxins which, as we shall see, are apt to abound in the chronic over-eater, and possibly the blood corpuscles suffer from their action. Certain it is that some patients improve in colour when their diet is cut down.

Evils in connexion with the Respiratory Function.

The influence of over-eating on respiration is not less important than is its influence on the circulation. The obesity which it so frequently causes seriously interferes with the respiratory movements. A distended stomach, moreover, thrusts the diaphragm upwards and thus restricts the of a hospital exclusively American in its management. This is about to be realised through the generosity of Mr. Edward Tuck, formerly of New York but for 20 years a resident in Paris. He has assumed the entire expense of establishing this hospital which is to be managed entirely by American physicians and nurses. It is to be called the "Franklin Hospital" and will be located in the Passy quarter, one of the most healthy parts of the city. The site has been purchased and the erection will begin in the spring under the directorship of Dr. Magnin.

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[1] No. I. was published in THE LANCET of May 24th, 1902, p. 1486.

[2] One may, perhaps, explain the ability of the Oriental to subsist on one meal a day by the fact that living as he does in a warm climate he requires less food than the inhabitant of colder climes, and by the further fact of his food consisting mainly of saccharide which admits of ready storage.

[3] Cohnheim gives hypertrophy of the heart as one of the results of gourmandising.

March 24th.

Obituary.

EDWARD LONG FOX, M.D OXON., F.R.C.P. LOND,

CONSULTING PHYSICIAN TO THE BRISTOL ROYAL INFIRMARY.

THE West of England has lost one of the most representative members of the medical profession by the death of Dr. Edward Long Fox of Clifton, which occurred late on Friday evening, March 28th. He was in active practice till some months ago when his health failed, and though with characteristic determination he at first looked forward to resuming again the work he so dearly loved it soon became increasingly evident that he was beyond hope of recovery. Dr. Fox was the eldest son of the late Dr. Francis Ker Fox of Brislington, near Bristol, where he was born in 1832. He was educated at Shrewsbury School and Balliol College Oxford, where he was brought under the influence of the late Professor Jowett, who was his tutor, and of Sir Henry Acland. The warm friendship and esteem of these representatives of the classical and scientific life at Oxford for their former pupil were never interrupted while they lived and the latter was one of the earliest and most welcome guests when Dr. Fox began his professional career in Bristol His special bent was shown by taking a first-class in the Natural Science School, after which he proceeded to London to the College of Chemistry under Dr. Hoffmann and entered as a student at St. George's Hospital At this and at the Great Ormond-street Hospital for Sick Children and the Brompton Hospital for Consumption Edward Long Fox worked especially under Dr. Bence Jones, Dr Marshall Hall, and Dr. Charles West, till he graduated as M B. in 1857, proceeding to the degree of M.D in 1861. In 1859 he became a Member of the Royal College of Physicians of London.

He then commenced to practice in Clifton and was elected a physician to the Bristol Royal Infirmary, a post which he held for 20 years when he was made a consulting physician, being thus connected with that institution for 45 years. He was also lecturer on medicine and on practical pathology at the Bristol Medical School and always took the keenest interest in his teaching and in the welfare of the students working under him, many of whom now engaged in active practice remember with loving regret the friend who has passed out of their lives.

For several years Dr. Fox was examiner in medicine in the final examination for the degree of M.B. at the University of Oxford. He became a Fellow of the Royal College of Physicians of London in 1870, delivered the Bradshaw Lecture in 1882, and was elected a member of the Council of the College in 1888.

When the British Medical Association held its annual meeting in Bristol in 1894 Dr Fox, already a past president of the Bath and Bristol Branch of the Association and of the Bristol Medico-Chirurgical Society, was elected President. His genial presence and warm-hearted hospitality added much to the pleasure of those who took part in that meeting, while his earnest desire that the scientific work done should be worthy of the Association and of the city of Bristol was largely attained by the cordial coöperation which both his medical colleagues and fellow citizens were so ready to afford. The lofty aspirations and high professional ideals which the life of Dr Fox so well exemplified were reflected in the presidential address at that meeting on the Medical Man and the State, when he said: "The sands of time are sinking year by year for all of us; but the memory of the great ones in the past is a spur to further effort, an example for a truer and higher life in us all; and happy shall we be if we can pass on undimmed to our successors the lamp of high professional honour and of scientific attainment which has been handed down to us from our predecessors." No one evinced a greater interest in the work of the National Association for the Prevention of Consumption than did Dr. Fox, and he it was who took the first steps in the movement which eventuated in the formation of the Gloucester, Somerset, and Wilts branch. Up to a few months ago he filled the office of chairman of the committee of this branch and many of his fellow-workers in the cause will remember his untiring interest, despite his physical weakness, in the work of inspecting the beautiful site found and suggested by Dr. Lionel A. Weatherly and so recently prepared for the proposed sanatorium at Winsley.

Dr Fox took a great and broad-minded interest in the temperance question, being president of the National Temperance League in 1894, he also for several years personally worked on behalf of the temperance cause in one of the poorest parishes of Bristol. Dr. Fox was the author of works on "The Pathological Anatomy of the Nervous Centres" and "The Influence of the Sympathetic on Disease," which were published in 1885. He also contributed various articles to the medical journals and a series of articles to "Quain's Dictionary of Medicine." He married Miss Bradley, one of the daughters of the late Rev Charles Bradley of Clapham and sister of the present Dean of Westminster The Dean of Bristol, in preaching at the Cathedral on Easter Day, referred in sympathetic terms to the death of Dr Fox, of whom he spoke as a type of the Christian physician The burial took place on April 3rd at Arno's Vale Cemetery, the first part of the burial office being said in Clifton Parish Church at 12 30.

JOHN TURNER CADDY, M.D. ABERD.

DEPUTY INSPECTOR-GENERAL OF HOSPITALS AND FLEETS, R.N

THE death took place on March 21st of Dr J T Caddy, Deputy Inspector-general of Hospitals and Fleets, R.N (retired), at his residence, The Charterhouse, Richmond, Surrey Dr Caddy was 80 years of age, of which 31 years were spent at sea and many on the training ships for men and boys at Falmouth and Bristol. He was in receipt of the Greenwich Hospital good service pension. In conjunction with the late Sir William Smart and Dr. Frederic James Brown he took a leading part in the movement for the "consideration of the rank, pay, and position of medical officers in the Royal navy" 50 years ago and his views were quoted in Parliament by Mr Wakley, M.P, the coroner for Middlesex, with excellent effect. Dr. Caddy was of an old Devonshire family and after being apprenticed to a practitioner for five years he finished his medical studies at Guy's Hospital where he succeeded in winning several prizes. He was the author of several contributions to the medical journals and of papers read before learned societies Two of his sons and his son in law are members of the medical profession.

Medical News.

VICTORIA UNIVERSITY —At the degree ceremony on March 28th the following candidates were presented:—

BACHELOR OF MEDICINE AND OF SURGERY.

Edward Maynard Ashcroft and Frank Henry Staunton Ashworth, Owens; Herbert Martin Berry, University, Arthur Torkington Blease, Joseph Basil Cook Rowe Drennand Fletcher, James Edward Floyd, James Hindshaw, and Hugh Llewellyn Jenkins, Owens; John Anderton Johnson, University; Charles Paget Lapage and Harry Fox Lee, Owens, William Leonard Maccormac, Yorkshire; Harold Scott McLellan, William Parker, and Charles Albert Hickotts Owens; E Emrys Roberts, University, and George Taylor, Owens

In the Faculty of Medicine the following candidates have been successful in the examinations indicated.—

FINAL EXAMINATION.

Part I—J W. Anderton Owens; P. W. Ashmore, Yorkshire; J. P Bligh, University, L. R Braithwaite, Richard Coates, and Edward Cundall, Yorkshire; A. J. Edmunds, A. H. Gregson, Godfrey Heathcote and *Benjamin* Herald, Owens; W. E. Hewitt, University; B. H Hirst, Yorkshire; A. S Hopper, University; A. R. Johnson, Owens; R E Knowles, W. G. Lloyd and H. P. McManus, University, Harry Mallin, Yorkshire; W. B Ramsden, Owens; F. H Salisbury University, F. E Steele, J. C. Teasdale, and A B S Todd, Yorkshire, David Walker and Alwyn Wharton, Owens.

Part II.—E. M Ashcroft and F. H. S. Ashworth Owens; H. M. Berry, University; A. T. Blease, Owens; R N. Butterworth, Yorkshire; J. B Cook, R. D Fletcher, J. E Floyd, James Hindshaw, and H L. Jenkins, Owens; J. A. Johnson, University; C. P. Lapage and H. F. Lee, Owens; W. L. Maccormac, Yorkshire, H S.

breathing area. Over-eating also affects respiration by its influence on the heart: by its stimulating action on the splanchnic circulation it stimulates the respiratory movements, and it may further augment these movements by disturbing the action of the heart and hindering the movement of the blood through the lungs. Respiration is affected by over-eating in yet another way, one which seems to have been overlooked: every particle of food which is absorbed and does not go to increase the weight of the body and is not eliminated unkatabolised, as sugar or albumin, has to be *burnt off within the organism, and this very soon after* absorption. Now this combustion of food requires oxygen and one of the products of combustion is carbonic acid. It follows from this that the larger the amount of food ingested and absorbed the larger is the demand for oxygen and the larger the quantity of carbonic acid produced—in other words, the greater the respiratory interchange and the more ample the respiratory movements. The application of these facts in the treatment of dyspnœa will be referred to in its proper place.

Evils due to Faulty Metabolism either in the Digestive Tract or in the Tissues.

Before discussing these it will be well to trace the career of the redundant food through the body. When a redundancy of food is taken an excess of nutritive ingredients is absorbed into the blood; some—e.g., albumin and sugar—may pass out by the kidneys unchanged, but, except in disease, this only occurs after large surfeits, some may be stored, but it is only in the case of fat that this takes place to any extent, the capacity of the organism to store proteid and saccharide being very limited; in many individuals even the fat-storing capacity is small; in all the limit is reached sooner or later. It is, therefore, evident that dealing with individuals in the aggregate only a small proportion of the total excess of absorbed food is stored.

What then becomes of the excess which is neither stored nor passed out of the body unchanged? The reply is, it is katabolised—i.e., the organism is put to the profitless task of burning off the excess of fuel with which the body fluids are charged, the fats and saccharides being converted into carbonic acid and water and the proteids into these and likewise into urea, uric acid, kreatin, and allied compounds. This extra katabolism takes place chiefly in the muscles.

Does it not seem strange that the organism should be put to all this labour? Theoretically the most perfect arrangement would be for just so much food to be absorbed from the alimentary tract as is needed, but, though when an excess of food is ingested *absorption is less complete than with a bare* sufficiency, far more than the needful quantity is nevertheless absorbed. It is not surprising that the organism should possess some capacity for absorbing nutriment beyond the needs of the moment. All animals are liable to experience seasons of dearth, and it is of advantage that they should be able in times of plenty to absorb food beyond present requirements, and so store up supplies for future contingencies. It is, however, not so easy to explain why after this provision has been made the capacity to absorb an excess of food should still continue. Nature has apparently made no provision against a chronic *embarras de richesses* in the matter of food, and instead of altogether *refusing to absorb* a quantity of nutriment in excess of present and future needs, or, after having absorbed it, simply running it out unchanged, she goes through all the labour, not only of absorbing, but of katabolising the redundancy.

We may perhaps explain this apparent anomaly by the fact, already referred to, that under primitive conditions animal organisms are little liable *habitually to over-eat. But* whatever the explanation may be, certain it is that the animal organism is not only capable of absorbing a redundancy of nutriment, but, having done so, goes through the laborious process of katabolising it. This stands out as one of the most remarkable facts in the physiology of nutrition. For observe what this redundant katabolism implies. We are apt to lose sight of the fact that every katabolic change is attended by an unlocking of energy; hence redundant katabolism implies a wasteful expenditure of energy. What form does this surplus energy assume? The reply is that it takes the form of heat. All, or practically all, the energy of the organism manifests itself either as work or as heat, most *of the former* being converted into the latter within the body and passing off from it as such; thus all the "internal work" (movement of the heart, &c.) of the body is converted into heat and when a person is resting the whole of the energy unlocked by katabolism is dissipated in this way. From this it follows that all the energy set free by the redundant katabolism resulting from over-eating leaves the body as heat[4] and that the larger the amount of food absorbed the greater is the amount of heat given out. Gourmands, therefore, must emit more heat than spare-eaters and this involves either scantier clothing or increased evaporation from the skin and lungs. As a matter of fact *big eaters are generally big sweaters.*

There is yet another aspect from which we may view this superabundant katabolism with its corresponding evolution of energy. Just as chronic starvation leads to lack of energy, producing listlessness and apathy—Mr. Bumble, it will be remembered, well knew that the half-starved inmates of his union had *little stomach* for fighting—so, conversely, chronic over-eating is apt to cause trouble by leading to an undue accumulation and evolution of energy in the body, and in such cases the surplus energy may seek outlets in abnormal ways, such as in fits of irascibility and hysterical convulsions. The desire of the irascible man to break the furniture and of the hysterical woman to scream and rush wildly about must surely be exaggerated by the storage of an excess of energy in the body. I do not want to over-estimate this as an exciting factor—other factors, such as toxæmia, play their part—but it must certainly be conceded that surplus energy is apt to find an abnormal outlet. If a well-fed horse is not taken out to exercise he will kick his stable down and over-fed prisoners may, by the very fact of their being over-fed, be incited to insubordination. These considerations suggest that when an individual has a tendency to convulsive seizures we must be careful to keep his diet within due bounds.

We have now to inquire whether the redundant katabolism of the large eater is the same in kind as the katabolism which is not redundant.

There are strong grounds for assuming that when a large excess of fuel has to be katabolised the end-products are not quite the same as when only a sufficiency is taken. The excess is in the main katabolised by the muscles while in a state of quiescence; it is not, i.e., worked off in the katabolism which issues in muscle contraction. Whatever fuel is thus katabolised *does not constitute part of the* excess, inasmuch as it is used up in the performance of a normal function to which it is essential. Now, it is probable that the waste products of a muscle at rest are not altogether the same as those of a contracting muscle; possibly they are not so completely oxidised and they would appear to be more toxic in character, hence, the absorption of an excess of food not only leads to the production of an excess of poisons, but of poisons more than usually toxic. And this brings me to another point.

Evils due to Toxæmia.

There can be no doubt that the most serious results of over-eating are brought about by blood-poisoning or, as we now call it, "toxæmia." The extra katabolism which over-eating induces leads to an excess of poisonous waste-products, and it is probable, as we have just seen, that many of these are more toxic than are those which are formed when the food is kept within normal limits. Over-eating further tends to cause toxæmia by setting up indigestion. *There is no* sharp dividing line between normal digestion and indigestion; as with all other functions there are innumerable grades of efficiency,[5] and it goes without saying that digestion is more likely to reach a high grade of efficiency when a mere sufficiency of food is taken than when the quantity is excessive. Now the more efficient the powers of digestion the fewer are the poisons produced in the alimentary tract and *the less their* absorption into the blood. It is, therefore, manifest, and I cannot too strongly insist on the fact, that if we desire to keep down the toxicity of the blood we should zealously guard against excesses in eating.

The toxæmia of over-eating induces a multitude of evils, the chief of which we now proceed to consider.

Inflammation.—If not the sole, certainly by far the most potent, cause of inflammation is *chemical* irritation. It is difficult to point to a single instance of inflammation in which this factor can be eliminated from causation. We now know that the most violent mechanical injury, such as the cut of the surgeon's knife, does not cause it in the absence of pathogenic micro-organisms, and, further, that the inflammation due to micro-organisms is wrought by the toxins which these emit. Probably most cases of inflammation are due to toxins thus arising. In other cases the toxins causing inflammation are furnished by tissue metabolism, as in the pleurisy and pericarditis of Bright's disease, or they may be introduced as such into the body, as in the case of corrosive, alcoholic, and arsenical poisoning. When we total up all the cases of inflammation induced in one or other of these ways we find that for all practical purposes we have exhausted the list.

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[4] The energy leaving the body as work cannot be regarded as redundant.

[5] See the writer's paper, "On the Gradations of Health and Disease," St. Bartholomew's *Hospital Reports*, vol. xxx., p. [illegible]

Gastritis and *enteritis* may be placed first among the many toxic inflammations due to over-eating. Over-eating by disturbing digestion leads to an undue formation of toxins, which by their direct action set up inflammation in the lining membrane of the alimentary tract. A familiar instance of inflammation thus induced is the condition known as consumption of the bowels met with among children, especially the children of the poor in large towns. It is essentially a toxic enteritis, and, though it results from errors in the quality rather than in the quantity of food I mention it here as it admirably illustrates some of the worst toxic evils resulting from dietetic errors. We are all familiar with these cases; the abdomen is large and flatulent and the motions are slimy, malodorous, and, it may be, bloody. Examine a child who has been suffering for some time in this way and we shall soon satisfy ourselves that his general condition is as much due to toxæmia as to starvation; sufficient food may be absorbed, but nutrition is perverted by the action of irritant poisons. The child is ill-grown and anæmic; the skin is thin, the eyelashes are long and silky, and the complexion is often wondrously like that observed in empyæma, in which disease there can be no doubt about its being due to toxæmia, disappearing as it does as if by magic upon evacuation of the pus. Treves in his work on Struma contends that the majority of the children presenting the so-called strumous diathesis are not the victims of a specific congenital habit but are simply delicate. With this view I entirely agree, and I make bold to add that the delicacy in these cases is essentially an acquired condition, the result in the main of defective feeding leading to toxæmia. If we give a child plenty of sunlight and fresh air, which tend to keep the body generally and the digestive organs in particular, in a healthy state, and feed it on a diet which is correct as to quality but insufficient in quantity, we shall tend to get starvation, pure and simple, without toxæmia, but the condition in this case is very different from that with which we are so familiar as occurring in consequence of a dietary which induces a high degree of toxæmia.[6] I have referred to these cases of enteritis because they show how grave and extensive are the evils which may result from toxæmia induced by dietetic errors.

Let us now revert to the toxæmia caused by gluttony. This may set up inflammation in any part of the body, either directly, or indirectly by lowering the resistance of the tissues to bacterial invasion. In gouty bronchitis, or the bronchitis of children suffering from consumption of the bowels, the toxic action is direct. As an instance of indirect action tuberculous inflammation may be cited. We have seen that the strumous diathesis may result from alimentary toxæmia which causes a diminished resistance on the part of the tissues to the attack of the tubercle bacillus, and I have little doubt that mercury which has long been known to be useful in struma does good by combating intestinal toxis. A more striking instance of the indirect action of such toxis in promoting inflammation is shown by its effect on suppuration, now known to be due to the action of specific (pyogenic) cocci. One of the first things to be done in all cases of actual or threatening suppuration—e.g., mammary abscess or stye in the eye, is to administer a purge; and, indeed, it may be said that in all inflammations one of our chief aims should be to diminish gastric and intestinal toxis.

Toxæmic inflammations are, of course, most frequent where the toxins are most abundant and, as we should expect, the poisons are most abundantly met with in the organs of elimination, whither they speed in their effort to escape from the body. This they do by all the surfaces communicating with the exterior. We are too much in the habit of thinking of the poisons as being eliminated almost exclusively by the skin and kidneys, but the fact is they get out wherever they can—by the skin, the kidneys, and the mucous lining of the alimentary, respiratory, and genito-urinary tracts. We know that drugs may be eliminated from all these regions and the same is true of the toxins of disease. We are all familiar with laryngitis, bronchitis, nephritis, cystitis, urethritis, gastritis, and dermatitis, of gouty origin, and we recognise that they are produced by the poisons of gout, but do we sufficiently realise that there are multitudinous other poisons capable of exciting similar inflammations? Here I may refer to the fact that when once inflammation has been excited by toxins it tends to persist apparently after the toxins have been eliminated, the inflamed areas thenceforth appearing to possess a peculiar attraction for the toxins. How otherwise are we to explain such a case as the following? A man who for years had suffered on and off from arthritic gout suddenly developed bronchitis; thereafter his arthritis disappeared once for all, while the bronchitis continued on and off till his death. The presumption is that the gouty poisons set up bronchitis and that the inflamed bronchial surface thenceforth attracted the poisons which found a ready exit in the abundant bronchial secretion, thus relieving the arthritic phenomena.

Cardio-vascular disturbances.—The toxæmia of over-eating may produce functional disturbances in the heart and arteries, such as palpitation and vaso-motor irregularities, but the chief way in which it affects the cardio-vascular system is by increasing peripheral resistance. This it does by constricting the systemic arterioles, apparently with the object of increasing the urinary flow so as to relieve the toxæmia, the intra-renal arterioles remaining in all probability dilated.[7] As a result the pressure rises in the systemic arterioles, the whole systemic arterial tree, together with the left side of the heart, being subjected to increased strain which eventuates in thickening and degeneration of both. Thus it comes about that the cardio-vascular system wears out sooner in the gourmand than in the spare feeder. Many are the dangers which beset the path of the habitual gourmand, but perhaps the greatest are those pertaining to the cardio-vascular system: he often dies from a prematurely worn-out heart or from the rupture of a miliary aneurysm.

Degenerations.—The toxæmia of over-eating may lead to degeneration in connexion with the inflammations and cardio-vascular changes just considered. It may also induce degenerations apart from these: the constant soakage of the tissues with toxins injures the delicate protoplasm, which thus tends to degenerate prematurely, its place being taken by fibrous tissue. Thus over-eating materially hastens that fibroid encroachment which is a natural senile change. As we should expect, the liver and the kidneys are especially apt to suffer; chronic over-eating causes chronic engorgement of the former organ and imposes upon it an amount of work far in excess of its powers; it also increases the work of the kidneys and exposes them to constant irritation by the toxins which are perpetually passing out through them.

Gout.—Over-eating is one of the chief causes of gout which is essentially a toxæmia. My own impression is that this disease originates in the digestive viscera and that uric acid is not the essential poison at work in it; but, be this as it may, it is certain that errors of diet play an important part in its causation. These errors do not merely pertain to kind, but to quantity. We are too much in the habit of simply telling our patients to avoid this and that without insisting upon the importance of keeping the total quantity of food within proper limits.

Nervous disorders.—The toxæmia of over-eating may set up a variety of nervous disturbances, such as headache, giddiness, tinnitus, irritability, depression, drowsiness, lassitude, numbness, flushings, pains about the body, weakness, or even partial paralysis of muscles; while neuroses of all kinds—epilepsy, angina pectoris, asthma, &c.—tend to be aggravated by it.

Age in relation to Over-eating.

We have next to consider the effects of over-eating as influenced by age, for, as hinted earlier, the element of age comes in here and has an important bearing on the issue. In youth there is greater capacity to deal with excess of food than in old age; the organs of digestion and excretion are then most vigorous and metabolism generally is most active, the vital fire burning fiercely, so to say, while the restless activity of the muscle system not only diminishes the likelihood of chronic excess, but also helps to mitigate its evils. In old age, on the other hand, there is a growing tendency to quiescence of the muscle system, side by side with a waning in digestive and excretory vigour and an increasing sluggishness of metabolism generally, the vital fire no longer blazing, but glowing and flickering rather and standing in danger of being extinguished altogether by the accumulation of its ashes. Yet at this very time we may find the individual *more than ever addicted to the pleasures of the* table and with an appetite and capacity for enjoying food altogether in excess of his requirements, being ever lured to his destruction. I am by no means certain that the use of artificial teeth by the old is an unmixed blessing. It may do harm by encouraging them to eat more food than is good for them and of a kind unsuited to their years. It is noticeable that almost all the old people who live to a great age in country villages—and it is here they reach the greatest age—rely on their *toothless gums, and the absence of teeth in the very old* may possibly be an indication to a return to the more simple diet of childhood.

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[6] It seems to me that rickets is essentially a toxæmia of gastro-intestinal origin.

[7] See letter written by the writer to THE LANCET, June 8th, 1901, p. 1627.

We see, then, that the evils of over-eating are greatly influenced by age. During the period of growth, with a reservation to be considered directly, and even during early adult life, they are comparatively insignificant; it is in middle life that they generally begin to show obtrusively, thereafter becoming more and more insistent with every advancing year. We may sometimes see an old *man* of sedentary habit—old *women less frequently err in this* respect—whose appetite and enjoyment of food survive amid the general decay of his physical powers, loading his poor old stomach with the same quantity of food and alcohol as he consumed in the heyday of his active manhood, and expecting his stomach, liver, and kidneys, after some three score or more years of overwork, to achieve the same metabolic feats as in their prime; and generally with this result, that he is a curse to himself as well as to those around him. It is true that some can eat abundantly into extreme old age without much apparent harm, but such cases are exceptional. Almost all of Humphry's centenarians were moderate eaters; he tells us that the great proportion of old people are reported "*to have been moderate or small eaters, to have taken* little alcohol, and commonly not much meat."[*] I cannot too emphatically impress upon my readers the desirability—nay, the necessity—of keeping the aged on a spare diet. Do not let us extinguish the flickering fire of age by piling on too much fuel.

I have said that with one reservation the young are little liable to suffer seriously from chronic over-feeding. The exception is in the case of infants. I have been long convinced that they are often greatly over-fed, and quite recently Dr. Eric Pritchard has contributed a valuable paper dealing with this important subject. I believe that infants in this country suffer much more from an excess than from a deficiency of food. In the first place the food given them is in a highly concentrated form, consisting of almost pure proteid, starch, and sugar, with very little unabsorbable material; and it is, moreover, administered in a liquid or pappy form which allows it to pass with a fatal facility into the stomach. The modern infant is often in fact, much in the position of the far-famed Strasburg goose. At a period of life when it is a stationary animal and prevented from working off an excessive dietary by abundant muscular activity (which same activity is but too often still further limited by *unsuitable* clothing) its digestive organs are burdened with an excess of highly concentrated foods, with results most disastrous to the helpless victim.

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

(Concluded from p. 1492.)

CHEMISTS and druggists were not so largely represented this year in the Queen's Hall exhibition as on previous occasions and several of those exhibiting presented many articles besides drugs for inspection. Many interesting specimens were on view on the stall of Messrs. Cooper and Company, of 80, Gloucester-road, South Kensington, S.W. The aerated mineral waters containing both oxygen and carbonic acid gas are worthy of special mention. Great pains, as we have shown, are taken to secure the purity of these waters, special apparatus for the distillation of water being devoted to the purpose. Lithia, piperazin, magnesia, and urotropin are amongst the special drugs to be obtained dissolved in "oxycarbonated" water. The exhibit included also some neat cachets for inclosing drugs. Mr. W. Martindale, of 10, New Cavendish-street, W., showed a number of useful analytical appliances for clinical purposes besides a great number of medical preparations and special drugs. Ovo lecithin in the form of pills, confection, and injection was exhibited by Billon's Ovo Lecithin Company, of 16, Water-lane, Great Tower-street, E.C. As we have already pointed out, ovo lecithin has been administered with encouraging results in debilitated conditions. Hommel's hæmatogen we have dealt with in our analytical columns in which we pointed out that it contained *pure hæmoglobin with the entire unaltered salts of the blood* plasma. The preparation was exhibited by Messrs. Nicolay, of 36 and 36A, Saint Andrew's-hill, E.C. Messrs. Coxeter and Company, of 4 and 6, Grafton-street, Gower-street, W.C., showed apparatus for the production of anæsthesia by nitrous oxide gas, ether, and chloroform with special accessories. The exhibit included apparatus for the administration of oxygen and an ozone generator. Specimens of "iron milk," upon which we have quite recently reported in our analytical columns, were shown by the British Iron Milk Syndicate, Limited, of Savoy House, 115 and 116, Strand, W.C. Iron milk is a liquid containing pyrophosphate of iron in suspension. Messrs. Arthur and Company, of 69, Berners-street, W., exhibited a number of special preparations which we have noticed on previous occasions. The double salt of gold and arsenic known as "bromaurum" made by this firm is well known. Messrs. Rebman, Limited, of 129, Shaftesbury-avenue, W.C., besides medical publications, exhibited serum preparations and glycerinated calf lymph. The stall of Messrs. F. Newbery and Sons, of 27 and 28, Charterhouse-square, E.C., was well stocked with a number of special pharmaceutical preparations. Amongst these were a useful series of granular effervescent salts and the special prepara*tions of Messrs. W. R. Warner and Company.*

The food section was largely comprised of milk and milk products. The Aylesbury Dairy Company, of St. Petersburgh-place, Bayswater, W., exhibited a number of interesting preparations, including humanised milk, sterilised milk and cream, and milk specially adapted for the needs of the young child. Similar preparations were exhibited by Messrs. Welford and Sons, of Elgin-avenue, Maida Vale, W., who make a speciality of asses' milk. Concentrated milk was the subject of exhibition by several well-known firms, such as the Anglo-Swiss Milk Company, of 10, Mark-lane, E.C., and Mr. Henry Nestlé, of 48, Cannon-street, E.C., the latter exhibiting also a special food for infants.

The best example of a food prepared from milk is *plasmon*, which *contains* the physiologically unaltered proteid of milk. Its nutritive value is well known. Many food preparations containing plasmon were also shown on the stall of this company (International Plasmon, Limited, 56, Duke-street, Grosvenor-square, W.). Messrs. Cosenza and Company, of 95, Wigmore-street, *Cavendish-square*, W., exhibited the well-known Maggi soup cartridges for the use of troops, the exhibit including also a consommé and a tonic bouillon. Peptenzyme in many forms containing the digestive secretions of the digestive glands was the feature of the exhibit of the Peptenzyme Company, Limited, 80, Gloucester-road, South Kensington, S.W., but they also exhibited zymocide, described as a non-poisonous antiseptic for surgical and general use. "Marvis" is one of the best examples of a dried fish food. It makes a good nourishing soup and is prepared by the Marvis Company, of 7, Eastcheap, E.C. Proteno was amongst the first preparations of milk proteid made and it has been used with advantage as a food and for raising the nitrogenous content *of farinaceous foods*; the preparation was exhibited by the Proteno Company, Limited, of 38, Welbeck-street, W. Meat preparations were represented in great number and variety on the stall of Bovril Limited, of 152 to 166, Old-street, City-road, E.C., while Messrs. G. Nelson, Dale, and Company, *of* 14, *Dowgate-hill*, E.C., exhibited their now well-known mutton essence called "hipi," the New Zealand native word for sheep, pronounced "heapy." The Liebig Extract of Meat Company, Limited, of 9, Fenchurch-avenue, E.C., exhibited Lemco, a highly-concentrated beef preparation, and Oxo, representing both the nutrient and stimulating properties of beef. The Hovis

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[*] Old Age, George Murray Humphry, M.D., F.R.S., 1889, p. 14. See also p. 51 for some striking observations on the same subject.

Bread Flour Company, Limited, of Macclesfield, exhibited their recently-introduced foods for infants and invalids. We have so recently described these foods in our analytical columns that we need offer no further remark. Special foods for diabetic patients and for use also in obesity were exhibited by Messrs. Callard and Company, of 65, Regent-street, W., and the Myosin Albumin Meat Extract Company, of 107, Strand, W.C., submitted their preparations containing a very high proportion of pure myosin albumin which is, of course, highly nutritious.

There was a fair display of surgical and hospital appliances, amongst those exhibiting being Messrs. Maw, Son, and Sons, of 7 to 12, Aldersgate-street, E.C.; the Holborn Surgical Instrument Company, of 117, Holborn, E.C.; Messrs. Maple and Company of Tottenham Court-road, W.; Messrs. Wodderspoon and Company, of Gate-street, Lincoln's Inn Fields, W.C. (temperature and other charts); Mr. W. K. Stacy, of 19, Newgate-street, E.C. (nurses' instruments); Messrs. F. Davidson and Company, of 140, Great Portland-street, W. (sight-testing apparatus); and in this category might be included the natural shaped boots of Mr. Thomas Holland of 40, South Audley-street, Grosvenor-square, W. These boots are so made as to prevent the inner and outer lines of the soles from converging to a point beyond the space between the second and third toes. Thus the boots, while not ugly in appearance, are adapted to the natural shape and lines of the feet.

ERRATUM.—The "eucryl" preparations described in our article last week were exhibited by Eucryl, Limited, and not by Messrs. Major as stated.

THE MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.

THE nineteenth annual meeting of this society was held at 11, Chandos-street, London, W., on May 15th, under the presidency of Dr. F. DE HAVILLAND HALL, chairman of the Executive Committee.

Dr. HALL, in his remarks, said that, as on previous occasions, they had an excellent report to give to the members. The new business had been exceedingly good; they had had 133 proposals, against 114 in the previous year, and there had been 28 proposals for additional benefits, against 22. Though their members had increased he was thankful to say that the sickness claims had been less than in the previous year—£7829 10*s.*, as against £8250. In the annuity fund there was a small increase and a small decrease in the life assurance fund. As the members were aware, the society was doing no further business in these two branches, but the Rock Life Assurance Company allowed a rebate of 5 per cent. to members of the society who effected assurances with them. He thought that taking out in this or some other life assurance company an annuity payable at the age of 65 years was a preferable way of meeting a difficulty rather than extending their sickness limit beyond the age of 65 years, as had been suggested: an annuity payable at 65 years of age would be a certainty, whereas sickness allowances after that age must necessarily be altogether uncertain. The economy of management of the society still continued. During the past year the management expenses had been less than 5 per cent of the premium income, as against 10 per cent. which was allowed by the rules. They had put by over £1000 to the management reserve fund and they had made the large increase of £1346 4*s.* 6*d.* in their investment reserve fund which now stood at £7979 9*s.* 3*d.* The total funds of the society had also grown considerably—viz., from £143,552 11*s.* 3*d.* to £154,353 17*s.* 3*d.*, an increase during the past 12 months of upwards of £10,000. The votes of the society in connexion with the Royal Medical Benevolent College had this year been given to Gerald MacNaught, the son of a deceased member, and from the position which the boy held at the last election he (the Chairman) hoped that the votes would ensure his election into the school at Epsom on this occasion. He had great pleasure in announcing that Sir William Church, President of the Royal College of Physicians of London, had consented to act as arbitrator should they elect him. The record of committee attendances would show how well the affairs of the society were looked after by the members of the committee, and he thought that it would be impossible to get a body of men to work more harmoniously than they had done. In Mr. Harber, who, he was glad to see, was present that afternoon, they had an excellent man of business, and he felt that as long as he audited the accounts the financial condition of the society would be well looked after, and, lastly, he would like to express on behalf of the committee its high appreciation of the manner in which the secretarial work had been done.

A motion, proposed by Mr. R. J. BRYDEN, seconded by Dr. N. BATEMAN, that the report of the Committee and the audited accounts for the year ending Dec. 31st, 1901, be received and adopted, was carried.

The officers for the ensuing year were then elected.

Dr. ST. C. B. SHADWELL said that before they concluded their meeting he should like to propose a vote of thanks to the chairman for the way in which he had conducted the affairs of the society. As a member of the Executive Committee for one year he had had the pleasure of seeing the way in which Dr. Hall had conducted the business at their monthly meetings, and he was sure that every member of the society must feel much obliged to Dr. Hall for what he had done and be pleased on that occasion to express their confidence in him and to thank him for the trouble which he had taken.—Mr. J. BRINDLEY JAMES, in seconding the motion, spoke of the valuable help and assistance which Dr. Hall had rendered to the society.

The motion was carried with acclamation.

Dr. HALL said that he was obliged for their kind expression of opinion. As he had said in his opening remarks, it would be impossible for a committee to work together more harmoniously than that committee had done; its members had sometimes come to a division but they had always agreed on the line to be pursued. He could only hope that in the future, as in the past, they might continue to work together in the same pleasant manner. He was much obliged to them for re-electing him again as the chairman.

Looking Back.

FROM

THE LANCET, *SATURDAY, MAY 29,* 1824.

IT is stated that "heat is the *lightest body* known; therefore it always has a tendency to ascend." We would rather say that *heated particles* of any matter whether of a solid, liquid, or æriform become specifically lighter by expansion, and therefore will rise when heated in a medium consisting of particles of similar specific gravities with themselves; as for instance, when some of the particles of water are warmed in a medium of similar particles, these heated particles will rise through those that are not so; and thus we find that hot water always rises to the surface of a vessel of cold. The particles of air which are heated in the atmosphere, always ascend and fly upwards, because they are expanded by the heat, and therefore rendered lighter than those around them, but if atmospheric air be heated and thrown into a volume of hydrogen gas, they will not rise, nor will the "heat ascend": simply because the heated particles of atmospheric air remain still specifically heavier than the hydrogen gas. So also, notwithstanding hot water rises to the surface of cold, yet it will not rise through the atmosphere, unless, indeed it be so far expanded as to be converted into steam or vapour, in which case it is found to be specifically lighter. We may fairly conclude that in every case where heat appears to ascend, that it is not a property of heat itself, or the levity of its nature, but that it simply expands either the particles of some liquid, or air, which become specifically lighter than they were before, therefore rise upwards and carry the heat which they have acquired along with them; therefore, instead of saying that "heat is the lightest body known," we may with more propriety observe that heated particles of common matter are lighter than cold ones.

We are particular in exposing these errors, because they mislead the followers of truth and injure the true interests of science by impressing false notions on the mind, which are carried with all their baneful effects into every inquiry and prejudice, as we every day see, even the results of experiments themselves.[1]

ROYAL ACADEMY OF MEDICINE AT PARIS.

Sitting of the 24th of February.—M. RULLIER presented to the Academy a stomach from the internal surface of which, twenty-four fungi projected. These excrescences existed in the mucous membrane, and were formed out of it.

The Secretary read, in the name of M. JULIAN FONTENELLE, the case of an individual who had only one kidney. Occupying its usual situation, this kidney was five times larger than in the healthy state.

Sitting of the 20th.—M. RICHERAND occupied the time of the meeting with an account of an operation for strangulated femoral hernia, in which he had an opportunity of proving the excellence of the instrument commonly called COOPER's hernia knife, although the president of the meeting M DUBOIS had publicly used it fifteen years before the English surgeon published a description of it.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7474 births and 4757 deaths were registered during the week ending May 24th. The annual rate of mortality in these towns, which had been 17·2 and 17·3 per 1000 in the two preceding weeks, declined again to 16·7 per 1000 last week. In London the death-rate was 16·4 per 1000, while it averaged 16·8 in the 75 other large towns. The lowest death-rates in these towns were 8·2 in Smethwick, 9·1 in Croydon, 9·2 in Reading, 9·5 in East Ham, 10·3 in Walthamstow, 11·2 in Rotherham, 11·3 in Bootle, and 11·4 in Newport (Mon.); the highest rates were 22·1 in Gateshead, 22·5 in Hanley, 23·0 in Liverpool, 23·9 in Burnley, 24·1 in Barrow-in-Furness, 24·2 in Rochdale, 24·4 in Merthyr Tydfil, and 26·4 in Oldham. The 4757 deaths in these towns last week included 531 which were referred to the principal zymotic diseases, against 489, 519, and 516 in the three preceding weeks; of these 531 deaths 157 resulted from measles, 119 from whooping-cough, 66 from diphtheria, 56 from diarrhœa, 51 from scarlet fever, 47 from small-pox, and 35 from "fever" (principally enteric). In Croydon, Willesden, Brighton, Devonport, and six other smaller towns no death from any of these diseases was recorded last week; while they caused the highest death-rate in Tottenham, Liverpool, Wigan, Burnley, Barrow-in-Furness, Bradford, and Tynemouth. The greatest proportional mortality from measles occurred in Bournemouth, Southampton, Plymouth, Grimsby, Oldham, Barrow-in-Furness, Bradford, and Rhondda; from scarlet fever in Walsall, Aston Manor, and Bolton; from whooping-cough in Liverpool, Bootle, Barrow-in-Furness, South Shields, and Tynemouth; from "fever" in East Ham; and from diarrhœa in Wigan. The mortality from diphtheria showed no marked excess in any of the large towns. 47 fatal cases of small-pox belonging to these towns were registered last week, of which 24 belonged to London, eight to Tottenham, eight to West Ham, two to East Ham, two to Swansea, and one each to Leyton, Birmingham, and Tynemouth. There were 1344 cases of small-pox under treatment in the Metropolitan Asylums hospitals on Saturday, May 24th, against 1443, 1419, and 1360 on the three preceding Saturdays; 307 new cases were admitted last week, against 250, 248, and 233 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2222, 2212, and 2207 at the end of the three preceding weeks, had risen again to 2236 at the end of last week; 280 new cases were admitted during the week, against 258, 256, and 270 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 240, 231, and 216 in the three preceding weeks, rose again last week to 237, but were 11 below the corrected average number. The causes of 54, or 1·2 per cent., of the deaths in the 76 towns last week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Nottingham, Bolton, Bradford, Leeds, Hull, and in 46 other smaller towns; the largest proportions of uncertified deaths were registered in Aston Manor, Liverpool, St. Helens, Warrington, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·1 and 19·4 per 1000 in the two preceding weeks, further increased to 20·3 per 1000 during the week ending May 24th, and showed an excess of 3·6 per 1000 over the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 9·3 in Leith and 14·1 in Perth to 22·4 in Paisley and 22·5 in Glasgow. The 656 deaths in these towns included 16 which were referred to measles, 14 to whooping-cough, 14 to diarrhœa, six to scarlet fever, three to "fever," one to small-pox, and one to diphtheria. In all 55 deaths resulted from these principal zymotic diseases last week, against 46 and 74 in the two preceding weeks. These 55 deaths were equal to an annual rate of 1·7 per 1000, which was slightly below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been nine and 21 in the two preceding weeks, declined again last week to 16, of which five occurred in Edinburgh, three in Dundee, three in Paisley, three in Perth, and two in Glasgow. The deaths from whooping-cough, which had been 16 and 25 in the two preceding weeks, decreased again to 16 last week and included five in Glasgow, five in Aberdeen, and two in Dundee. The fatal cases of diarrhœa, which had been 23, 13, and 19 in the three preceding weeks, declined again last week to 14, of which seven were registered in Glasgow, three in Aberdeen, and three in Greenock. The deaths from scarlet fever, which had been two, four, and one in the three preceding weeks, rose again to six last week, and included three in Glasgow, where the fatal cases of small-pox also was registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 113 and 114 in the two preceding weeks, further increased last week to 156, and were 55 above the number in the corresponding period of last year. The causes of 21, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·6 and 24·8 per 1000 in the two preceding weeks, declined again to 19·1 per 1000 during the week ending May 24th. During the past four weeks the death-rate has averaged 22·9 per 1000, the rates during the same period being 16·2 in London and 17·2 in Edinburgh. The 139 deaths of persons belonging to Dublin registered during the week under notice were 41 below the number in the preceding week and included six which were referred to the principal zymotic diseases, against nine, 12, and 13 in the three preceding weeks; of these, two resulted from measles, two from scarlet fever, one from "fever," and one from diarrhœa. These six deaths were equal to an annual rate of 0·8 per 1000, the zymotic death-rates during the same period being 1·9 in London and 1·1 in Edinburgh. The fatal cases of measles, which had been three, six, and three in the three preceding weeks, declined to two last week. The mortality from scarlet fever was slightly in excess of that recorded in recent weeks. The 139 deaths in Dublin last week included 25 of children under one year of age and 38 of persons aged upwards of 60 years; the deaths of infants slightly exceeded the numbers in the preceding week, while those of elderly persons showed a slight decline. Four inquest cases and four deaths from violence were registered; and 62, or nearly one-half, of the deaths occurred in public institutions. The causes of six, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon A. Kidd to the *Collingwood*. Staff Surgeons: H. E. South to the *London*; E. P. Mourilyan to the *Retribution*; H. Elliott to the *Severn*; A. Maclean to the *Penguin*; and R. Hill to the *Tribune*. Surgeons: E. F. Power to the *Pactolus*; H. W. B. Shewell to the *Surprise*; and H. O. Adams to the *London*.

ARMY MEDICAL STAFF.

Surgeon-General Alexander F. Preston, K.H.P., is placed on retired pay. Dated April 23rd, 1902.

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[1] Some editorial observations expressing dissent from the then existing theory of heat.

Lieutenant-Colonel J. E. Fishbourne is appointed to the medical charge of the Military Prison at Woking.

Royal Army Medical Corps.

Colonel W. Donovan, C.B., now in South Africa, is appointed Principal Medical Officer at Hong-Kong.

Lieutenant Craig is appointed for duty in the North-Western District, and Lieutenant Cotterell to Bulford Camp, Salisbury Plain.

Royal Army Medical Corps (Militia).

Surgeon-Lieutenant Herbert Fox, from the 2nd Hampshire Royal Garrison Artillery (Volunteers), to be Lieutenant, and to be seconded for service in South Africa.

Royal Army Medical Corps (Volunteers).

The Manchester Companies: Lieutenant C. E. Preston resigns his commission.

Volunteer Corps.

Royal Garrison Artillery (Volunteers): 1st Cheshire and Carnarvonshire: The undermentioned Surgeon-Captains to be Surgeon-Majors: A. M. Archer and R. L. Jones. 1st Hampshire: Surgeon-Lieutenant E. N. Close to be Surgeon-Captain.

Rifle: 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment: Surgeon-Lieutenant J. E. B. Wells to be Surgeon-Captain. 2nd Volunteer Battalion (the Prince Albert's Somersetshire Light Infantry): Surgeon-Lieutenant W. Thompson to be Surgeon-Captain. 3rd Volunteer Battalion the Gloucestershire Regiment: Charles Robert Browne to be Surgeon-Lieutenant. 1st Volunteer Battalion the King's Own (Yorkshire Light Infantry): Surgeon-Captain E. Lee to be Surgeon-Major. 2nd Volunteer Battalion the Manchester Regiment: Surgeon-Lieutenant J. Ratcliff Gaylard resigns his commission. 19th Middlesex (St. Giles's and St. George's, Bloomsbury): The undermentioned Surgeon-Lieutenants to be Supernumerary whilst serving with the Bearer Company of the 5th London Volunteer Infantry Brigade: J. G. Fraser and J. J. R. Macleod.

South African War Notes.

Lieutenant Beatty, R.A.M.C., is reported out of danger.

Civil Surgeon White was reported very slightly improved on May 27th.

The steamship *Nubia* left Port Natal for England on May 24th with the following invalids on board:—Captain L. E. L. Parker, R.A.M.C., and Civil Surgeons Ilott and Hoops. The following members of the Army Medical Service are also on board: Lieutenant-Colonel R. L. Love, R.A.M.C., Lieutenant C. S. Cato, R.A.M.C., and Civil Surgeons Macdonald, Ellis, and Heron.

The Report on the Education and Training of Officers of the Army.

Notices of this report have appeared in the daily and service journals but no copy of the report has, so far as we know, yet been issued from any official or authorised source. If the analyses which have appeared correctly summarise its nature and contents it seems to be a document of a severely critical and trenchant kind and to put forward a series of recommendations which, if adopted, will bring about a radical reform. It is in the Royal Military College, Sandhurst, and the system in force there, together with an alleged lack of supervision, that the committee apparently finds so much to condemn; the Royal Military Academy, Woolwich, appears to have passed through the inquiry satisfactorily.

Deaths in the Services.

Surgeon-Colonel Samuel Archer, A.M.S. (retired), at Rapallo, Italy, aged 68 years. He joined the army as Assistant-Surgeon in 1858, became Surgeon in 1873, Surgeon-Major in 1873, Brigade-Surgeon in 1887, and retired eight years later. He served with the 101st Fusiliers in the campaign in the North-West Frontier of India in 1863 (medal), including the storming of the Conical Hill and destruction of Umbeylah (medal with clasp). In the Nile Campaign 1884–85 he was in charge of the field hospital at Korti (medal with clasp and Khedive's star). He was in medical charge at Wady Halfa and of lines of communication to Akasheh in the expedition on the Soudan Frontier in 1885–86.

Examiners for the Indian Medical Service.

The Secretary of State for India has appointed the following gentlemen to be examiners for the Indian Medical Service: Professor Clifford Allbutt, F.R.S. (Medicine and Therapeutics); Mr. Howard Marsh (Surgery and Diseases of the Eye); Professor D. J. Cunningham, F.R.S. (Surgical Anatomy and Physiology); Professor R. Calder Leith, F.R.S. Ed. (Pathology and Bacteriology); Dr. R. Milne Murray, F.R.S. Ed. (Midwifery and Diseases of Women and Children), Professor Ralph Stockman, F.R.S. Ed. (Chemistry, Pharmacy, Botany, and Zoology).

Surgeon-General Townsend, C.B., A.M.S.

This officer, who it will be remembered was severely wounded at Tweebosch, will, it is understood, soon take up his duties. He has been principal medical officer with Lord Methuen's force, with which he did much hard and excellent service, since the war began, having embarked from England with the staff of the 1st Division.

The Royal Military Tournament.

The Royal Military Tournament at the Agricultural Hall, Islington, will close its doors on June 5th. The entertainment as a whole shows this year a great improvement on those of previous years and no one who is able to visit the Tournament should fail to do so.

The annual Ambulance Challenge Shield Competition of the Volunteer Medical Association will be held this year at the Guildhall on June 7th, at 3 o'clock. The honorary secretary of the association, we are informed, has arranged with the officer commanding the London companies of the Royal Army Medical Corps (Volunteers) for the board and lodging at their headquarters, Calthorpe-street, Gray's Inn-road, of squads coming from the provinces for the competition. Further information can be obtained from Surgeon-Major J. J. de Z. Marshall, honorary secretary, Shortwood, Teddington, S.W.

The report by the Central British Red Cross Committee on Voluntary Organisations in Aid of the Sick and Wounded during the South African War has been issued in the form of a Blue-book. It consists of some 200 foolscap pages and contains several well-executed plans and photographs.

Inspector-General Sir Henry F. Norbury, Director-General of the Royal Navy Medical Department, will be present at the Sanitary Institute coronation dinner on June 2nd at the Midland Grand Hotel.

Correspondence.

"Audi alteram partem."

THE WILLIAM SMYTH MEMORIAL FUND.

To the Editors of The Lancet.

Sirs,—Would you kindly allow me the courtesy of the columns of The Lancet to enable me to thank the medical profession for their great kindness to me and my family in connexion with Dr. Smyth's death? My heart is too full of gratitude for me adequately to express my feelings and I can only say I shall never forget the generosity of my dear husband's colleagues in the affliction that so suddenly came upon us. I use the columns of The Lancet as the most effective means of reaching the medical profession.

I am, Sirs, yours sincerely,

Burton Port, co. Donegal, May 26th, 1902. E. M. Smyth.

WHAT IS SCROFULA?

To the Editors of The Lancet.

Sirs,—I have pleasure in answering the query of your correspondent "Pes" in The Lancet of May 24th, p. 1498, as to the reason why "scrofula" is retained in the new official list of causes of death, a copy of which appeared in a recent number of The Lancet. The reason is that the term "scrofula," as distinct from tuberculosis, is in common use by medical men, not a few of whom (including certain physicians and surgeons of eminence) still believe the conditions which these terms imply to be distinct. Without presuming to dogmatise on the question I may perhaps quote in justification of my conduct the following remarks by Professor Clifford Allbutt in his "System of Medicine," vol. iv., p. 597: "Whether scrofula is always due to the tubercle bacillus or always associated with it is not yet decided. It seems probable that scrofula may arise by the agency of microbes other than tubercles; again, that, originating independently of tubercle, on it tubercle may afterwards supervene, and, once more, that scrofula may be due to tubercle primarily, or even exclusively No doubt these problems will soon be settled." Having regard to the foregoing considerations and to the fact that the term "scrofula" has appeared in the list of diseases used in this office ever since its establishment I was unwilling to discard it, lest the comparability of figures in a series of years should be impaired. "Pes" will, however, probably perceive that as soon as unanimity on the subject is attained by the medical authorities it will be easy, if requisite, to add together the two lines affected in the tables for previous years, and thus nothing will be lost.

I am, Sirs, yours faithfully,
JOHN TATHAM

General Register Office, Somerset House, May 27th, 1902.

ETHER v CHLOROFORM.

To the Editors of THE LANCET

SIRS,—I, like many others, have read with great interest in THE LANCET of May 24th, p. 1457, the record by Mr H Challice Crouch and Mr Edred M. Corner of their investigation into the effects of ether inhalation on the respiratory organs It is impossible to do so without a strong feeling of admiration for the thoroughness and perseverance with which they have gone into the matter It is difficult for anyone who has not undertaken a somewhat similar investigation fully to realise the great calls on time and patience which they must have met with. The result is, they tell us in brief, that they found that out of 2400 ether cases 10 developed more or less severe chest symptoms, one case ending fatally, and we are left to conclude, presumably, that out of 24,000 cases 100 would develop similar troubles and 10 would become defunct. In short, we are asked to reconsider our position, to look upon chloroform as a less noxious body than ether, all things considered, and consequently fitter for routine employment in anæsthetic practice. Before so concluding are we not entitled to ask Mr Crouch and Mr Corner, as a favour to the profession and for the sake of suffering humanity, to continue their investigations for another year—with this alteration. Let the house officers and anæsthetists use $CHCl_3$ in the 2400 cases and ether in the 600, or in like proportion, and then we may be in a better position to judge as to results.

Mr Crouch and Mr Corner remark that the death rate under $CHCl_3$ *is said to be* 1 in 3000 It *is* said to be—and who orginally arrived at this conclusion I do not know One enthusiast has even put the death rate as low as 0 in 40,000. I submit, however, that were the results of every large general hospital in the United Kingdom during any given year investigated there is not one at which the death rate from $CHCl_3$ would not work out higher than 1 in 3000 In this year's official report of one large institution (which shall be nameless) six deaths are stated to have occurred in 2901 administrations of $CHCl_3$, = 1 in 483. In this hospital very little ether is used Further, at another institution of similar size, during a recent year 12 deaths were recorded from $CHCl_3$ and these chiefly occurred in cases chloroformed in or off the wards (as Mr Crouch and Mr Corner describe) by house surgeons. The house surgeons are now positively forbidden to use $CHCl_3$ in such cases unless quite unavoidable. One could say a good deal more, but *cui bono?* This question has been hammered out for the past 50 years and one might with as much profit enter into a discussion on the respective merits of spring mattresses and feather-beds.

Mr Crouch and Mr Corner mention that "anæsthetists never hear at all of the subsequent history of their cases." I think that this can be true only of a proportion of cases, but, at any rate, if an appreciable percentage of patients in private practice—or for that matter in hospitals—did get bronchitis or pneumonia after ether it is impossible to suppose that anæsthetists would not hear of it, and very plainly, too, from the surgeons in charge. The strongest proof of the greater safety of ether for routine cases, taking *all* things into consideration, seems to be the fact that almost invariably as the experience of anæsthetists increases they use ether, or some mixture chiefly consisting of it, more widely And can we suppose that any sane man would spend his day going from house to house with a bag containing the necessary ether and gas impediments, weighing anything from 10 to 20 pounds unless he had overwhelming proof that he was thus enabled to use an agent many times safer than the very portable chloroform?

In Germany operating theatres are kept at a very much higher temperature than in this country, generally speaking, and bronchitis is seen there after ether, $CHCl_3$, or cocaine anæsthesia not uncommonly[1] It is obviously due to the sudden change of temperature in the patient's surroundings when taken back to the ward The greater the change, evidently the more bronchitis. The practical point arising out of this paper by Mr Crouch and Mr Corner is, Can we not possibly minimise this change of temperature by keeping the operating theatres at a reasonably warm temperature and the wards as near as is practicable the same? and also prevent a chill in the draughty corridors by extra warm blankets and covering the patient's head with a towel?

Those whose faith in ether has become somewhat perturbed by the resuscitation of the "bronchitis bogie" can scarcely do better than read Dr R. J Probyn-Williams's admirable paper on the Use and Abuse of Ether in the *Edinburgh Medical Journal* for May, 1902.

I am, Sirs, yours faithfully,
THOMAS D LUKE,
Instructor in Anæsthetics University Wards Royal Infirmary, Edinburgh

Edinburgh, May 27th, 1902.

INFANTILE SCURVY AND RICKETS

To the Editors of THE LANCET

SIRS,—In reference to the letter of Dr Clement Dukes in THE LANCET of May 10th, p 1358, allow me to point out that although medical men have been strenuously advocating the boiling of milk and the restriction of the baby's food to boiled milk and cooked milk foods, still the diet of very few children indeed has been [so restricted, nevertheless, the evil consequences of such a restriction have been prevented by the all but universal habit which the working- and middle-classes have of feeding their children with little bits of anything and everything from their own tables

Two years ago, however, I had a child under my care who was fed absolutely on artificial food and boiled milk. She was born in the early spring, was a delicate and fretful little thing, and even although the greatest care was bestowed on the preparation of this food she had frequent attacks of diarrhœa. She got on fairly well between these attacks through the summer and by the sixth month she had cut two teeth and seemed in moderate health but always fretful and subject to diarrhœa. She showed no signs of rachitis, such as sweating, &c. About the eighth month, however, severe symptoms of scurvy appeared, hæmorrhage from the bowel, bleeding gums, extravasation of blood into ankle-joints, &c. Here was a condition where the cause was apparent and by way of experiment I simply ordered the mother to procure fresh milk three times a day and give it to the child in the fresh and unboiled state, this was all the treatment adopted, with the exception of small doses of solution of hydrochlorate of morphia to relieve the pain, and it proved eminently satisfactory

Other three cases of infantile scurvy have come under my notice in the course of the past eight years. In each the symptoms were sufficiently pronounced to prevent their being mistaken and in each raw milk proved efficacious treatment. Rachitis and infantile scurvy may and do undoubtedly occur together but they also may and do as undoubtedly occur independently Infantile scurvy yields readily to anti-scorbutic treatment. Rachitis is much more resisting, in its treatment the diet should certainly be such as would preclude the merest possibility of scurvy—antiscorbutic if you like, but that is not in itself sufficient by any means Generous diet, fresh air, &c, all sometimes fail to produce any marked effect. The various preparations of iron, too are all valuable adjuncts in the treatment of rickets Scorbutic disease has always been amenable to treatment, but in rickets the elimination of scorbutic phenomena is but a small part of the treatment

It seems to me that with the universal adoption of prepared foods and the general call for the sterilisation of milk in the artificial rearing of children has come a recrudescence of scurvy The detection of scorbutic phenomena in children—considered apart from the knowledge of the potency of these new foods to produce such—gave infantile scurvy an exaggerated importance Not only was its appearance misunderstood but it seemed in many quarters to be tacitly assumed that the secret causation in the problem of rickets was this, infantile scurvy.

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[1] Von Mickulicz, Transactions of the German Society of Surgery, 1901

I am, Sirs, yours faithfully,
JOHN SUTHERLAND, M.B., C.M., B.Sc. Edin.
Netherfield, Notts, May 24th, 1902.

TROPICAL ABSCESS OF THE LIVER.

To the Editors of THE LANCET.

SIRS,—In your report of the discussion which followed the reading of Mr. Godlee's paper on the above subject at the meeting of the Royal Medical and Chirurgical Society on May 13th, published in THE LANCET of May 24th, p. 1467, my remarks are so imperfectly given that I must ask you to allow me to make the following corrections.

I did not say that "it was the practice in India to use Dieulafoy's aspirator and in small abscesses this was sufficient." What I said was that "it was *at one time* (30 years ago) the practice in India to use Dieulafoy's aspirator, and *in a certain proportion* of cases, *especially* in small abscesses, this was *sometimes* found to be sufficient and no further surgical interference was necessary." I did not say that "even in larger abscesses one or two such operations were sufficient." I said that they were *sometimes* sufficient and quoted a series of successful cases of this kind published by Lawrie a few years ago. The usual practice in India has been to remove a portion of rib when necessary and to cut down directly into the abscess and to drain freely, but a preliminary operation of stitching the liver to the abdominal wall has been generally considered impracticable, and unnecessary on account of the innocuous character of liver pus in acute cases and because the large drainage-tube, occupying entirely as it does the incision into the liver, effectually shuts off the abscess cavity from that of the abdomen and in 24 hours the path is sealed by adhesions if they did not already exist.

I am, Sirs, yours faithfully,
A. CROMBIE, M.D. Edin.
Beckenhall-mansions, W., May 23rd, 1902.

ON THE USE OF THE TERM "BLASTOMA."

To the Editors of THE LANCET.

SIRS,—In the report of the meeting of the Pathological Society of London of April 29th, given in THE LANCET of May 3rd, p. 1249, which has just come to hand, I note that, following Dr. C. P. White, the term "blastoma" is employed to indicate the group of tumours formed of "indifferent cells" which eventually give rise to both connective tissue (sarcomatous) and epithelioma (carcinomatous) elements—the carcino-sarcomas. If I remember aright, Dr. White first employed the term as thus defined in his article upon the Definition, Terminology, and Classification of Tumours in the *Journal of Pathology*, vol. vi., 1899, p. 220. In his interesting Erasmus Wilson Lectures delivered in February last and published in your pages, he again urged the employment of the term in this same sense, and in both articles he states that he owes it to Dr. Herbert Snow, who in November, 1895,[1] proposed its use to indicate a somewhat similar group of new growths. What Dr. Snow suggested was that one variety of "round-celled sarcoma" should be given this name, forms of "congenital cancer, so to speak," arising in such parts and in such circumstances "as to leave no doubt as to their origin from unobliterated rudiments of fœtal structures." Under this title, according to him, would be grouped "many lesions occurring for the most part in childhood or early youth—the ovary, palate, mediastinum, bladder, prostate, &c.," and "consisting wholly or almost so of rounded cells."

It will be seen in the first place that Dr. White in seizing upon Dr. Snow's term, employs it in a different sense. Dr. Snow's definition is vague and his classification, I fear, cannot stand. There would thus be at least a plausible excuse for the appropriation, were it not that years prior to Dr. White and several years also prior to Dr. Snow this term had been introduced in a more definite sense and by a very prominent pathologist—in fact, by no less an authority than Professor E. Klebs, in the second volume of his frequently quoted Algemeine Pathologie, published at Jena in 1889. For some 330 pages in his treatment of the subjects of tumours he consistently employs the term and so important is his work that there is no excuse for overlooking his usage thereof or for employing it without acknowledgment in a sense different from that laid down by him.

Briefly, Professor Klebs objected to confining the term "neoplasia" to tumour growths on the ground that simple hyperplasia is also neoplasia. For "neoplasia" and "neoplasm" he substituted "blastosis" and "blastoma," and he classified tumours into the two great groups of the blastomata, or tumours proper, subdivided into typical and atypical, and the teratoblastomata, or teratomata, the products of fœtal implantation.

I am, to some extent, personally interested in this matter because in recent articles (as, for instance, in that upon the Causation of Cancerous and other New Growths, published in the *British Medical Journal* and the *Yale Medical Journal* last year), reverting to Professor Klebs's classification, I have used the term blastoma in the sense indicated by him. A little consideration will show that it is essential to possess some word to designate everyday tumours as distinct from the peculiar group of the teratomata and that this term "blastoma" is quite the most suitable for the purpose. I had imagined that Professor Klebs's work was so well known that it was unnecessary to indicate the origin of the word; evidently this was a mistake, but evidently also when it has been given so clear a meaning there is no justification for seeking to send it into more active circulation with a new and restricted significance. Priority demands that in the absence of urgent cause it be employed as originally understood and that Dr. White select some other term for the group of cases of carcinoma-sarcomatodes.

I am, Sirs, yours faithfully,
J. GEORGE ADAMI.
Montreal, May 15th, 1902.

THE FUTURE OF THE ROYAL ARMY MEDICAL CORPS.

To the Editors of THE LANCET.

SIRS,—Since the new Royal Warrant and also the rules for admission into the Royal Army Medical Corps have been published, in which most of us agree that the changes are distinctly for the better, it may not be out of place to put before your readers and more especially intending candidates for commissions into the corps certain points which to my mind are paramount in importance and about which up to the present the Government has published no definite order. 1. The extent of increase of *personnel* in the corps. 2. The facilities to be given for "study leave," especially with a view to promotion examinations and "specialist" work. 3. The equalisation of home and foreign service. 4. The proportionate rates of pay in India as compared with those at home along with charge pay and other allowance when serving in that country.

The first of these, "the extent of increase of the *personnel* in the corps," is the most important, as without an increase from the present number of medical officers, some 970 up to 1400 or 1500 now that South Africa has to be manned, the points enumerated in No. 2 and No. 3 will be *impossible* to carry out. As this is a matter of money it will be the chief stumbling-block to the home Government. With regard to No. 4, dealing with pay in India, if the corps is to attract young medical men the Indian Government must give way, as no young doctor who understands the matter would care to have to serve in the Indian climate with less advantages than he has at home. If Mr. Brodrick wishes to make the Royal Army Medical Corps the best army medical service in Europe, as he has said he does, and I am sure intends to do his best to do, the points I have upheld must be acceded to and the competition for the corps would, I am persuaded, be a steady and lasting one. On the other hand, it must be clearly understood by those casting in their lot with the army doctor that promises are sometimes like pie-crusts and that we must get at least these concessions in black and white before the Royal Army Medical Corps *does* become the best army medical service in Europe.

I am, Sirs, yours faithfully,
VERAX.
London, May 18th, 1902.

WHAT IS THE BEST PORTABLE SPRAYING DISINFECTING APPARATUS?

To the Editors of THE LANCET.

SIRS,—I shall feel greatly obliged if any of your readers will favour me through the medium of THE LANCET with their views as to the best portable spraying disinfecting apparatus for use by sanitary inspectors.

I am, Sirs, yours faithfully,
M.O.H.
May 29th, 1902.

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[1] Transactions of the Pathological Society of London, vol. xlvii., 1896, p. 259

PLAGUE PRECAUTIONS AT MARSEILLES.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Concluded from page 1500.)

The Rats on the "Sénégal."—Anti-plague Serum Inoculations.—The Ministerial Instructions in regard to the Destruction of Rats.—New Measures for placing Rats in Quarantine.—The Various Means of destroying Rats.—The Bacteriological Examination of Rats.

As already explained, the occurrence of cases of plague on board the *Sénégal* distinctly demonstrated that the means of disinfection employed were inefficient. The *Sénégal* came from Beyrout. She had called at Alexandria and then sailed for Marseilles, reaching the latter port on August 28th, 1901. The crew then numbered 85 men and there were 254 passengers. The ship was provided with a disinfecting stove and there was a surgeon on board. Everybody was in perfect health, nevertheless 409 trunks, boxes, and the like, were disinfected at Frioul. All the personal linen, table-linen, and bedding were passed through the stoves and exposed to the action of superheated steam under pressure. In fact everything was done that could be done with the exception that no measures were taken in regard to the rats that might be on board. The crew remained at Marseilles for 17 days, they were examined before the ship sailed again, and were in perfect health at the moment of their departure. The *Sénégal*, with its 174 scientific explorers and excursionists, went first to Corsica, but four days later, on leaving Ajaccio to proceed eastwards to Palestine and other places of interest, one of the crew fell ill with plague. This occurred on Sept. 18th. The ship had left Alexandria, the last port where there were cases of plague, on August 23rd, and it was four days later that she reached Frioul and that the process of disinfection was commenced. There were no cases of plague at Marseilles and 27 days had elapsed since the ship had left Alexandria before the first case of plague occurred. There was, however, some doubt as to whether the patient was really suffering from plague. The passengers were at first kept on board the ship. Four rats were captured and bacteriologically examined. By the time these rats were proved to be infected a second case of plague was notified on board the *Sénégal* and the symptoms of the first case had so developed as to leave no doubt as to the nature of the disease. Thus we find a ship that has been disinfected and on board of which on starting for another cruise everyone seemed to be in good health, although subsequent bacteriological examination proved that the rats in the ship were infected with plague. Then occurred two cases of plague, not among the passengers but among the members of the crew, who, by reason of the work which they have to do, are brought more in contact with the rats than are the passengers. In most other European ports the passengers and crew would have had to remain on board till the termination of the period of quarantine. They would then have continued in contact with the rats that seem to have been the cause of the cases of plague that had occurred. In this instance the passengers were at least able to land and had houses to live in. Thus separated from the rats no further mischief occurred, the only trouble being that at Frioul there were not attendants enough to see to the comfort of so unexpected and numerous an advent of first-class passengers. The *Sénégal* arrived at Frioul on a Wednesday at 11 o'clock in the morning. By 5 o'clock on the following Saturday afternoon everyone on board who desired to take this precaution had been inoculated with the anti-plague serum. This would have been done more rapidly but for the facts that some time elapsed before the presence of plague was absolutely proved and that the passengers insisted on the employment of fresh serum which had to be telegraphed for from Paris.

The rule at Marseilles is to keep a reserve of 400 doses of anti-plague serum and whenever any of these are employed a further supply is ordered. A large portion of this stock had been exhausted to inoculate the crew of the *Laos*, which arrived at Frioul shortly before the *Sénégal* The serum, protected by the air-tight tubes in which it is placed, is supposed to retain all its qualities for about a year, therefore it was not necessary to ask for fresh serum, though this was obtained. But there is no law by which crews and passengers can be compelled to submit to inoculations. If, on this occasion, there was no resistance this was due to the eminent *savants* who were on board the *Sénégal*, for they were the first to set the example by submitting themselves to the process of inoculation. Only eight or nine persons refused

The great question, however, which the adventures of the *Sénégal* excursionists serve to bring prominently forward is that of the rats. The importance of dealing with the rats was, it is true, fully realised by the sanitary authorities before the occurrence of plague on board the *Sénégal*; but there is always a broad dividing-line between what is theoretically proclaimed and what is practically enforced The *Sénégal* incident occurred in September, 1901. In July, 1899, the following ministerial instructions had been issued to the port sanitary authorities: "Rats and mice are very active agents in the propagation of plague. When they are affected the disease soon spreads among the populations where they dwell or pass. The epizootic among these animals generally precedes by a few days the human epidemic. Therefore we must at all cost prevent their presence on board ships or at the quarantine stations. When a ship is in harbour the ropes or chains by which it is anchored or lashed to the shore must be armed with brushes, discs, or other contrivances which will prevent rats climbing along these ropes for the purpose of either leaving or of penetrating into the ship. During night-time the gangways to the shore must be removed. Before the ship is loaded care must be taken to see that there are no rats on board. If there are any rats they must be destroyed in the following manner. The ship, while empty, must be disinfected with sulphurous acid in all those parts that are frequented by the rats. The other parts of the ship may be disinfected with saline sublimate solutions, one gramme of bichloride of mercury to two grammes of marine salt mixed in one litre of distilled water. The dead rats must be cremated. The sanitary *régime* to be imposed upon the ships depends on the perfect execution of these instructions. The more thoroughly and rapidly the rats are destroyed the less will it be necessary subsequently to enforce these measures."

Had the above instructions been strictly carried out with regard to the *Sénégal* the pleasure-cruise on which it started would probably not have been brought to so premature and unpleasant a conclusion. As a matter of fact, it is only within the last six months that these instructions have been strictly applied, and this has involved quite a revolution in the procedure adopted in regard to the ships arriving from infected ports. To describe in a few words the procedure now enforced, it may be said that, though human beings are no longer put in quarantine when all on board are in good health, a strict quarantine is always put upon the rats. When a ship arrives from an infected port the hold is locked up. The passengers and crew having been medically examined and the linen and bedding having been disinfected, the ship can then proceed from Frioul to Marseilles Thus, so far as the passengers are concerned, there is only a delay of a few hours—that is, of course, if all are well on board. But the ship, though allowed access to the Marseilles docks, is placed in a sort of quarantine and has to fly the yellow flag This flag signifies that the rats have not yet been examined and that all ropes and cables attached to the ship must be fitted with contrivances that will prevent the rats from running along them to get on, or off, the ship The hold is then searched and if any dead rats are found this is thought to be a suspicious circumstance. If no dead rats are found traps are set to capture live rats. The specimen rats thus secured have to be handled with care The method adopted is to soak a cloth in a mercurial solution and to take hold of the rats with this moist cloth. The rats are then bacteriologically examined. If the rats are found to be suffering from plague the ship is generally sent back to Frioul so as to be disinfected more thoroughly, in which case, of course, all the rats are killed. Nor is this precaution confined to the ships. The rats on shore, in and about the docks, are constantly hunted and when captured, examined. On one occasion these land rats were found to be infected. The dock was therefore at once condemned and closed to all traffic. A great rat-hunt was organised, all the rats were killed, and all the merchandise that happened to be in the dock at the time was disinfected. Of the rats captured on 44 ships from January to March this year in seven of these ships they were found to be suffering from plague. This clearly shows the usefulness and the necessity of the precautions taken. So far, and in most cases, the rats were killed by means of sulphurous fumigations Altogether 10,611 rats have been killed in the three months. These figures give some idea of the importance and extent of the work done. But there are serious objections to the employment of sulphurous fumes. This process does not kill the rats at once. They have time to hide themselves and it is very difficult to find their bodies. If they are not found then decompositon ensues and a very serious nuisance is created. Moreover, the shipowners complain that the sulphur injures the ironwork of the ships and also some of the goods on board. For these reasons the use of carbonic acid gas is preferable. But it is much more difficult to apply this method. The carbonic acid employed is in bottles and in a liquid condition. When liberated it produces a freezing temperature, whereas the normal temperature should be maintained so that the gas may spread itself in all directions and sink to the bottom of the hold where the rats mostly congregate. Experiments are now being made to warm the gas as it leaves the bottle by discharging it into a tube and making it pass through hot water. Then precautions must be taken to clear the hold before allowing any men to enter. For this purpose two ventilating shafts of uneven length are introduced, one as an air inlet and the other as an outlet. To hasten the process a fan should be employed to draw out the air. Then candles are lowered into the hold and no one is allowed to descend unless the candles burn brightly. All this, however, is still only in the experimental stage. Nor can it be said that the problem has been solved in all its details. For instance, the rats on board a French ship may all be destroyed and everything rendered secure but this ship may be moored next to a foreign ship where no such precautions have been taken and the French ship is then invaded by rats from the foreign ship. Even if the same process were applied to every foreign ship entering a French port there is no telling what would happen to these ships when they went to other countries and to other ports?

It is with regard to the workers below deck that the principal danger arises. They come in personal contact with the rats. This is more especially the case with natives who, from religious motives, insist on cooking their own food. The fragments of this food attract the rats and they overrun the bunks These men often catch and handle the rats and thus expose themselves to a serious risk of infection. Most of the cases of plague that have occurred on board ship have been among the crew and those members of the crew who work below deck. This is a fact which tends to confirm the theory that the rats constitute the main danger. This is so evident that one of the main difficulties in dealing with the passengers of the *Sénégal* when they were landed at Frioul was due to their refusing to be waited upon by the stewards and stewardesses of the ship. They insisted that the chief advantage of being landed at Frioul was that they might be separated from those who had been exposed to the greatest danger of infection. Although the extra attendants hastily recruited at Marseilles were quite incompetent the passengers preferred the consequent inconvenience. They felt safer when their beds were made and their food was served by persons who came from Marseilles and had not been living among the infected rats of the ship.

From all these details it will be seen that a new departure has been made. The experiments now being carried out on a very extensive scale by Dr. Catalan, the able and experienced port sanitary officer of Marseilles, will be watched with deep interest, especially in all maritime countries. I must not conclude this description of the good and instructive work done without expressing my thanks to Dr. Catalan for his unfailing courtesy, for the facilities which he gave me to visit the disinfecting station at Frioul, and for the very important information which he enabled me to gather. Imitation is the sincerest form of flattery, and I think that in several respects Dr. Catalan will find many imitators.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.

(FROM OUR BERLIN CORRESPONDENT.)

(Concluded from p. 1428.)

Photo-therapy.

PROFESSOR BIE (Copenhagen) read a paper on the Use of Light in the Treatment of Disease according to Finsen's Method. He first explained the action of light on the skin, the blood, and the nervous system, as well as the effects which it produced on metabolism. Light, he said, was able to destroy bacteria in the superficial layers of the skin but it did not penetrate to the deeper layers of the skin, so that a direct destruction of tubercle bacilli in the lungs was obviously impossible. Photo-therapy was of much utility in small-pox, for under red light the pustules showed a tendency to dry up and suppuration was diminished. In erysipelas also the extension of the disease seemed to be restrained by the action of light, but in scarlet fever and measles the effect was less marked. The good effects of light in the treatment of disease depended not only on the exclusion of injurious forms of light but on the intensification of rays which had a beneficial influence on morbid processes. Red and ultra-red rays produced thermic effects, violet and ultra-violet rays produced chemical effects, and yellow and green rays were neutral. Electric light contained a smaller proportion of chemically active rays than did sunlight, so that it required to be concentrated by lenses. Professor Bie then described the apparatus devised by Professor Finsen. In the treatment of lupus two square centimetres of skin were exposed to the rays for an hour every day, the result being that the diseased portions were replaced eventually by scar tissue. The exposures had sometimes to be repeated. The treatment was painless but relapses occasionally occurred. The therapeutic action of light had proved successful not only in lupus vulgaris but also in lupus erythematosus, alopecia areata, acne vulgaris, acne rosacea, and nævus.

In the discussion it was stated that unqualified practitioners had opened establishments for the treatment of patients by Finsen's methods; this abuse, however, would probably receive a check when the medical profession recognised the merits of the treatment and recommended it in suitable cases.

Dr. **HOLLÄNDER** (Berlin) then described his method of treating lupus erythematosus, which is not a disease of tuberculous origin but is localised in the cutaneous glands. He had found that painting the part with iodine in conjunction with the internal administration of quinine had proved perfectly successful.

The Glycogen Reaction of Leucocytes.

Dr. **KAMINER** (Berlin) read a paper on the relations of this reaction to infectious diseases. His observations were made on animals inoculated with various cultures. He found that the reaction occurred in infections due to staphylococcus, streptococcus, pneumococcus, bacterium coli, bacillus anthracis, bacillus pyocyaneus, and the bacillus of enteric fever, but it failed to appear after injections of cultures of the organism of fowl cholera and the toxins of tetanus. The reaction occurred after injection of the toxin of diphtheria but not when the animal had been immunised.

Dr. **HOFBAUER** (Vienna) said that in the human subject the results were quite different from those just described, for patients suffering from infectious diseases did not show those reactions.

Uric Acid.

Professor **KLEMPERER** (Berlin) read a paper on the Solubility of Uric Acid. He said that the urine contained a larger quantity of dissolved uric acid than might have been supposed. He had found that the solvent action of the urine depended on the amount of urochrome (yellow colouring matter) which was present.

Charcot's Crystals.

Professor **GUMPRECHT** (Weimar) showed that these crystals might undergo coagulation. They therefore belonged to the albuminous class of substances but the nature of the albumin was not yet ascertained.

Glycosuria in Tramps.

Professor **HOPPE-SEYLER** (Kiel) read an interesting communication on glycosuria observed by him in persons who previously to their admission into hospital had suffered from insufficiency of rest and food. In 11 such cases he found that sugar was present in the urine to a small extent but it disappeared in a few days on the patients being properly fed. One man who had been admitted twice to the hospital showed this symptom on each occasion. The patients exhibited enlargement of the liver and Professor Hoppe-Seyler was of opinion that the glycosuria was due to pancreatic derangement. He proposed for this condition the name of "glycosuria of tramps."

Glycosuria and Diabetes.

Dr. F. **BLUM** (Frankfort) said that he had found that the administration of even a small quantity of the substance of

McLellan, William Parker, and C. A. Ricketts, Owens; E. E. Roberts, University; and George Taylor, Owens.

SECOND EXAMINATION.

A. *Anatomy and Physiology.*—Fred Bailey and F. P. H. Birtwhistle, Yorkshire; William Calverley, Catherine Chisholm, and Reginald Collier, Owens; W. B. Cooke, University; Catherine L. Corbett, G. D. Dawson, R. L. Ferguson, and Joseph Fletcher, Owens; B. R. Flint, Yorkshire; E. S. H. Gill, University; F. W. M. Greaves, Yorkshire; W. L. Hawksley and Pantland Hick, University; F. C. Hudson, E. E. Hughes, and Ernest Hulme, Owens; Lancelot Hutchinson and T L. Kenion, University; C. E. Lea, T. W. P. Leighton, J. T. R. MacGill, Hector Mackenzie, and H. B. Moore, Owens; G. C. Scott, University; James Smalley, J. F. Smith, Philip Talbot,* and Henry Thorp, Owens; Herbert Tomlin, Yorkshire; A. M. Walker, Owens; T. E. Walker and H. W. L. Waller, University; F. J. Walton, W. D. Wilkins, and J. S. Young, Owens.

B. *Materia Medica and Pharmacy.*—A. W. Byrne, University; Archibald Cambell and P. C Garrett, Owens; E. F. Hoare, University; S. E. McClatchey, Owens; S. W. McLellan and H. G. Thompson, University; S. H. West, W. A. Wheeldon, and H. V. White, Owens.

* Was awarded University scholarship.

ABERDEEN UNIVERSITY.—At examinations for the degrees of Bachelor of Medicine and Bachelor of Surgery the following candidates were successful in the subjects indicated:—

Medicine, Clinical Medicine, Surgery, Clinical Surgery, and Midwifery.—Louis Coetzee, *Lewis D. Cruickshank, Jas. B. Elder, Harry W. Elwell, *Robert D. Keith, Geo. B. Kiloh, Jeannie C. Macleod, Archibald Mahomed, James B. Rae, *Alex. C. Reid, Alex. Robertson, R. B. Robson, John S. Rose, Thos. S. Slessor, Jas. Soutter, and Alex. Watt.

Pathology and Medical Jurisprudence.—Frank W. Begg, *Hugh S. Brander, Richard G. Brown, †Alex. Callam, A. Dyce Davidson, William Elwood, James Farquhar, Maurice B. Johnson, *Alex. F. Macbean, Gordon W Maconachie, *G. G. Macdonald, William Macgillivray, John A McKenzie, †Hugh Maclean, Malcolm Macleod, †William A Mearns, Kenneth S. Melvin, Jas. E. Mennie, Andrew B. Morris, *W. F. Munro, *Stephen Niven, *F. G T. Peterkin, Frank L Pelly, James B. Rae, J. H. Shepherd, *F. K. Smith, William A. Smith, †William C. Souter, William Stewart, *George Stoddart, Cornelius A. Suvoong, *Arthur J. Watt, and William Alfred Watson.

Pathology.—William R. Pirie and George B. Sleigh.

Anatomy, Physiology, and Materia Medica.—Francis Anderson, William Anderson, *William Beedie, *William R. Catto, *Alex. Flett, James S. Gray, George Hall, John Hunter, Alex. Hutchison, Henry W. Jeans, *Francis H. Johnson, *Frederick L. Keith, Geo. E. Macallan, Malcolm Macleod, and John M. Taylor.

Anatomy and Physiology.—Catherine E. Anderson, John Anderson, James Clark, Francis W. Davidson, Alex. Duguid, Walter A. Elwood, Thos. C. Innes, Neil Kennedy, Helen McGlashan, Donald McKay, Charles G McMahon, Archibald D. Pringle, Michael B. H. Ritchie, Alex. N. Ross, Bertie R. G. Russel, Herbert W. B. Ruxton, Cyril M. Smith, and William Wood.

First Professional Examination (Botany, Zoology, Physics, and Chemistry).—Alex. Brown, Robert R. Duncan, Francis W. Falconer, Alex. D. Fraser, Alistair S. Garden, Chas. B. Gerrard, Stewart C. Howard, Cecil V. Impey, Alex. W. Laing, James M. Macdonald, *James Macintosh, Kenneth Mackinnon, *George Milne, *Benjamin Mitchell, H. R. Neilson, Gavin E A. Petrie, Arthur W. R. Pirie, John Proctor, Alex. Robertson, Paul B. Roth, Robert F. Russel, Jas. A. Scharenguival, Jas. Silver, Robert N. Thomson, and Isaac T. B. DeVilliers. The following have passed one half of the first professional:—Geo. Cooper, Alex. McR. Donaldson, Herbert W. Glashan, Alfred P. Hall, Neil P. Macphail, Jas. Raffan, David McD. Roger, Geo. E. Shand, Henry Smit, and Alex. F. Wallace.

* Passed with distinction. † Passed with much distinction.

The Diploma of Public Health (D.P.H.) has been conferred upon the following:—

E. Nash, M.B., Ch.B., The Holt, Hertfordshire; W. Bisset, M.B., Ch.B., Aberdeen; and F. Keyt, M.B., C.M., Ceylon.

MR. JOHN LLOYD DAVIES, L.R.C.P. Lond, M.R.C.S. Eng., was returned on March 25th as a member of the Newport Town Council.

MEDICAL MAGISTRATE.—Mr. Francis Richardson Cross, M.B. Lond., F.R.C.S. Eng., has been placed on the Commission of the Peace for the city and county of Bristol.

ANDERSON'S COLLEGE MEDICAL SCHOOL.—The winter session of Anderson's College Medical School was formally closed on April 1st when the prizes were distributed by Lord Provost Chisholm. There was a large attendance of students and of the public. Mr. A. Malloch Bayne, president of the school, occupied the chair. The Lord Provost briefly addressed the meeting and commented on the nobility and the beneficence of that field of effort and enterprise which the students had chosen as their future lot. They had already shown their high appreciation of it by the fact that they had made it the object of their choice; but they would allow him to say, as one drop in the great cloud of witnesses by which they were surrounded, that they who merely stood outside looked on with affection and admiration—affection for the men and admiration for the efforts and triumphs of those who were engaged in the fields of medical and surgical science and who had by their efforts and labours produced results so marvellous in themselves and had wrought such delightful achievements for the relief of the suffering and sorrows of the world.

INEFFICIENT VACCINATION.—In the course of an inquiry held at Bristol on March 25th into an application of the city council to the Local Government Board for sanction to borrow £44,266 for isolation hospital purposes the inspector (Mr. Arnold Royle, C.B., M.R.C.S. Eng.), on being informed by the medical officer of health that there was a great deal of one-mark vaccination in Bristol, observed that such vaccination was inefficient and only an imperfect protective against small-pox.

BROMSGROVE, REDDITCH, AND DROITWICH ISOLATION HOSPITAL.—The new isolation hospital for the combined districts of Bromsgrove, Redditch, and Droitwich was opened at Hill Top, Bromsgrove, on March 25th, by Mrs. Amphlett, wife of Mr. R. H. Amphlett, K.C., the chairman of the Joint Hospital Committee. The new building is the latest of several isolation hospitals which have been provided in recent years in different parts of Worcestershire on the initiative of the Worcestershire County Council, and it supplies a long-felt want in this part of the country. For many years the district medical officers of health of the three towns concerned have been urging the necessity for hospital accommodation for the isolation of infectious disease, but the heavy expenditure needed for building and maintaining a suitable hospital has always stood in the way of action by an individual sanitary authority. Some attempts at combination had been made, but it was not until the county council intervened in 1896 that practical steps became possible. In that year the county council, acting upon the powers given to them by the Isolation Hospitals Act of 1893, formed the three towns of Bromsgrove, Redditch, and Droitwich, together with the intervening rural districts, six sanitary authorities in all, into a combined area for the provision of a joint isolation hospital. An admirable site on high ground was secured at Hill Top, Bromsgrove, in 1897, and in June, 1898, a temporary hospital of wood-lined iron buildings and double-walled tents was opened for the reception of patients suffering from scarlet fever. This temporary hospital is still in use and has done excellent work, some 340 cases of scarlet fever having been treated with a mortality of 13 only. Plans for the permanent hospital were then prepared by Mr. Hare of London and the building was commenced in 1900. It consists of an administrative block containing the principal offices with ample accommodation for nurses, servants, and porter; four separate ward blocks and a sixth block containing a fully equipped laundry with drying cupboards, ambulance house, mortuary, and a seven-feet Thresh disinfector. Each ward block is divided into male and female wards, with nurse's room between, the largest for scarlet fever patients, the others for enteric fever, diphtheria, and doubtful cases respectively. The number of beds is nominally 40, the scarlet fever block containing 18, the enteric fever block 14, and the remaining blocks four beds each, but the cubic air space allowed for each bed is so great that an addition to this number, especially of children's cots, can easily be made. The cubic space provided is over 2500 cubic feet per bed in each block and in the smaller wards it is over 3000 cubic feet per bed. The population of the combined districts served by the hospital is 56,777.. The temporary hospital, having been used for over three years for cases of scarlet fever, is now to be transferred to another part of the district where it is to be erected and kept in readiness for the isolation of small-pox cases should the necessity arise.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BARFORD, A. M., M.D., L.R.C.P., M.R.C.S., has been appointed Assistant Anæsthetist to the Royal Dental Hospital, Leicester-square.

BOYES, JANE, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Island of Coll, Argyllshire.

BOYLE, N. C., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health by the Penge Urban District Council.

BRISCOE, WILLIAM THOMAS, M.D., M.Ch. Dubl., has been re-appointed Medical Officer of Health of the Pewsham District by the Chippenham Board of Guardians.

the suprarenal gland caused glycosuria in animals and he recommended the making of investigations on the human subject for the purpose of ascertaining whether in diabetes there were anomalies of the suprarenal glands.

Dr. VOGT (Strassburg) read a paper on Glycosuria produced Experimentally by Means of Phloridzin.

Dr. BIAL (Kissingen) made some remarks on glycuronic acid, a product of the metabolism of sugar discovered by him in the intestines. When large quantities of the acid were present in the intestinal canal it was eventually absorbed and might be found in the urine. He then described the chemical conditions under which the acid was produced.

Graves's Disease.

Dr. GOEBEL (Bielefeld) described a case of Graves's Disease in which he had obtained a successful result by injections of blood serum taken from a goat the thyroid gland of which had been removed. He had also administered the milk of the animal to the patient.

Dr. BLUM (Frankfort) expressed the opinion that the success in this case was due principally to the milk diet; he had known recovery to follow the use of milk diet with exclusion of meat.

Thyroidin in Cretinism

Dr. SCHOLZ (Graz) gave an account of the use of thyroidin in cases of cretinism. The results were quite unsatisfactory, the patients becoming worse, so that the administration of the remedy had to be stopped. There was therefore a marked difference between the effects produced by thyroidin in cretinism and in myxœdema.

Professor NAUNYN (Strassburg) said that Dr. Scholz had been treating cases of endemic cretinism, but he (Professor Naunyn) had observed in *sporadic* cretinism an obvious improvement under the use of thyroidin compounds.

Among the many other papers submitted to the Congress mention may be made of those read by Professor MÜLLER (Munich), on Autolysis, by Dr. VON CRIEGERN (Leipsic), on Poisoning by Paraphenyldiamin; by Dr. LENNHOFF, on Traumatic Moveable Kidney; and by Dr. SCHRÖTTER (Vienna), on Actinomycosis of the Heart.

Next year the Congress will meet in Leipsic.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Decline of the Plague Epidemic.—Curious Natural History Facts in Gujerat.

THIS season's recrudescence of plague throughout India may now be said to be on the decline. After having reached nearly 25,000 deaths in one week the mortality has steadily fallen and for the past seven days 17,302 deaths have been returned, as against 19,412 for the previous report. For the corresponding week last year there were only 4093 deaths. The special features to be noted are the decline in the Punjab, the rapid fall in the United Provinces, and the steady decrease in Bengal. The recrudescence expected in Bengal has been abortive and there has been as yet no renewal in the Behar district. Plague, however, has at last spread to Eastern Bengal. This has so far been entirely free, but recently cases have occurred near Goalundo and also at Baritpur, a village in Mymensingh. The figures for the week are: Bombay city 587 deaths, the Province 1673, Karachi city 120, Madras Presidency 34, Calcutta 577, Bengal 653, the United Provinces 806, the Punjab 12,311, the Mysore State 124, Hyderabad State 154, Kashmir 428, and Berar 30. The outbreak in Calcutta is following an unusual course. It has not developed with such virulent outburst and it is more prolonged. In Bombay city also the disease is running a different course and there, too, it seems on the decline.

The province of Gujerat has lately been overrun with rats in enormous numbers. The young crops have been eaten up and great damage has been done. The excess has been amongst field rats, not amongst the town rats, and the extraordinary fact is that they have disappeared almost as rapidly as they came. Although plague is existent to a small extent in certain places this disease has not been the cause of their diminution. They have in reality been starved. There have been no crops in the fields except tobacco, castor, and aniseed, for none of which do they seem to care. There has been prolonged drought in this district also, and, whether due to this or to the excess of rats, there has been an almost total disappearance of snakes. Another association worth noting is the sudden exodus of quail. There is no evidence that the rats have died from plague or from any other form of septicæmia.

May 3rd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Port Sanitary Authority: the Medical Officer's Annual Report.

DR. E. W. HOPE, who is medical officer of the port sanitary authority of Liverpool as well as medical officer of health of the city, has recently issued his port sanitary report for the year 1901. The report contains much information as to the health of the port during the past 12 months, also an explanation of the system under which the port sanitary authority is conducted and a number of valuable tables and charts. The port sanitary authority's district extends from Formby Point along the coast-line and the east side of the river Mersey as far south as a point just beyond Garston and Speke, it crosses the estuary to Ince on the Cheshire side of the Mersey and proceeds as far as New Brighton and Little Meols. The port sanitary authority is informed of the approach of vessels by telephone from the Formby lightship, a distance of 10½ miles. On arrival vessels are boarded and examined by the port sanitary medical officers. The work of the port sanitary authority administration is carried out in conjunction with the staff of the customs which renders valuable assistance. Aid is also given by the regulations of the Mersey Docks and Harbour Board, of the London and North-Western Railway Company in connexion with Garston Docks and of the Manchester Ship Canal. Manchester-bound vessels infected with cholera, yellow fever, or plague are dealt with under an Order of the Local Government Board by the Liverpool Port Sanitary Authority. The medical staff of the port sanitary authority in ordinary circumstances consists of the medical officer of health and two deputy medical officers, one of whom is on duty during each tide. Four inspectors thoroughly conversant with marine matters are employed exclusively in routine port work, and in the ordinary inspection of ships. They also carry out the fumigation and disinfection of ships. The removal of patients from ships and the disinfection of bedding, clothing, &c., are carried out by the city staff of the Health Committee in all cases, and this staff also assists, when necessary, in the disinfection of vessels. With regard to hospital accommodation, the city hospitals are, as a rule, used for the reception of all sea borne cases of infectious disease, whilst cases which require to be dealt with under the Local Government Board Order are taken to the port hospital on the Cheshire side of the river. Instructions relating to infectious diseases and printed in some half a dozen languages are given to the *Liverpool Steamship Owners' Association* and to the various shipping firms for use amongst their captains. They are also distributed to the foreign consuls. The report also contains instructions guarding against the spread of plague. During the past year the actual number of cases of infectious sickness, other than cholera, yellow fever, and plague, landed from vessels arriving at the port of Liverpool was 84, as against 101 in the preceding year. There was an increase in the cases of typhoid fever, of which there were 27 cases, as against 23 in the preceding year; and of scarlet fever of which there were six, as against five in the preceding year. 18 cases of small-pox were landed from vessels, as against 25 in the preceding year. There was one case of plague, whereas three were landed in 1900. It is also interesting to note that 28 cases of phthisis were reported as occurring on ships arriving at the port. Thorough fumigation of the berths occupied by the patients was carried out in all cases.

The Royal College of Physicians of London.

Dr A. F. S. Grünbaum, the assistant lecturer in chemical physiology at University College, has been appointed by the Royal College of Physicians of London Goulstonian Lecturer for the ensuing year.

The Lancashire Asylums Board.

At the recent quarterly meeting of the Lancashire Asylums Board which was held at Preston Mr. Jenkins moved the adoption of the report of the Additional Accommodation

Committee. Since the last meeting of the board the committee had visited seven sites, only one of which was considered suitable—that situated at Whalley. A discussion arose on the necessity of providing further asylum accommodation in the county palatine. The subject was not considered as urgent by some members who argued that there was room now at all the four asylums and at Winwick for 600 or 700. The chairman, however, pointed out that the committee must not lose sight of the fact that it took five or six years to build an asylum. The difficulty of obtaining sites was a growing one. The committee had had such outside pressure put upon it that he should be sorry if it was to relax its efforts. It was not at all probable that the small county boroughs would construct asylums. If Liverpool intended to do so it would require one on as large a scale as that at Winwick. Mr. Shelmerdine said that a strong feeling existed in Liverpool with respect to the cost to the city of its lunatics. Many members of the city council felt that they were being unjustly mulcted. It had just been discovered that they would have to pay an extra charge of £6000, and it was not improbable that the corporation of Liverpool would eventually provide an asylum for that city, in which case the asylums board would find that it had too much instead of too little room.

Liverpool and Small-pox.

At the weekly meeting of the Health Committee held on May 22nd, the medical officer of health reported that the death-rate for the past week was 39 per 1000 of the population, as against 20 1 per 1000 in the previous year. In the hospitals there were now only 19 cases of small-pox. There were 432 cases of scarlet fever, 47 cases of typhoid fever, and 53 cases of diphtheria. During the week only one case of small-pox had been reported and that case referred to a woman who had arrived from London. However, on the day following that of the meeting of the Health Committee a fresh case was reported to the medical officer, that of a dock-gate man employed at one of the North-end docks. He was promptly removed to hospital and measures were at once taken to prevent the disease spreading.

May 27th.

WALES AND WESTERN COUNTIES NOTES.

(From our own Correspondents.)

Bridgend Workhouse.

It is now some years since the attention of the Bridgend Board of Guardians was first directed to the inadequate accommodation at the workhouse and to the necessity for extensive alterations. As long ago as 1895 the medical officer to the workhouse (Mr. Wyndham Randall) made certain recommendations and advised specific structural additions, and he has from time to time repeated the advice which he then gave. Upon every favourable opportunity, too, the Poor-law inspector for Wales and Monmouthshire (Mr. F. T. Bircham) has pressed the matter upon the board of guardians as one of great urgency. The extensions required are estimated to cost about £13,000, and as the rateable value is high and is rapidly increasing, for within the area of the union there are extensive collieries, the expenditure of this sum would only involve an increased rate equal to ½*d.* in the £ for 30 years. In spite of this comparatively small sum the majority of the members of the Bridgend Board of Guardians have persistently refused to carry out the recommendations of their medical officer and to follow the advice of the Local Government Board inspector. A year ago when a definite motion upon the matter was before the board it was decided by 37 votes to seven to postpone the consideration of the question for a year. Subsequently a committee was appointed to report as to what were the most urgent alterations and additions required and this committee recommended the building of a kitchen and a laundry at a cost of £3500. The Local Government Board, however, refused to sanction the borrowing of this sum except on condition that the erection of an infirmary should be proceeded with, but the guardians declined to accept this condition. At a meeting of the board of guardians held on May 17th Mr. Bircham again referred to the subject and said that upon a recent visit to the workhouse he found in the sick wards 31 beds and 38 patients and that the wards swarmed with bugs. He also stated that there were no women's receiving ward, no proper lying-in ward, and no proper vagrant wards. At this same meeting Mr. Wyndham Randall presented a report from which it appears that the one nurse employed has sometimes had as many as 50 or 60 patients under her care, several of the cases being those of extremely severe and often fatal illnesses necessitating continuous watchful observation and long and careful attendance. Mr. Randall recommends the construction of a properly equipped hospital to contain at least 60 beds with accommodation for eight nurses, a lying-in ward, a convalescent room, detached wards for infectious and venereal cases, a separate ward for imbeciles with a paid attendant, and a cheerful day-room and dormitory for the children, with a paid nurse to look after them. It has been argued by some of the guardians that these extensions are unnecessary because in the future old age pensions will probably reduce the number of inmates in the workhouses, but, as Mr. Randall very properly points out in his report, there will still be a large amount of illness and of injuries with which the proposed hospital would have to deal, and with the rapid increase in the population of the district there has been, as might be expected, a corresponding increase in the number of sick persons treated in the workhouse, where only 14 deaths occurred in 1894, while there were 41 in 1901. It is difficult to believe that the conditions described, which are little short of a scandal, can be allowed to continue, and if the Local Government Board does not possess the power to alter them it is high time that such power was conceded.

The Wiltshire Medical Officer of Health.

There was a great deal of acrimony displayed at the meetings of the Wiltshire County Council three years ago when the question of appointing a medical officer of health for the county was discussed, but even those who opposed the appointment must by this time have become convinced of its necessity, for at the quarterly meeting of the council held on May 20th the salary of Mr. J. Tubb-Thomas (the medical officer of health) was increased from £500 to £600 per annum and it was decided to provide him with a clerk.

British Dental Association.

At the annual meeting of the British Dental Association, which was held at Shrewsbury on May 22nd, Mr. W. E. Harding, in his presidential address, said that the association had for many years been pressing on the Government the importance of attention to the teeth of our soldiers and sailors, and the breakdown of so many men in South Africa through preventable disease of the teeth at length induced the War Office to send out some dentists but the number was far too few to cope with the immense amount of work required. Mr. Harding also deplored the neglect to which the teeth of children attending public elementary schools are subjected and expressed the opinion that a question of such national importance ought to be dealt with by the State.

The New Factory Act and Sanitary Inspectors.

The Swansea Corporation has appointed an additional sanitary inspector whose duties will be specially connected with factories and workshops.—The Health Committee of the Rhondda Urban District Council has recommended the appointment of two additional sanitary inspectors, one of whom will be concerned with factories and workshops. Even with this additional staff there will be only seven inspectors for a population of 120,000 persons in this densely populated colliery district, although for years the Local Government Board has urged the desirability of adding to the number and in 1900 went so far as to refuse to sanction the appointment of one inspector, thus entailing on the district the loss of one half of his salary. The following year, although the conditions were unaltered, not only was sanction given to the re-appointment of the same inspector, but the Board's refusal of the previous year was withdrawn.

A Rate-supported General Hospital.

The Barry Urban District Council has already obtained the sanction of the Local Government Board to the expenditure from the rates of £14,000 upon the erection of a general hospital and the project has only been delayed on account of what it is hoped is only a temporary check in the growth of the town and therefore of its resources. It was thought, however, that in the present year an effort might be made to proceed with the building to commemorate the coronation and a plebiscite has been taken which has resulted in 1135 votes being given in favour of the scheme and 876 against it. The district council has decided, however, in view of the small majority not to build the hospital for the present but to clear off a debt, amounting to £1000, of the nursing institution, in favour of which 1560 votes were cast and only 412 against.

Vaccination Expenditure.

At the meeting of the Bodmin (Cornwall) Board of Guardians held on April 28th it was reported that the fees paid to the public vaccinators for the past three months amounted to £80, being £50 more than for the corresponding quarter of 1901. The chairman commented on the number of persons in good positions who were revaccinated by the public vaccinators and it was suggested that a list of such persons should be made and scrutinised by the guardians in the same way as those cases receiving out-door relief.—The Honiton (Devon) Board of Guardians at its meeting held on April 26th reported that the vaccination fees for the past quarter amounted to £104 more than for the corresponding quarter of 1901 and the opinion was expressed that the law should be amended in so far as it allowed persons to be revaccinated at their own houses at a considerable extra expense to the ratepayers.—At the meeting of the Totnes (Devon) Board of Guardians held on May 17th it was reported that the cost of vaccination for the past quarter amounted to £285, against £57 in the corresponding three months of 1901.—At the meeting of the Cardiff Board of Guardians held on May 17th attention was called to the increase in the amount paid for vaccination. In 1896 the sum was £796, whereas in 1901 it had increased to £1858. One of the guardians suggested that one public vaccinator should be appointed at a fixed salary, but the clerk remarked that even if the Local Government Board sanctioned such an appointment the fees would be the same as at present.

The Walter Collection of Antiquities.

Taunton Castle is now used as a museum by the Somersetshire Archæological Society and on May 21st the Lord Lieutenant of Somerset (the Earl of Cork and Orrery) formally opened the great hall of the castle, in which extensive restorations have been made. Lord Cork also presided at the formal throwing open of the fine collection of archæological remains of the stone, the bronze, the early British, and other periods presented to the society by Mr. Walter Winter Walter, M.R.C.S. Eng., L.S.A., of Stoke-sub-Hambden, Somerset, and in the course of his speech he remarked that through the liberality of Mr. Walter they had the most valuable and best local museum in Great Britain. Mr. E. J. Stanley, M.P., proposed a vote of thanks to Mr. Walter for his munificent gift, which was seconded by the Rev. Prebendary Askwith and carried unanimously. Mr. Richard Hensleigh Walter, M.B., C.M. Edin., suitably responded for his father.

May 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

A MEETING will be held at the Royal College of Surgeons in Ireland on June 2nd to elect a President, a vice-president, a council, and a secretary of the College for the ensuing year. The voting paper has been issued and it shows that Mr. Lambert Hepenstal Ormsby is the only candidate for the presidency. For the vice-presidency there are two applicants, Mr. Arthur Chance of the Mater Misericordiæ Hospital and Mr. John J. Cranny of Jervis-street Hospital. For the office of secretary there is only one candidate, Sir Charles A. Cameron, C.B. For the council eight Fellows have come forward for the vacancies caused by the retirement for various reasons of six members of the council of last year. The new candidates, in the order of their Fellowship seniority, as their names appear on the voting paper, are as follows:—Mr. John D. Hillis, Mr. Thomas Donnelly, Mr. Newell F. T. Porter, Mr. Joseph D. McFeely, Mr. Alexander J. McA. Blaney, Mr. William Taylor, Mr. Henry W. Oulton, and Mr. Thomas O'Connell Redmond. The election of examiners for the next year has recently taken place with the result that most of those who were examiners during last year have retained their places. In the subject of surgery, however, the choice of examiners has been postponed and it is understood that instead of two as at present four examiners will be appointed for the coming year. There are many applicants for the positions and some of the vacancies in the council are caused by the resignation of members who would prefer to be examiners in surgery.

D.S.O. for an Irish Army Medical Officer.

Lieutenant Williams, B.A. T.C.D., of the Indian Medical Service was last April at Singapore presented with the riband and cross of the "Distinguished Service Order" for his services with the China Expeditionary Force. He is a graduate of Dublin University and was well known in Dublin as a prominent member of the "Wanderers" football club.

Otological Society of the United Kingdom.

By permission of the Rev. the Provost a meeting of the Otological Society of the United Kingdom will take place in the Anatomical Department of the Medical School of Trinity College on May 31st. The agenda include papers by Professor D. J. Cunningham, Professor Coffey, Professor A. Birmingham, and Dr. Dempsey, all of Dublin.

Prevention of Consumption.

The annual meeting of the Ulster branch of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis was held in Belfast on May 20th. Dr. James Niven of Manchester, who was announced to speak, was not able to be present, but he sent a written statement as to the means used in Manchester to combat tuberculosis, and his assistant, Dr. James Beattie, delivered an address. Belfast needs to be thoroughly aroused on this question and it is all the more urgent considering the fact that the North of Ireland occupies a deplorable position with regard to the disease, the death-rate from consumption being half as much again per 1000 as that of Lancashire where the population is so much more dense, and it is four times as great as that of the best English county.

County Antrim Infirmary, Lisburn.

A three-days' bazaar in aid of the funds of the County Antrim Infirmary was opened on May 22nd and was in every respect a great success. In 1887, in honour of the first Jubilee of the late Queen Victoria, the town and neighbourhood of Lisburn presented an ambulance and in remembrance of the Diamond Jubilee the town of Lisburn purchased the adjoining house which was formed into nurses' quarters and private wards. The object of the bazaar was to raise £1000 to make necessary changes in the infirmary so as to bring it more up to date.

Death of Mr. William Thomson, M.D. R.U.I., J.P.

Dr. Thomson died on May 21st from acute pneumonia at his residence, Annahilt House, Hillsborough, co. Down. Educated at Queen's College, Belfast, Dr. Thomson graduated as M.D. of the Queen's University in 1864. Starting practice in Lisburn he was afterwards selected as medical officer of Annahilt Dispensary District, and as late as May 20th a locum-tenent was appointed to act in his place during the illness which has unhappily ended in his death. Dr. Thomson, who was a magistrate for the county of Down, was greatly respected by his friends and patients. He has left a widow and a young family.

Armagh Sewerage Scheme.

The Armagh Urban Council proposes to borrow £5000 to carry out a sewerage scheme and new disposal works, but before agreeing to the loan the Local Government Board has decided that an inquiry must be held by its inspector.

May 27th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Glycosuria of Muscular Origin.

AT the meeting of the Academy of Sciences held on April 28th M. Cadéac and M. Maignon reported that they had observed in guinea-pigs and dogs that the ligature of a paw or the extensive crushing of muscles always had the effect of causing the appearance of glycuronic compounds in the urine, either alone or associated with glucose, and they were thereupon induced to extend their observations to the human subject. They were thus led to the discovery that every complete fracture of the limbs was followed, both in the infant and in the adult, by the elimination of glycuronic compounds (and sometimes also of glucose) commencing in general two or three days after the accident and continuing for three weeks or a month until the lesions associated with the fracture were entirely recovered from. Glycosuria, however, was not constant and when it occurred it was always preceded by the glycuronic products; it was always proportionate to the seriousness of the lesions and was therefore especially abundant in cases of multiple fracture. The saccharine principles thus excreted were evidently derived from the muscular system, for when an animal was killed after one of its feet had been crushed only traces of sugar were found in the healthy muscles, whereas the injured muscles contained considerable quantities of sugar.

An Interrupted Competition.

The competitions for the appointment of hospital surgeon (*chirurgien des hôpitaux*) have frequently been the occasion of scandals on a small scale and an unfortunate incident has once more drawn public attention to them. The competition, which is in progress at the present time and the examinations for which commenced a month ago, has just been suddenly interrupted by the resignation of the jury in a body. As always happens in these competitions, no sooner had the drawing of lots made known the names of the jurors than the competitors were able, on the principle of the *esprit de corps* of the various schools, to forecast who would be successful. But complications were not slow to arise among the jury, for one of the jurors saw with regret that two of his pupils who were competing were doomed to fail and then the incident occurred. Operative surgery on the dead body was the subject of examination and the operation required by the jury was "ligature of the femoral at the ring" (*ligature de la fémorale à l'anneau*). The question was ambiguous, for some of the candidates understood that the artery was to be ligatured at the femoral ring (*anneau crural*), while others understood that it was to be ligatured at the ring in the third adductor muscle of the thigh (adductor magnus), otherwise described as at its escape from Hunter's canal. Among the former were especially the candidates who had already been entrusted with the teaching of operative surgery at the Faculty of Medicine, where the expression "*ligature à l'anneau*" habitually signifies ligature at the femoral ring. The other candidates recollected that in the previous year the question had been expressly set as ligature at the femoral ring, and thinking that the intention of the examiners would be to avoid setting the same question at two competitions in succession, they performed ligature of the vessel at the other ring. One of the candidates even turned to the jury and asked "Which ring?" but no reply was given. Two of the candidates in their agitation opened the artery while searching for it. After the operation there was an animated discussion among the members of the jury, for some of them perceiving after all that the question was not plain, wished that portion of the examination to be cancelled, whilst others—namely, those whose *protégés* had guessed correctly—wished it to stand good. In the result the jury being divided into two equal parts decided on resigning—a course of action which would cancel the whole competition and require everything to be begun over again with another jury. The news caused a great scandal in the medical world and the incident was freely commented on even by the non-medical press. M. Mourier, director-general of the Assistance Publique, then assembled the jurors in his office and declined to accept their resignation. The competition therefore continues and is in progress at the present moment, but the chances of success of the various competitors are now very different from what they were before these singular proceedings.

Obituary.

Dr. Polaillon, honorary surgeon-in-chief of the Hôtel Dieu and member of the Academy of Medicine, died on May 24th. Dr. Beaudron, who held a hospital appointment as obstetric physician, died on May 23rd, aged 38 years.

May 27th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Influence of Diet on the Secretion of Hydrochloric Acid in the Stomach.

AT the last meeting of the Medical Society of Zürich Professor Cloetta read a paper on an Experimental Investigation as to the Influence of Diet on the Secretion of Hydrochloric Acid. Selecting four healthy puppy dogs he fed two of them exclusively on milk diet (adding the necessary iron salt) and the other two only on meat diet, of which they had 500 grammes (18 ounces) per diem. All of them grew equally well. After three months lavage of the stomach was performed; the stomachs of the dogs fed on milk were found to contain no hydrochloric acid whatever, but the stomachs of the dogs fed on meat diet contained 0·1 per cent. free hydrochloric acid. Three months later an examination gave the same result but the free hydrochloric acid had in the second case increased to 0·25 per cent. The animals were killed and the mucous membranes were immediately prepared for minute and detailed microscopic examination. No difference whatever could be detected in the microscopic structure. Professor Cloetta suggests that the secretion of hydrochloric acid deserves further investigation and that the nervous system plays an important part in cases of hyperchlorhydria.

Fracture of the Carpal Scaphoid Bone.

Dr. C. Kaufmann of Zürich has published an interesting *résumé* on cases of isolated fracture of the scaphoid bone. His assistant, Dr. Höfliger, published seven such cases last year, Dr. Baer and Dr. Ziegler have reported one each, and Dr. Kaufmann can now add four more, thus making a total of 13. It is very desirable that the surgical out-patient departments of hospitals should pay due attention to cases of so-called distortion of the hand and have skiagrams made of those where a fracture was possible or probable; they doubtlessly occur fairly frequently and it would be of great interest to examine the cases immediately after the fracture occurred. Dr. Kaufmann's most recent case had taken place four weeks previously to his seeing the patient and being able to make the diagnosis. In severe cases the symptoms consisted of stiffness of the joint, radial abduction of the hand, and pain and thickening, or even crepitus, over the scaphoid bone. In some cases, especially those of simple transverse fracture, the bone heals well and the only remaining symptom for months afterwards is pain on movement. A fall on the hand stretched forward produces typical fracture of the radius and a fall on the hand stretched backwards may produce isolated fracture of the scaphoid bone. The prognosis is good. The transverse fracture heals without treatment. Massage and active and passive movements promote recovery. Displacement of fragments or pseudarthrosis may prolong or impede recovery. In the latter case operative interference becomes necessary. Dr. Kaufmann now performs resection of the distal portion of the fractured bone after a dorsal incision in the so-called "tabatière"—i.e., the recess lying between the extensor tendons of the thumb In legal cases coming under the Workmen's Act, the working power of a man whose scaphoid bone has been fractured is diminished by one-third in the first year, one-fourth in the second, and one-sixth to one-tenth in the third year, progressive improvement being the rule. Thus, one or one and a half years' wages form an adequate remuneration for insured workmen suffering from this fracture.

Zürich, May 24th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Samaritan Free Hospital for Women, Montreal.

THE annual meeting of the Board of Managers of the Montreal Samaritan Free Hospital for Women was held recently in that city and according to the reports presented there were treated in that institution during the past hospital year 133 patients, an increase of 20 compared with the previous year. In the outdoor department of the hospital over 200 received free advice and treatment. Among the total number treated there were five deaths, a decrease in comparison with the previous year. The treasurer's report showed an encouraging condition of the finances. Commencing with a balance to the good at the beginning of the year of $455·52, the receipts totalled $3733·74 and the expenses $3149·75.

A Montreal Physician Honoured.

At the recent meeting of the Association of American Physicians, held at Philadelphia, U.S.A., Dr. James Stewart, Professor of Medicine and of Clinical Medicine in McGill University, Montreal, was elected to the presidency of that prominent American organisation. Dr. Stewart is a graduate of McGill University. From 1883 to 1891 he was Professor of Materia Medica and since that time he has held the chair of Medicine. He is a member of the Board of Trustees of the National Sanitarium Association.

Canadian Physicians receiving British Appointments.

Dr. J. M. Jory, St. Catherine's, Ontario, and Dr. D. M. Anderson, house surgeon to the Toronto General Hospital, have been appointed surgeons to the fourth Canadian contingent for South Africa. Dr. Harry W. Spence, formerly house surgeon to the Toronto General Hospital, has been appointed by the British Government medical officer of one of the concentration camps in Natal, South Africa. Dr. H. A. Beatty, M.R.C.S. Eng., of Toronto, has lately received a cablegram offering him the surgical registrarship of the Westminster Hospital in London. Dr. Beatty has recently returned to Toronto after spending four years in post-graduate study abroad and he was lately senior house surgeon at Westminster Hospital. Dr. Beatty is a graduate of Toronto University.

Canadian Association for the Prevention of Tuberculosis.

The annual meeting of the above association was held in Ottawa in the latter part of April under the presidency of Sir James Grant. Prominent medical men were present from all the provinces of the Dominion. Dr. S. A. Knopf of New York delivered an address on the Mission of the Societies *for the Prevention of Consumption in the Anti-Tuberculosis* Crusade. It was decided to centralise the organisation at the capital and to have a permanent paid secretary. One important outcome of the conference has just been announced. Sir William Macdonald (Montreal) and Mr. W. C. Edwards, M.P. (Ottawa), have offered to erect at their own expense sanatoriums for consumptives near their respective cities. The following were the officers elected for the ensuing year: President, Mr. W. C. Edwards, M.P.; secretary, Dr. H. B Small (Ottawa).

Canada and Diseased Immigrants.

There has recently been advanced a great deal of objection to the Canadian Government permitting diseased immigrants to find homes in Canada. As a result of the agitation the Government has now before the House of Commons a Bill proposing to amend the Immigration Act and conferring power on the Governor in Council to prohibit by proclamation or order the landing in Canada of persons suffering from dangerous or infectious diseases, having special regard to trachoma and favus. Permission will be given to them to land for medical treatment only and for a period that may be *determined by the order or proclamation. This action of* the Government has been brought about through the appointment last September by the United States Immigration Department at Washington of a special examining board at the port of Montreal which passes judgment upon all candidates destined for places in the United States. A good many of these immigrants have been rejected by this board and have found homes for themselves in Canada.

Deaths from Tuberculosis in Ontario in 1900.

According to the report of the Registrar-General of Ontario which has only recently been given to the medical profession this disease has maintained its pre-eminence during 1900, having caused no less than 3484 deaths. The excess in cities is notable, there having been recorded 1081 deaths in a population of 475,222. The rate per 1000 for cities is 2·27, as compared with 1·59 for the entire province, or 1·4 for the rest of the province outside the cities. In Ontario the deaths of all infants under four months when no specific cause other than atrophy, malnutrition, marasmus, or scrofula was given have been entered under tuberculosis, and in this way the rate is high and probably relatively higher than in other countries which do not place deaths from these conditions under tuberculosis.

Deaths from Cancer in Ontario in 1900.

The total deaths recorded as due to this disease in the Province of Ontario in 1900 were 1055 as compared with 1041 and 975 for the two preceding years. The following figures show that cancer has increased by 100 per cent. in the past decade. In 1891 the deaths reported were 579; in 1892, 676; in 1893, 678, in 1894, 621; in 1895, 620; in 1896, 731; in 1897, 927; in 1898, 975; in 1899, 1041; and in 1900, 1055. The exact ratio of deaths from cancer to the total deaths was one to 37 in 1891 and one to 28 in 1900. Out of the 1055 deaths in 1900 from this cause 329 occurred in the 14 cities of the Province.

Toronto, May 5th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Three Important Congresses.

THREE important congresses are to be held in the United States under the plans proposed by the Pan-American Conference held in Mexico last winter, to carry into effect long-needed coöperation between all the Governments in the Western Hemisphere in sanitary and customs regulations, and to consider the coffee crisis. The first, the Sanitary Congress, will meet in Washington on Oct. 1st, and the other two in New York City, the Customs Congress on Oct. 15th, and the Coffee Congress on Nov. 1st. The programme for the first congress, to which all the republics have arranged to send technical delegates, is now being prepared by Surgeon-General Wyman of the Marine Hospital Service. It is proposed to establish an "International Sanitary Bureau" of experts to sit permanently in Washington to protect the public health of the republics and thereby to facilitate their commercial relations at all seasons. The bureau is to consider and to decide on all measures intended to prevent the spread of contagious diseases between the republics, or their invasion from outside, by the establishment and maintenance of a uniform system of international inspection, disinfection, and detention for persons or merchandise coming from abroad by land or sea, by means of sanitary stations in the ports of each country which shall be entirely under the control of the respective Governments. It is proposed that prohibitive quarantine shall be discontinued in regard to manufactured articles and all other merchandise; that merchandise proceeding from *non-infected ports and places* but coming through infected districts without stopping longer than the transit itself requires shall not be subject to detention or to any other sanitary precaution except the indispensable inspection at the point of destination, and that this inspection and the delay that it requires shall in no case exceed the time absolutely necessary to carry it out properly. These rules are to be made applicable to merchandise coming by rail but they are not to be enforced in regard to cattle, raw hides, rags, and the effects belonging to immigrants, which are to be dealt with as before. The Customs Congress at New York will be composed of delegates appointed by each Government from among its chief customs officers, consuls, presidents or members of its chambers of commerce, and prominent merchants or other persons known to possess technical or special knowledge in customs matters. Among the matters which the congress is to consider are uniformity of regulations for the entry, despatch, and clearance of the vessels engaged in international commerce, uniformity and simplicity of customs, formalities relating to the manifests of vessels and to the wording and form of consular invoices and custom-house declarations, and formalities for the clearance of merchandise and baggage. Adequate means are also to be considered for establishing a common nomenclature of the products and merchandise of the American republics in English, Spanish, Portuguese, and French, in order that it may serve as a basis for the statistical data of imports and exports in accordance with a uniform system and without interfering with the regulations which each country may have adopted for the compilation of its own statistics, and in order that it may be adopted with greater detail and specification in the tariff schedules and in the other customs laws of the said countries and that it may serve as a basis for the collection of the dues that each republic may have established. Also for the organisation of a permanent Customs Commission composed of individuals possessing technical and special knowledge which, as a branch of the International Bureau of the American republics or in any other form that the congress may think proper, shall be charged particularly with the execution of the customs and tariff laws of the nations of America for the purpose of suggesting to the respective Governments the enactment of laws and regulations which, in so far as they relate to custom-house formalities, shall tend to facilitate mercantile traffic.

Reciprocity in Medical Licensure.

During the month of January last there was held in the city of Chicago a meeting of representatives of the examining boards of Illinois, Wisconsin, Indiana, and Michigan, at which was appointed a committee to formulate a policy and continuing for three weeks or a month until the lesions associated with the fracture were entirely recovered from. Glycosuria, however, was not constant and when it occurred it was always preceded by the glycuronic products; it was always proportionate to the seriousness of the lesions and was therefore especially abundant in cases of multiple fracture. The saccharine principles thus excreted were evidently derived from the muscular system, for when an animal was killed after one of its feet had been crushed only traces of sugar were found in the healthy muscles, whereas the injured muscles contained considerable quantities of sugar.

An Interrupted Competition.

The competitions for the appointment of hospital surgeon (*chirurgien des hôpitaux*) have frequently been the occasion of scandals on a small scale and an unfortunate incident has once more drawn public attention to them. The competition, which is in progress at the present time and the examinations for which commenced a month ago, has just been suddenly interrupted by the resignation of the jury in a body. As always happens in these competitions, no sooner had the drawing of lots made known the names of the jurors than the competitors were able, on the principle of the *esprit de corps* of the various schools, to forecast who would be successful. But complications were not slow to arise among the jury, for one of the jurors saw with regret that two of his pupils who were competing were doomed to fail and then the incident occurred. Operative surgery on the dead body was the subject of examination and the operation required by the jury was "ligature of the femoral at the ring" (*ligature de la fémorale à l'anneau*). The question was ambiguous, for some of the candidates understood that the artery was to be ligatured at the femoral ring (*anneau crural*), while others understood that it was to be ligatured at the ring in the third adductor muscle of the thigh (adductor magnus), otherwise described as at its escape from Hunter's canal. Among the former were especially the candidates who had already been entrusted with the teaching of operative surgery at the Faculty of Medicine, where the expression "*ligature à l'anneau*" habitually signifies ligature at the femoral ring. The other candidates recollected that in the previous year the question had been expressly set as ligature at the femoral ring, and thinking that the intention of the examiners would be to avoid setting the same question at two competitions in succession, they performed ligature of the vessel at the other ring. One of the candidates even turned to the jury and asked "Which ring?" but no reply was given. Two of the candidates in their agitation opened the artery while searching for it. After the operation there was an animated discussion among the members of the jury, for some of them perceiving after all that the question was not plain, wished that portion of the examination to be cancelled, whilst others—namely, those whose *protégés* had guessed correctly—wished it to stand good. In the result the jury being divided into two equal parts decided on resigning—a course of action which would cancel the whole competition and require everything to be begun over again with another jury. The news caused a great scandal in the medical world and the incident was freely commented on even by the non-medical press. M. Mourier, director-general of the Assistance Publique, then assembled the jurors in his office and declined to accept their resignation. The competition therefore continues and is in progress at the present moment, but the chances of success of the various competitors are now very different from what they were before these singular proceedings.

Obituary.

Dr. Polaillon, honorary surgeon-in-chief of the Hôtel Dieu and member of the Academy of Medicine, died on May 24th. Dr. Beaudron, who held a hospital appointment as obstetric physician, died on May 23rd, aged 38 years.

May 27th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Influence of Diet on the Secretion of Hydrochloric Acid in the Stomach.

AT the last meeting of the Medical Society of Zürich Professor Cloetta read a paper on an Experimental Investigation as to the Influence of Diet on the Secretion of Hydrochloric Acid. Selecting four healthy puppy dogs he fed two of them exclusively on milk diet (adding the necessary iron salt) and the other two only on meat diet, of which they had 500 grammes (18 ounces) per diem. All of them grew equally well. After three months lavage of the stomach was performed; the stomachs of the dogs fed on milk were found to contain no hydrochloric acid whatever, but the stomachs of the dogs fed on meat diet contained 0·1 per cent. free hydrochloric acid. Three months later an examination gave the same result but the free hydrochloric acid had in the second case increased to 0·25 per cent. The animals were killed and the mucous membranes were immediately prepared for minute and detailed microscopic examination. No difference whatever could be detected in the microscopic structure. Professor Cloetta suggests that the secretion of hydrochloric acid deserves further investigation and that the nervous system plays an important part in cases of hyperchlorhydria.

Fracture of the Carpal Scaphoid Bone.

Dr. C. Kaufmann of Zürich has published an interesting *résumé* on cases of isolated fracture of the scaphoid bone. His assistant, Dr. Höfliger, published seven such cases last year, Dr. Baer and Dr. Ziegler have reported one each, and Dr. Kaufmann can now add four more, thus making a total of 13. It is very desirable that the surgical out-patient departments of hospitals should pay due attention to cases of so-called distortion of the hand and have skiagrams made of those where a fracture was possible or probable; they doubtlessly occur fairly frequently and it would be of great interest to examine the cases immediately after the fracture occurred. Dr. Kaufmann's most recent case had taken place four weeks previously to his seeing the patient and being able to make the diagnosis. In severe cases the symptoms consisted of stiffness of the joint, radial abduction of the hand, and pain and thickening, or even crepitus, over the scaphoid bone. In some cases, especially those of simple transverse fracture, the bone heals well and the only remaining symptom for months afterwards is pain on movement. A fall on the hand stretched forward produces typical fracture of the radius and a fall on the hand stretched backwards may produce isolated fracture of the scaphoid bone. The prognosis is good. The transverse fracture heals without treatment. Massage and active and passive movements promote recovery. Displacement of fragments or pseudarthrosis may prolong or impede recovery. In the latter case operative interference becomes necessary. Dr. Kaufmann now performs resection of the distal portion of the fractured bone after a dorsal incision in the so-called "tabatière"—i.e., the recess lying between the extensor tendons of the thumb. In legal cases coming under the Workmen's Act, the working power of a man whose scaphoid bone has been fractured is diminished by one-third in the first year, one-fourth in the second, and one-sixth to one-tenth in the third year, progressive improvement being the rule. Thus, one or one and a half years' wages form an adequate remuneration for insured workmen suffering from this fracture.

Zürich, May 24th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Samaritan Free Hospital for Women, Montreal.

THE annual meeting of the Board of Managers of the Montreal Samaritan Free Hospital for Women was held recently in that city and according to the reports presented there were treated in that institution during the past hospital year 133 patients, an increase of 20 compared with the previous year. In the outdoor department of the hospital over 200 received free advice and treatment. Among the total number treated there were five deaths, a decrease in comparison with the previous year. The treasurer's report showed an encouraging condition of the finances. Commencing with a balance to the good at the beginning of the year of $455·52, the receipts totalled $3733·74 and the expenses $3149·75.

A Montreal Physician Honoured.

At the recent meeting of the Association of American Physicians, held at Philadelphia, U.S.A., Dr. James Stewart, Professor of Medicine and of Clinical Medicine in McGill University, Montreal, was elected to the presidency of that prominent American organisation. Dr. Stewart is a graduate of McGill University. From 1883 to 1891 he was Professor of Materia Medica and since that time he has held the chair of Medicine. He is a member of the Board of Trustees of the National Sanitarium Association.

Canadian Physicians receiving British Appointments.

Dr. J. M. Jory, St. Catherine's, Ontario, and Dr. D. M. Anderson, house surgeon to the Toronto General Hospital, have been appointed surgeons to the fourth Canadian contingent for South Africa. Dr. Harry W. Spence, formerly house surgeon to the Toronto General Hospital, has been appointed by the British Government medical officer of one of the concentration camps in Natal, South Africa. Dr. H. A. Beatty, M.R.C.S. Eng., of Toronto, has lately received a cablegram offering him the surgical registrarship of the Westminster Hospital in London. Dr. Beatty has recently returned to Toronto after spending four years in post-graduate study abroad and he was lately senior house surgeon at Westminster Hospital. Dr. Beatty is a graduate of Toronto University.

Canadian Association for the Prevention of Tuberculosis.

The annual meeting of the above association was held in Ottawa in the latter part of April under the presidency of Sir James Grant. Prominent medical men were present from all the provinces of the Dominion. Dr. S. A. Knopf of New York delivered an address on the Mission of the Societies for the Prevention of Consumption in the Anti-Tuberculosis Crusade. It was decided to centralise the organisation at the capital and to have a permanent paid secretary. One important outcome of the conference has just been announced. Sir William Macdonald (Montreal) and Mr. W. C. Edwards, M.P. (Ottawa), have offered to erect at their own expense sanatoriums for consumptives near their respective cities. The following were the officers elected for the ensuing year: President, Mr. W. C. Edwards, M.P.; secretary, Dr. H. B. Small (Ottawa).

Canada and Diseased Immigrants.

There has recently been advanced a great deal of objection to the Canadian Government permitting diseased immigrants to find homes in Canada. As a result of the agitation the Government has now before the House of Commons a Bill proposing to amend the Immigration Act and conferring power on the Governor in Council to prohibit by proclamation or order the landing in Canada of persons suffering from dangerous or infectious diseases, having special regard to trachoma and favus. Permission will be given to them to land for medical treatment only and for a period that may be determined by the order or proclamation. This action of the Government has been brought about through the appointment last September by the United States Immigration Department at Washington of a special examining board at the port of Montreal which passes judgment upon all candidates destined for places in the United States. A good many of these immigrants have been rejected by this board and have found homes for themselves in Canada.

Deaths from Tuberculosis in Ontario in 1900.

According to the report of the Registrar-General of Ontario which has only recently been given to the medical profession this disease has maintained its pre-eminence during 1900, having caused no less than 3484 deaths. The excess in cities is notable, there having been recorded 1081 deaths in a population of 475,222. The rate per 1000 for cities is 2·27, as compared with 1·69 for the entire province, or 1·4 for the rest of the province outside the cities. In Ontario the deaths of all infants under four months when no specific cause other than atrophy, malnutrition, marasmus, or scrofula was given have been entered under tuberculosis, and in this way the rate is high and probably relatively higher than in other countries which do not place deaths from these conditions under tuberculosis.

Deaths from Cancer in Ontario in 1900.

The total deaths recorded as due to this disease in the Province of Ontario in 1900 were 1055 as compared with 1041 and 975 for the two preceding years. The following figures show that cancer has increased by 100 per cent. in the past decade. In 1891 the deaths reported were 579; in 1892, 676; in 1893, 678; in 1894, 621; in 1895, 620; in 1896, 731; in 1897, 927; in 1898, 975; in 1899, 1041; and in 1900, 1055. The exact ratio of deaths from cancer to the total deaths was one to 37 in 1891 and one to 28 in 1900. Out of the 1055 deaths in 1900 from this cause 329 occurred in the 14 cities of the Province.

Toronto, May 5th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Three Important Congresses.

THREE important congresses are to be held in the United States under the plans proposed by the Pan-American Conference held in Mexico last winter, to carry into effect long-needed coöperation between all the Governments in the Western Hemisphere in sanitary and customs regulations, and to consider the coffee crisis. The first, the Sanitary Congress, will meet in Washington on Oct. 1st, and the other two in New York City, the Customs Congress on Oct. 15th, and the Coffee Congress on Nov. 1st. The programme for the first congress, to which all the republics have arranged to send technical delegates, is now being prepared by Surgeon-General Wyman of the Marine Hospital Service. It is proposed to establish an "International Sanitary Bureau" of experts to sit permanently in Washington to protect the public health of the republics and thereby to facilitate their commercial relations at all seasons. The bureau is to consider and to decide on all measures intended to prevent the spread of contagious diseases between the republics, or their invasion from outside, by the establishment and maintenance of a uniform system of international inspection, disinfection, and detention for persons or merchandise coming from abroad by land or sea, by means of sanitary stations in the ports of each country which shall be entirely under the control of the respective Governments. It is proposed that prohibitive quarantine shall be discontinued in regard to manufactured articles and all other merchandise; that merchandise proceeding from non-infected ports and places but coming through infected districts without stopping longer than the transit itself requires shall not be subject to detention or to any other sanitary precaution except the indispensable inspection at the point of destination, and that this inspection and the delay that it requires shall in no case exceed the time absolutely necessary to carry it out properly. These rules are to be made applicable to merchandise coming by rail but they are not to be enforced in regard to cattle, raw hides, rags, and the effects belonging to immigrants, which are to be dealt with as before. The Customs Congress at New York will be composed of delegates appointed by each Government from among its chief customs officers, consuls, presidents or members of its chambers of commerce, and prominent merchants or other persons known to possess technical or special knowledge in customs matters. Among the matters which the congress is to consider are uniformity of regulations for the entry, despatch, and clearance of the vessels engaged in international commerce, uniformity and simplicity of customs, formalities relating to the manifests of vessels and to the wording and form of consular invoices and custom-house declarations, and formalities for the clearance of merchandise and baggage. Adequate means are also to be considered for establishing a common nomenclature of the products and merchandise of the American republics in English, Spanish, Portuguese, and French, in order that it may serve as a basis for the statistical data of imports and exports in accordance with a uniform system and without interfering with the regulations which each country may have adopted for the compilation of its own statistics, and in order that it may be adopted with greater detail and specification in the tariff schedules and in the other customs laws of the said countries and that it may serve as a basis for the collection of the dues that each republic may have established. Also for the organisation of a permanent Customs Commission composed of individuals possessing technical and special knowledge which, as a branch of the International Bureau of the American republics or in any other form that the congress may think proper, shall be charged particularly with the execution of the customs and tariff laws of the nations of America for the purpose of suggesting to the respective Governments the enactment of laws and regulations which, in so far as they relate to custom-house formalities, shall tend to facilitate mercantile traffic.

Reciprocity in Medical Licensure.

During the month of January last there was held in the city of Chicago a meeting of representatives of the examining boards of Illinois, Wisconsin, Indiana, and Michigan, at which was appointed a committee to formulate a policy for reciprocity in licensure between the several United States. The following propositions submitted by this committee at the meeting were adopted. First, that a licence or certificate of qualification of at least one year's date and based upon presentation of a satisfactory diploma and an examination before a board in specified branches of medicine and surgery may be accepted at the discretion of the board in lieu of an examination, and as a basis on which the licence of the State may be issued. Secondly, that a licence or certificate of qualification issued by a State board of registration or by medical examiners as to the reputability of the applicant may be accepted at the discretion of a board in lieu of an examination and as a basis upon which the licence of the State may be issued. Owing to the differences which exist in the laws of the several States with regard to medical licensure it was only possible for the confederation to recommend the policy upon which the reciprocal exchange of certificates must be arranged between the States reciprocating; also the standard of preliminary education as well as that of the medical qualifications of licentiates must be a matter of agreement between reciprocating States.

Proposed Union of the Medical Societies of the State of New York.

The Council of the State Medical Association and the State Medical Society of New York State have appointed committees to confer on the question of a union of the medical profession of the State. No date has yet been set for the conference, which will undoubtedly mean much to the future of the State medical organisations. The Medical Society of the County of New York is but one of many such societies, all of which are parts of the Medical Society of the State of New York. This system of medical societies was created by Act of Legislature in 1806; in 1882 the State Medical Society abolished what is called the code of ethics by a substantial majority, thus allowing its members the privilege of meeting any legal practitioner of medicine in consultation. The American Medical Association, of which the State and county medical associations are parts, was organised as the result of a convention held in this city in 1846.

No Quarantine against Cuba.

For the first time in many years the port of New York is not quarantined against Cuban ports; this is the season when such quarantine has been rigidly enforced. But there is no yellow fever in Cuba and every effort is being made to keep the island entirely free from it this season. In fact, there is reason for quarantining Cuba against New York, there being danger of carrying small-pox from this port to the Cuban ports. This proves the great advance in sanitary matters secured in Cuba in the last few years.

May 19th.

DONATIONS AND BEQUESTS.—Under the will of Miss Harriet Gosling £300 are bequeathed to the Middlesex Hospital.—The late Mr. Benjamin Weir, for many years chairman of the Board of Works, has bequeathed the whole of his property under trust for the founding of a hospital for Balham and Streatham.

THE PUBLIC VACCINATOR AND THE PUBLIC.—The Holywell (Flintshire) Board of Guardians, at a recent meeting, made some allusions to persons who employed the public vaccinator when they could well afford to pay for the operation. The chief constable of Flintshire, in a letter addressed to the guardians, has since then stated that he pays towards free public vaccination, which is not simply pauper vaccination, and as he is a member of the public he contends that he and his family are entitled to be vaccinated at the cost of the rates to which he has for years paid and from which hitherto he has derived no personal benefit.—At a recent meeting of the Cardigan Board of Guardians a motion was passed to publish a list of well-to-do persons who had been vaccinated by the public vaccinator. The attention of the Local Government Board having been drawn by a local correspondent to the matter a reply was received stating that the Board was not aware of any legal authority under which the guardians could pay for such lists, and any person whose name was published in such list would have good ground for complaint against the guardians, as it was the intention of the Legislature that the benefits of vaccination should be open to all classes of the population, and the Board strongly deprecated any such action on the part of the Cardigan Guardians.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THE seventy-fourth session of the General Council of Medical Education and Registration was opened on Tuesday last, May 27th, at the office of the Council, Sir William Turner, K.C.B., the President, being in the chair.

The *personnel* of the Council at this session is the same as it was at the special session in February last.

In a business-like introductory address Sir William Turner outlined the work that lay before the Council and obviously hoped that the session would be a brief one. And in view of the fact that a special session of the Council has already been held this year the Council no doubt desires, if possible, to complete its work by the end of this week.

It is clear that the Council intends to use to the full its powers to maintain a uniformly high standard of preliminary medical education. The examinations in chemistry, physics, and biology conducted by the various licensing bodies are to be systematically reported upon. As the President pointed out, physics and biology have been added to the medical curriculum since any official inquiry has been made as to the standard of the various licensing bodies with regard to the ancillary fundamental sciences, while no visitations of the examinations in chemistry have been made for 20 years, not, in fact, since the medical and surgical corporations in the United Kingdom were reported upon in 1881-82.

An interesting debate arose on Tuesday with regard to a communication received from the Council of the British Medical Association asking the General Medical Council to receive a deputation to consider the subject of the preliminary education of the medical profession. The communication took the form of a report from the Preliminary Education Committee of the Association and was referred to the Executive Committee of the Council. This body considered that the report of the Preliminary Education Committee of the British Medical Association ignored all the work hitherto done by the Council in this very direction and recommended that the deputation should not be received. Mr. Horsley protested against this and as a result of the debate it would seem that the committee of the Association had not intended their report to convey a slight upon the obvious energy of the present Council in the direction of improving preliminary education. We are glad that this feeling prevailed in the Council and that it has been decided that the deputation shall be received by the Education Committee of the General Medical Council.

On Wednesday the time of the Council was mainly occupied in the hearing of penal cases. The first and most important case, that of Dr. Marcus Robert Phipps Dorman, was considered *in camerâ* in the interests of persons other than the complainant and the accused. This procedure is, we believe, an innovation, but in the circumstances it was a wise one and one that may well be followed in similar cases should they unfortunately occur.

TUESDAY, MAY 27TH.

THE seventy-third half-yearly session of the General Council of Medical Education and Registration was opened to-day in the Hall of the Council, Oxford-street, London. The 31 members constituting the Council were all present. Sir WILLIAM TURNER, K.C.B., the President of the Council, occupied the chair.

The President's Address.

The PRESIDENT opened the proceedings with an address. He said:—

During the present session the reports of the inspector and visitors on the final examinations held by the University of Dublin, by the Conjoint Board of the three Medical and Surgical Corporations in Scotland, and by the Royal University of Ireland will be submitted to you. It is satisfactory to read that the visitor and inspector report in each case that the examination is "sufficient," and to observe that their criticisms refer to questions of detail. The scheme of inspection during the present year of the final examinations of the English Universities and the Irish Corporations has been arranged and members of Council have consented to act as visitors along with the inspector. Arrangements are also being made in accordance with the resolution of the Council (Minutes, Feb. 26th, 1902), for a visitation of the next examination in chemistry, physics, and biology of the Conjoint Examining Board of the Royal College of Physicians of London and the Royal College of Surgeons of England. By a further resolution the Council empowered your President and treasurers to arrange for a suitable remuneration to the gentlemen who are to act as visitors of this examination. It will be necessary to obtain the sanction of the Privy Council. The Council by its resolution of Feb. 26th has also intimated that it is desirable to have the examinations in chemistry, physics, and biology conducted by the licensing bodies generally, visited and reported on. Since physics and biology became a part of the medical curriculum no visitations of the examinations in the ancillary sciences have been made.

Since the special meeting of the Council in February the Bill for "the better training of midwives and to regulate their practice" has passed the second reading in the House of Commons and was referred to the Grand Committee on Law with certain additional members. Amendments prepared in consultation with the Midwives Bill Committee of the Council were moved by Sir John Batty Tuke, as also amendments by other members. The Bill, however, passed the Committee with but little change. The Grand Committee will report on the Bill on June 6th and it will probably be read a third time on June 13th. Owing to the pressure on the time of Parliament by the introduction of measures of more general scope and interest no progress has been made in Parliament with the Penal and Disciplinary Bill prepared by the Council some time ago and read for a first time during two sessions.

The Council will receive during the session reports from its own committees on various questions which have from time to time been referred to them. The Financial Relations Committee will make suggestions to provide for an increase in the income of the Council. Since a maximum registration fee of £5 was fixed by the Act of 1858 not only has the number of Members of Council been materially increased by the Direct Representatives elected by the profession and by additional members chosen by the Universities but the duties to be discharged by the Council have also multiplied. Although the value of the assets of the Council has materially increased through the rise in the value of its property in Oxford-street and Hanover-square its income has not improved and under present arrangements does not meet the expenditure. The Financial Relations Committee will therefore submit proposals for your consideration.

The Public Health Committee will again report on the question of the amount of outdoor or practical sanitary work to be done and on the distribution of the time to be given by candidates for a registrable diploma in public health.

The business of a penal and disciplinary character demanding the attention of the Council is more than usually heavy, but it is gratifying to find that no registered practitioner is to be charged with the offence of covering and no new case of a practitioner associating himself with medical aid societies which systematically canvass for patients will have to be considered.

An Indian edition of the Addendum to the British Pharmacopœia has been published, and the Government of India has purchased the greater part of the first issue of 4000 copies.

We have been requested by the Privy Council to send a delegate to an International Congress to be held in Brussels on the subject of a proposed International Pharmacopœia limited to drugs of a drastic nature. At the May session held in 1900 I was authorised to appoint one or more members to act as delegates and the chairman of the Pharmacopœia Committee has consented to represent the Council.

As a result of the extension of Part II. of the Medical Act (1886) to Italy a list of foreign practitioners appears for the first time in the Medical Register; the name and qualification of one practitioner are enrolled in the published volume and a second practitioner has subsequently been registered.

On the motion of Dr. MACALISTER, seconded by Mr. BRYANT, the Council thanked the President for his address.

Business Committee.

This committee was constituted as follows: Dr. MacAlister (chairman), Mr. Bryant, Dr. Bruce, and Sir Christopher Nixon.

Results of Examinations.

Mr. H. E. ALLEN, Registrar, presented to the Council the following documents:—

(a) Table showing results of professional medical examinations during 1901.

(b) Table showing results of professional examinations for qualifications in sanitary science, public health or State medicine during 1901.

(c) Table showing results of professional dental examinations during 1901.

(d) Table showing results of preliminary examinations during 1901.

(e) Answers sent by the medical authorities as to the exemptions granted by them in any part of their examinations during the year 1901.

(f) Table showing results of competition held on Feb. 3rd, 1902, for commissions in the medical staff of the Royal Navy.

(g) Table showing results of competition held in August 1901, for commissions in the Indian Medical Service.

The documents were formally received and entered on the minutes and on the motion of Dr. P. HERON WATSON, seconded by Sir CHRISTOPHER NIXON, it was agreed—

> That the thanks of the Council be conveyed to the Director-General of the Medical Department of the Royal Navy and to the Under-Secretary of State for India, respectively, for the returns which they have respectively again furnished to the Council, with the request that these returns may in the future continue to be furnished to the General Medical Council.

Mr. BROWN moved that the answers sent by the medical authorities as to the exemptions which they had granted should be referred to the Examination Committee.

Mr. JACKSON seconded this motion.

Mr. BALL called attention to a footnote to table (a) which he said savoured of what was called an Irish bull, though it lacked some of the essentials. This footnote said that "candidates who presented themselves in all the subjects but who omitted some are included in above." This referred to the examination of the Conjoint Board in Ireland and he was told by the registrar of that body that what it really meant was that candidates who were examined in some subjects and who passed or were rejected in those subjects were included in the list although they might not have covered the entire number of subjects which would justify their passing the whole examination. This raised an important question as to the value of these tables, because they contained lists of those who were rejected in parts of the examination and who passed in parts, so that it was quite possible that some candidates were returned as being rejected and as having passed at the same examination. There was another point, and that was the very large number of rejections apparently at the Conjoint Boards in Ireland and in Scotland. This was to a certain extent made up of men who were rejected over and over again and figured as a rejection each time they came up. In order to estimate properly the value of the figures in the table he thought it very desirable to know exactly what was the number of men who passed or failed to pass at their first trial and what the number of men who came up time after time for examination. Later he would move a resolution on the subject desiring this information from the various licensing bodies.

Mr. HORSLEY pointed out that the answers of the bodies made no reference to exemptions in the higher examinations and that in this respect they failed to meet the wishes of the Council.

The motion of Mr BROWN was then put from the chair and agreed to.

Appointment of Assistant Examiner.

On the motion of Sir HUGH BEEVOR it was agreed:—

> That Mr. Francis James Stewart, M.B., M.S., F.R.C.S., be appointed an assistant examiner in surgery to the Apothecaries' Society of London for a period of four years, vice Mr. L. A. Dunn who retires by rotation.

The Midwives Bill.

The next order on the paper was the following notice of motion by Mr BROWN:—

> That in the opinion of the Council the Midwives Bill, as amended by the House of Commons Grand Committee on Law, does not contain the

safeguards necessary to protect the public against the practice of midwifery by ignorant and incompetent persons.

Mr. BROWN asked leave to have consideration of this proposal deferred until the Council had received from the Midwives Bill Committee a report on the remit made to them as respects the Bill during the special session of the Council held last February. He formally moved to that effect.

Mr. JACKSON seconded and the motion was agreed to after a remark by Sir CHRISTOPHER NIXON that it was a little late in the day to take action on this matter at all.

Dental Business

The REGISTRAR (Mr. H. E. Allen) read the following report from the Executive Committee on the dental business transacted since the November session of the Council :—

The prescribed conditions in each case having been duly fulfilled the names of the undermentioned persons have been restored to the Dentists' Register, from which they had been erased in conformity with the provisions of Section 12 of the Dentists Act.—Francis G. Bridgman, William Brown, George P. Caldwell, Frank H. Carpenter, Samuel Earp, Henry J. A. Geercke, James Hitchcock, Percy B. Hutchinson, Francis Jones, George H. Jones, Francis Lloyd, James A. Milliken, John C. Oliver, Henry J. Parker, Charles E. Tucker, John W. Wheeler.—The treasurers laid before the committee the usual statements of accounts duly audited of the receipts and expenditure of the dental fund of the General Medical Council for the year ending Dec. 31st, 1901, and directed that the summary be laid before both Houses of Parliament.—The committee considered an application for the registration as an additional title of the degree of bachelor of dental surgery of the University of Birmingham, and referred the question to the Dental Education and Examination Committee, with a request that it should report thereon to the Council during the present session.

In moving that the foregoing report should be received and entered on the minutes Dr. MACALISTER mentioned that from an examination of the regulations proposed by Birmingham University the committee thought that the University's new degree would be one worthy of their recognition.

Financial Relations.

Consideration of this subject was put off till Friday in consequence of the report of the committee not being ready.

Prevention of Personation.

On the suggestion of Mr. HORSLEY it was resolved to consider on another day the remaining portion of the report of the Committee on Prevention of Personation, the comments of the Registrars on the proposals of the committee to be meanwhile printed and circulated.

The British Medical Association and the Preliminary Examination.

The REGISTRAR read the following report from the Executive Committee on a communication from the Council of the British Medical Association :—

Report by the Executive Committee on certain communications from the British Medical Association in regard to a proposed deputation on the subject of preliminary general education.

The committee on May 26th, 1902, received the following communications from the British Medical Association requesting the Council to receive a deputation on the subject of the preliminary general education of the medical profession.

(*a*)

"British Medical Association, General Secretary's Office,
"429, Strand, London, W.C., May 5th, 1902.

DEAR SIR,—At a meeting of the Council of the British Medical Association, held on Wednesday, April 16th last, a report was presented on the preliminary general education of the medical profession, and it was resolved that the General Medical Council be requested to receive a deputation on the subject.

I shall be glad if you will let me know when it will be convenient for the General Medical Council to receive the deputation.

I am, Sirs, yours faithfully,
The Registrar, General Medical Council. FRANCIS FOWKE.

The deputation to consist of the following:—The President (Dr. G. B. Ferguson), Cheltenham; the President Elect (Mr. Walter Whitehead), Manchester, the President of Council (Dr. J. Roberts Thomson), Bournemouth; the Treasurer (Mr. Andrew Clark), 71, Harley-street; Dr. T. Bridgwater, Framfield, Sussex; Professor J. W. Byers, M.D., Belfast, Mr. James Cantlie, 46, Devonshire-street, W., Professor D. W. Finlay, M.D., Aberdeen, Sir Walter Foster, M.D., M.P., 30, Grosvenor-road, Westminster, Mr. T. R. Jessop, Leeds, Mr. N. C. Macnamara, 21, Grosvenor-street, W.; Sir John Wm. Moore, M.D., Dublin, Dr. R. W. Philip, Edinburgh, Dr. F. M. Pope, Leicester; Dr. T. G. Roddick, Montreal, Dr. Markham Skerritt, Clifton; Mr. T. Jenner Verrall, Brighton, Dr. Maury Deas, Exeter, Mr. W. F. Haslam, Birmingham; Mr. Victor Horsley, F.R.S., 25, Cavendish-square, W.; Dr. C. H. Milburn, Hull; and Mr. Jones Morris, Portmadoc."

(*b*)

"British Medical Association, General Secretary's Office,
429, Strand, London, W.C., May 26th, 1902.

DEAR SIR,—In reference to my letters of the 5th and 22nd inst., I forward to you herewith a copy of the report that it is the desire of the deputation from the council of the Association to present to the General Medical Council. I am, yours faithfully,
FRANCIS FOWKE, General Secretary.
H. E. Allen, Esq., Registrar, General Medical Council."

"BRITISH MEDICAL ASSOCIATION.

REPORT OF THE PRELIMINARY EDUCATION COMMITTEE.

The Committee has come to the following conclusions:—

(1) That it is essential, in the interests both of the public and of the profession, that there should be an adequate guarantee that every registered medical practitioner has received a liberal education such as would entitle him to be regarded as a member of a learned profession.

(2) That at present, with the existing requirements of the General Medical Council and with the variations in the scope and standard of the various preliminary examinations for medical students, there is no such adequate guarantee.

(3) That the General Medical Council, by its action in 1898, recognised that the minimum standard of general education was too low and expressed its desire that it should be raised considerably, mentioning a standard of requirement represented by the senior local examinations of the several universities.

(4) That since the above date practically no progress has been made in the direction of adequately raising the standard of the examinations recognised by the General Medical Council.

(5) That this committee is of opinion that the time has come for the British Medical Association to take up this important subject and to use its power and influence towards obtaining the needed reform. With this view the committee makes the following recommendations:—

(*a*) That it is undesirable that anyone should be registered as a medical student until he or she has attained the age of 17.

(*b*) That the standard of the examination in preliminary general education required by the General Medical Council should be suitable for candidates of 17 years of age, and not lower than that required at present for the Oxford or Cambridge Senior Local Examinations.

(*c*) That the examination should include a pass and an honours division as in the university local examinations, the subjects for the pass to comprise at least Latin, mathematics (comprising arithmetic, algebra, and geometry); English grammar, literature, and essay writing; history; geography; and either French or German; honours division to include Greek and physical science as comp subjects.

(*d*) That the present system of multiple examining board undesirable and that it is essential in order to secure un standard that the Medical Acts should be amended so th Medical Council should be empowered to appoint a si board, which should hold its examinations as often multiple centres simultaneously.

(6) That a copy of this report be forwarded to th Council and that the General Medical Council be deputation from the Council of the British Med order to confer with them on this important matte
429, Strand, W.C., May 10th, 1902."

It was resolved.—In view of the facts (1) th preliminary general education of medical studen been under the careful consideration of the important steps have recently been taken object of raising the standard of such ed regulations on this behalf came into forc (4) that there has not yet been sufficie changes to produce their full effect, th opinion that it would not be opportu the present time, and are unable deputation should be received by th

As, however, it would appear from Education Committee of the Britis is unaware of the various report Council since 1898, the Executive of these should be forwarded to Association for their information

Mr. HORSLEY thought th unfortunately. It was certa of the facts with which the he therefore now wished to the deputation.

Sir CHRISTOPHER NIXON w Mr. Horsley substituted " "Council."

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Mr. HORSLEY was willing to make this alteration.

On the suggestion of the PRESIDENT that the first thing to do was to put it on record that they received the report,

Sir JOHN BATTY TUKE moved :—

That the report be received and entered upon the minutes.

Mr. HORSLEY took exception to the last sentence of the report—that beginning with the words, "As, however, it would appear"—and he moved its deletion. He said that the sentence was not true and he did not wish that anything should go on to the Council's minutes that could not be substantiated

Dr. MACALISTER maintained that the sentence was quite in order. What the Executive Committee referred to in it were the following words of the memorialists: "(4) Since the above date practically no progress has been made in the direction of adequately raising the standard of the examinations recognised by the General Medical Council." He contended that the whole of the reports adopted since 1898 were in the direction of progress, and yet all of them appeared to be ignored by the words of the memorialists which he had just quoted. That being so he thought the Executive Committee was perfectly justified in submitting the sentence taken exception to.

Mr. HORSLEY did not think so. The subject, he explained, had been brought before the Council of the British Medical

Corlette, C. E., M.D. Syd., has been appointed Acting Honorary Assistant Surgeon to the Women's Hospital, Sydney, during the absence of Sir James Graham in Europe.

Davy, T. G., M.R.C.S., L.S.A. Lond., has been appointed Honorary Medical Officer to the Fremantle Hospital, West Australia.

Esson, E. G. Lyster, L. & L. Mid. R.C.P. Edin., has been appointed Officer of Health, Peak Hill, West Australia.

Evans, Arthur, M.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to Westminster Hospital.

Greenwood, A., M.D. Vict., has been appointed Medical Officer of Health of Blackburn, vice Dr. James Wheatley.

Hall, James A. T., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer and Public Vaccinator of the Stoke Golding District of the Hinckley Union, vice Dr. B. J. Pritchard, resigned.

Hunter, Mitchell, M.D. Miami Med. Col., L.S.A. Lond., has been appointed Certifying Surgeon under the Factory Act for the Magherafelt District of the county of Londonderry.

Hunter, W. M., M.B., B.S. R.U.I., has been appointed Certifying Surgeon under the Factory Act for the Crumlin District of Antrim.

Lister, Harold, M.B. Melb., has been appointed Acting Medical Superintendent of the Ararat Lunatic Asylum, Victoria, during the absence on leave of W. H. Barker, M.R.C.S. Eng.

Lloyd, F. S., M.B. Lond., has been appointed Certifying Surgeon under the Factory Act for the Luton District of Bedfordshire.

Macvie, A., M.D. Edin., has been re-appointed Medical Officer of Health by the Baildon Urban District Council, Yorks.

Mitchell, James Thomas, M.D., Ch M. Aberd., M.R.C.S., has been appointed Resident Medical Officer to the Ballarat Benevolent Asylum and Lying-in Home, Victoria.

McLean, J. C., M.B., C.M. Edin., has been appointed Medical Officer of Health by the Doncaster Rural District Council.

Mossop, A. G., M.R.C.S., L.R.C.P., L.R.C.S. Irel., has been re-appointed Medical Officer of Health by the Newhaven Port Sanitary Authority.

Nettle, William, M.R.C.S., L.S.A., J.P., has been re-appointed Medical Officer of Health by the Liskeard Rural District Council.

Nicholls, John Michael, L.R.C.P. Lond., M.R.C.S., J.P., has been re-appointed Medical Officer of Health of St. Ives, Cornwall.

Pallett, T. B., L.S.A. Lond., has been appointed Certifying Surgeon under the Factory Act for the Earl's Colne District of Essex.

Pearse, James, M.D., C.M. Edin., has been appointed Medical Officer of Health of Trowbridge, Wilts.

Reiach, James, M.B., M.S. Edin., has been appointed Government Officer and Vaccinator at Molong, New South Wales.

Saunders, Leonard Douglas, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to the Hastings, St. Leonards, and East Sussex Hospital, Hastings.

Shaw, A. H. P., M.R.C.S., L.R.C.P. Lond., has been re-appointed Medical Officer of Health of Frittenden.

Tayler, George Christopher, M.D., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the No. 3 District by the Westbury, Wilts, Board of Guardians.

Thomas, J. Telfer, L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health for Camborne, Cornwall.

Watts, W. F., M.R.C.S. Eng., L.S.A., has been re-appointed Medical Officer of Health by the Dewsbury Borough Corporation.

Wheatley, J., M.D. Lond., has been appointed Medical Officer of the county of Shropshire.

Williamson, Oliver K., M.A., M.B., B.C. Cantab., M.R.C.P. Lond., M.R.C.S. Eng., has been elected Medical Registrar to the Middlesex Hospital.

Wohlmann, Arthur S., M.D., B.S. Lond., has been appointed Official Balneologist to the Government of New Zealand.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bethnal Green Infirmary.—Third Assistant Medical Officer. Salary £100 per annum, with apartments, board, and washing.

Bootle Borough Hospital, Liverpool.—Junior House Surgeon. Salary £80 per annum, with board, residence, and laundry.

Bradford Royal Infirmary.—Dispensary Surgeon, unmarried. Salary £100 per annum, with board and residence.

Bridgwater Infirmary.—House Surgeon. Salary £80 a year, with board and residence.

Central London Sick Asylum District.—Assistant Medical Officer. Salary £120 per annum, with board and residence.

City of London Union Infirmary.—Assistant Medical Superintendent, single, or widower without children. Salary £150 per annum, with apartments, rations, and washing.

Cornwall County Asylum, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary £120, rising to £150, with board, apartments, &c.

Cosford Union, Suffolk, Bildeston District.—Medical Officer and Public Vaccinator. Salary £72 per annum (exclusive of fees approximating to £78 per annum).

Cosford Union Workhouse, Suffolk.—Medical Officer. Salary £50 per annum, with fees.

Cumberland Infirmary, Carlisle.—Resident Medical Officer as House Physician for first six months and House Surgeon for ensuing six months. Salary at rate of £80 and £100 per annum respectively, with board, lodging, and washing.

Durban, Natal, South Africa.—Medical Officer of Health. Salary at rate of £750 per annum.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—Medical Officer for the Electrical Department.

East Sussex County Asylum, Hayward's Heath.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, washing, and attendance.

Herefordshire General Hospital.—Assistant House Surgeon. Salary £55, with board and residence.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians for six months. Honorarium £25.

Hospital for Women, Soho-square.—Clinical Assistants.

Jewish Mutual Birmingham Benefit Society, Bow-road, E.—Medical Officer.

Kent and Canterbury Hospital.—Surgeon.

Leicester Infirmary.—Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

Liverpool County Asylum, Rainhill.—Assistant Medical Officer, unmarried. Salary £150 per annum, with prospect of increase, with apartments, board, attendance, and washing.

Liverpool Infirmary for Children.—Assistant House Surgeon for six months. Salary £25, with board and lodging.

Liverpool Stanley Hospital.—Third House Surgeon. Salary £70 per annum, with board, residence, and washing.

Newcastle-on-Tyne Dispensary.—Visiting Medical Assistant. Salary £160, rising to £180.

Norfolk and Norwich Hospital.—House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

Northampton, St. Andrew's Hospital for Mental Diseases.—Additional Assistant Medical Officer for six or seven months. Salary 3 guineas a week, with board, lodging, and washing.

Nottingham General Dispensary.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, increasing by £10 every year, with apartments, attendance, light, and fuel.

Oldham Infirmary.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

Portsmouth Borough Asylum.—Assistant Medical Officer, unmarried. Salary £120 to £156 per annum, with board, lodging, &c.

Royal Berkshire Hospital.—Assistant House Surgeon for six months. Salary £80 per annum, with board, lodging, and washing.

Royal Free Hospital, Gray's Inn-road, W.C.—House Physician, also House Surgeon for six months. No salary is given, but board, &c., are provided. Also Clinical Pathologist, salary £75 per annum; Assistant Pathologist, £25 per annum; and Resident House Physician and Resident House Surgeon. (All females). No salary is given to the Resident Officers, but board, &c., are provided.

Royal South Hants and Southampton Hospital.—Assistant Physician.

Sheffield Royal Hospital.—Five Honorary Assistant Dental Officers.

Sheffield University College.—Demonstrator in Bacteriological Laboratory. Salary £150, rising to £200 per annum.

Stockport Infirmary.—Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board, washing, and residence.

Stoke-on-Trent Infectious Diseases Hospital, Bucknall.—Resident Assistant Medical Officer. Salary £80 per annum, with board, residence, and washing.

Teignmouth Hospital, S. Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

Victoria Hospital, Folkestone.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

West Derby Union Infirmary, Mill-road, Everton, Liverpool.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with rations.

West End Hospital for Nervous Diseases, Welbeck-street, Cavendish-square, W.—Honorary Dental Surgeon.

West London Hospital, Hammersmith-road, W.—Honorary Officer in charge of the X Ray Department.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeon, under the Factory Acts, at Portaferry, in the county of Down; at Cushendall, in the county of Antrim, at Blisworth, in the county of Northampton; at Hutton Thornes, in the county of Yorkshire; at Caton, in the county of Lancashire, at Epping, in the county of Essex; at Dromore, in the county of Down; at Scotstown, in the county of Monaghan; at Clay Cross, in the county of Derby; at Alfreton, in the county of Derby; at Saddleworth, in the West Riding of the county of York, and at Chipping Sodbury, in the county of Gloucester.

Births, Marriages, and Deaths.

BIRTHS.

Meakin.—On March 25th, at Cambridge, the wife of Captain Harold Meakin, M.D. Lond., Indian Medical Service, of a son.

Powell.—On March 25th, at The Cottage, Bagshot, the wife of Major Simpson Powell, M.D. Durh., Royal Army Medical Corps, of a daughter.

MARRIAGES.

Addison—Gray.—On Tuesday, March 25th, at Trinity Presbyterian Church, Kensington-park-road, by the Rev. Hugh Falconer, M.A., B.D., Christopher Addison, M.D., F.R.C.S., youngest son of the late Robert Addison, senior, of Stallingboro, Lincolnshire, to Isobel, youngest daughter of the late Archibald Gray, of 37, Holland-park, W., and of Mrs. Gray, St. Mary's Tower, Birnam, Perthshire.

Barnby—Davison.—On April 2nd, at the parish church, Stokesley, Yorkshire, by the Rev. J. Groves, vicar of Redcar, Wm. Henry, L.R.C.P. & S., youngest son of the late John Eager Barnby, Great Yarmouth, to Hilda, second daughter of the late Robert Davison, Southfield Villas, Middlesbro.

DEATHS.

Brown.—On March 28th, at Newlands, Crawley Down, Sussex, Robert Brown, F.R.C.S., in his 62nd year.

Bryant.—On March 22nd, at San Remo, in his 43rd year, Sidney William Bryant, M.D. Edin., M.R.C.S.

Fox.—On March 28th, at Clifton-park, Bristol, Edward Long Fox, M.D. Oxon., F.R.C.P. Lond., aged 70 years.

Preston.—On March 16th, at 4, Abercorn-place, N.W., William John Preston, Esq., M.D., aged 62 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Association by practitioners in the West of England, who formed a committee in their own district, who had passed resolutions which were practically embodied in the report just read, who were intimately acquainted with every single fact in all the reports of the General Medical Council, and who had carried out a careful and minute study of these reports. To adopt such words as he was taking exception to was therefore almost an insult to them. It would be seen that in writing as they had done they had in view not the members f *the General Medical Council* but the members of the *association to which* they belonged and he considered that in he general statement made they were absolutely accurate. here was no proof that the standard of preliminary general ducation had been raised at all and therefore the memoialists were perfectly justified—more than justified—in the tatements submitted to the Council and the sentence he bjected to should not be passed, because these gentlemen of he West of England were as well acquainted with the facts s the members of the Council were themselves.

Mr JACKSON seconded the proposal.

Mr BROWN opposed the amendment on the ground that he entire report should go upon the minutes as a historical ecord of the Executive Committee's expression of their view egarding allegations of a body representing the medical rofession

Sir JOHN BATTY TUKE said that they had only Mr orsley's word for it that the memorialists understood the uestion, because there was evidence in the matter of the ocument as well as in the terminology employed which howed that they were in a most extraordinary state of gnorance. They had ignored the history of the last 40 years, hey had ignored the fact that when the Council was consti*uted the condition of preliminary examinations comparatively* with those of to-day was far from satisfactory Gradually he General Medical Council had been able to put pressure on the various examining bodies, with the result that a certain amount of *efficiency had been attained to, but during* the last 10 years the Council had taken steps which, he believed, would produce very important results indeed, But what struck him most of all was that the memorialists had not been able to extract from the reports they were said to have examined the fact that the Council and its Education Committee had found it impossible in present circumstances to raise the standard of preliminary general education higher than it was at present because of the risk of depleting the *profession* to the serious danger of the public. He could assure them that everything possible had been done in the direction of progress. They had consulted the highest authorities on education; they had considered and re considered and had gone as far as the inchoate condition of general education in England, and especially secondary education, would allow them to go. Now and improved methods had come into operation this year, but the Council could not tell at once what would be the result of them. They would need to wait two or three, perhaps four or five, years to ascertain what the effects would be, but they had to do something more. they must wait to see what would be the results of the Education Bill at present before Parliament—a Bill that must necessarily do a great deal towards the improvement *of secondary education* in this country That was a matter which the General Medical Council could not force, therefore his feeling was that the Council of the British Medical Association in coming to the conclusion put forward in its resolutions had on this occasion ignored the main fact—namely, that the General Medical Council had gone as far as it could in the present circumstances.

Dr ATTHILL *said that as a member of the Executive* Committee he had agreed to the sentence objected to which ad been passed after due consideration and deliberation e personally know that the standard of preliminary ation in Ireland had been raised very considerably and d think that the memorialists had not been fully aware had been done by the Council when they framed their *ntation.*

MCVAIL pointed out that it would serve no purpose to strike out of the *Executive Committee's* report fore the Council the sentence taken exception to, even though struck out of that report it would s part of the minutes of the Executive Committee, open to the public, being bound up along with of the General Council. In the matter of form tly he must oppose the amendment.

RSLEY, because of what Dr McVail had just said, asked leave to withdraw the amendment. He, however, asked to be allowed to reply to Sir John Batty Tuke.

The PRESIDENT ruled that this would not be in order

Mr HORSLEY hoped that in these circumstances Sir John Batty Tuke would *repeat his statements before the next* meeting of the British Medical Association.

Dr MACALISTER wished to emphasise this, that the standard of preliminary examination in general education for medical students had been very much raised indeed, as any member of Council could ascertain *for himself* on inquiry He held in his hand at that moment a document relating to the examination instituted by the College of Preceptors which showed that while 47 candidates presented themselves for examination only six were able to fulfil the requirements. That, he thought, *would be repeated very generally so soon* as the new regulations were enforced Outsiders like the memorialists could not possibly have the means of knowing what the result of the steps taken by the Council was going to be, *therefore he gave no weight whatever to the opinion* passed on that matter by the memorialists.

The motion that the report should be received and entered on the minutes was then adopted.

Mr HORSLEY thereupon moved—

> That the Education Committee receive on behalf of the Council the deputation from the Council of the British Medical Association on the subject of the preliminary general education of medical students

He said that he was glad he had brought forward *this matter* because it had extracted valuable information. Over and over again they had been told that the Education Committee was in possession of information which was not given to the Council itself That had been repeated in the course of this discussion and consequently he thought that if they had the memorialists before them to tell what they did know the Council would be doing a service not only to the general public but also to the profession. All the memorialists asked was that the Council *should confer with them on the subject. They simply wished* to inform the Council as to their views of what the profession thought in regard to the standard To say that the Council would not receive them because they did not know what they did know was absurd Their reception would not take more *than one* and a half hours of the time of the Education Committee and as the proceedings would be reported they would be instructive to the world at large.

Sir CHRISTOPHER NIXON, as a member of the Education Committee, thoroughly endorsed *the view that that com*mittee had gone as *far as it could go at the present time* in raising the standard of preliminary education, but when they had a body like the British Medical Association asking *them to* confer on the subject it seemed to him that it would be wanting in courtesy on the Council's part to refuse to receive a deputation. An interview, he believed, would be advantageous in showing the Association that the Council had endeavoured to raise the standard as high as present conditions allowed

Sir JOHN BATTY TUKE regarded the reasons given in support of the requested interview as being so much opposed to the action of the Council that it seemed impossible to receive a *deputation.* Impossibilities were asked for. Changes were wanted that could not be got without legislation and the Council knew *how* difficult it was to secure legislation With regard to the Education Committee having information which it had not given to the Council the committee certainly had been entrusted with the opinion of *experts on the* subject, but it was impossible to disclose such opinions. It had information on which it acted which *could* not be made public, but apart from that it had done every*thing it could* in the direction of securing progress He should regard the passing of Mr Horsley's motion as a vote of censure on the Education Committee.

Several Members Nothing of the kind.

Dr WINDLE would be the last man to pass a vote of censure on the Education Committee At *the same time* he should certainly regret if the Council refused to accept Mr Horsley's motion, and he thought that Sir John Batty Tuke should rather rejoice at the opportunity it would afford *him of having* the apostolic chance of dispelling the ignorance that it was alleged existed So far as he himself was concerned, he believed that the preliminary education for medical students *at the present* time was inadequate, still the state of affairs as regarded general education was not at all satisfactory Improvement was necessary, *and they were screwing up the* schools to secure better teaching power That process of screwing meant time and meant waiting to see results Such a fact should be stated to the proposed deputation, as it would be of great advantage to the profession and the public. He should vote for Mr. Horsley's proposal, but in no sense could he consider it a vote of censure on the Education Committee.

Dr. PAYNE expressed the same view of the proposal. He thought that the deputation should be received, not by the Council, but by the Education Committee.

Mr. TOMES was of the opinion that though they did not agree with all that the communications before them contained, it would be hardly the right thing for the General Medical Council—a body representing the medical profession—to decline the reception of a deputation which was to be headed by the principal office-bearers of the largest medical association in the world.

After some further remarks Mr. Horsley's motion was adopted.

The PRESIDENT pointed out that a number of the gentlemen named on the list resided far distant from London—there was one in Montreal and several in the West of England—and he supposed that time would have to be given to afford them an opportunity of attending. Moreover, he did not know whether all the gentlemen named had consented to allow themselves to be included, for instance two members of the General Medical Council were amongst them—namely, Dr. Finlay and Mr. Horsley. He did not know whether they had consented.

Dr. FINLAY: My name was put on this list without my knowledge, and I do not propose to attend as a member of the deputation.

Mr. HORSLEY: I received a request to attend as a member of the deputation, and I said I would do so.

It was arranged that in correspondence with Mr. Fowke the Education Committee should arrange the time for receiving the deputation.

The Council adjourned.

WEDNESDAY, MAY 28TH.

The Council resumed to-day, with Sir WILLIAM TURNER in the chair.

The Case of Marcus Robert Phipps Dorman.

For over two hours the Council sat *in camerâ* hearing and deliberating on the case of Dr. Marcus Robert Phipps Dorman of 9, Norfolk-crescent, Hyde Park, London, W., registered as M.B., Bac. Surg. 1892, Dip. Public Health 1893, M.D. 1899, Univ. Camb., Mem. R. Coll. Surg. Eng. 1892, Lic. R. Coll. Phys. Lond. 1892, who had been summoned to appear before them on a charge of unprofessional conduct. On strangers having been re-admitted, Dr. Dorman was called upon.

The PRESIDENT addressing him said: The Council has carefully deliberated on your case and they have instructed me to announce to you the resolution at which they have arrived: "That the Council do now judge you to have been guilty of infamous conduct in a professional respect and do direct the Registrar to erase your name from the Register." That is the decision of the Council.

The Case of John Flanagan.

Consideration was next given to the case of John Flanagan, of Patrick's-terrace, Castlerea, co. Roscommon, registered as Lic. R. Coll. Phys. Edin. 1900, Lic. R. Coll. Surg. Edin. 1900, Lic. Soc. Phys. Surg. Glasg. 1900, who was convicted on March 5th last at a general assize of the peace at Longford, Ireland, of throwing upon a man named Phillips a certain corrosive fluid with intent to do him injury, and was sentenced to a year's imprisonment.

Mr. WINTERBOTHAM (solicitor to the Council) stated that earlier in the day he had received a letter from Flanagan's solicitor asking postponement of the case in order that Flanagan might have an opportunity personally to appear before the Council. A petition on his behalf had been sent to the authorities, and the writer of the letter expressed the belief that his client would be released from custody in a very short time.

After the case had been deliberated upon *in camerâ*,

The PRESIDENT said: I have to announce that Mr. John Flanagan having been proved to have been convicted of felony, the Registrar has been directed to erase his name from the Medical Register.

The Case of Edward Thomas Ffrench.

The Council proceeded with the case of Edward Thomas Ffrench of Glasson, co. Westmeath, registered as Lic. 1862, Lic. Midwif. 1863, Fell. 1874, R. Coll. Surg. Irel., Lic. Med. Univ. Dubl. 1863, who at the Westmeath Summer Assizes held at Mullingar on July 1st, 1901, was found guilty of manslaughter and was sentenced to penal servitude for life.

The PRESIDENT, after a short sitting *in camerâ*, said: I have to announce that Edward Thomas Ffrench having been convicted of a felony, the Council has directed the Registrar to erase his name from the Medical Register.

The Case of Samuel Marston.

Consideration was next given to the case of Samuel Marston, dentist, registered as of 282, Belgrave-gate, Leicester, "in practice before July 22nd, 1878," who at the Hereford Assizes in November last was convicted of bigamy and was sentenced to 18 months' imprisonment with hard labour.

Mr. WINTERBOTHAM informed the Council that very shortly before he had received from Marston's brother an appeal for postponement of the case so as to allow Marston to appear before the Council himself "to be censured for the past and threatened for the future."

This document with others was considered in private, and then—

The PRESIDENT said: I have to announce that Samuel Marston having been proved to have been convicted of a felony, the Registrar has been directed to erase his name from the Dentists' Register.

Returns of Professional Examinations.

Mr. BALL moved:—

> That it be referred to the Examination Committee to report whether it is desirable to obtain from the various licensing bodies the following additional information for use in the preparation of the annual table (a) showing results of professional examinations:—
>
> 1. Where credit is allowed for a single subject or group of subjects only at any examination the number of students who pass or are rejected in such portion of the examination should be furnished separately from the list of those who pass or are rejected from the entire examination.
>
> 2. That in addition to giving a return of the candidates rejected at any examination the number of such candidates who have been previously rejected upon one or more occasions for the same examination be indicated, with the number of such previous rejections in each case.

In supporting this proposal Mr. Ball explained that the object of the first part of his motion was to secure that the table in question should be a more accurate record than it was at present, and should show whether "passes" returned were passes of the complete examination or only a certain portion of it. With regard to the second part of the motion he thought that some scheme might be devised which would stop the "chronic" student at an earlier part of his career, and in order to further that they should have information as to what proportion of the students rejected at a certain examination had previously been rejected on going up for the same examination. He thought that it would do good if on a first rejection a student was debarred from going up again for six months, on a second for 12 months, and on a third for a longer period. If the licensing bodies would agree to adopt some such scheme generally a very great step would be made in excluding the chronic student at an earlier stage than it was possible to do at present.

Mr. HORSLEY, who seconded, said that it was most desirable that they should have the annual tables complete.

Sir CHRISTOPHER NIXON remarked that the motion opened up for the consideration of the Council or its Examination Committee the very important question of uniformity of standard of examination. At present there was no uniformity, the different medical licensing bodies having varying systems, some giving no credit unless the complete examinations were passed and others giving credit where only a certain portion was passed. If the motion secured sameness in the conduct and standard of examinations that would be very satisfactory.

Dr. NORMAN MOORE thought that the information wanted was of a kind that might be very well obtained. All the information that it was possible to get the Council should have before it, and he thought that there could be no hesitation on the part of any of the licensing bodies to furnish what was now desired.

The PRESIDENT said that it seemed to him that the first part of the motion started on an assumption that generally allowance was made for a single subject or group of subjects, and that students were returned as passing or being rejected not in the whole examination but in a portion of it. Now, he thought that the Council or the Examination Committee should satisfy itself that returns were framed on that basis. As regarded the University of Edinburgh returns were not made on that basis. If a man was returned as having passed, that meant that he must have passed all the subjects of the examination. However, the question here raised was one of the returns made to the Council by the respective registrars of the licensing bodies, and he must say the motion was so framed that if sent down to the bodies in the form in which it now stood it would be differently interpreted by different bodies. He thought that it needed redrafting, and he suggested that the Examination Committee should be allowed to work it into a shape that would make it clear to all who would have anything to do with it.

The motion having been agreed to,

Mr. **BRYANT** assured the Council that the Examination Committee would try to make it clear.

The Council adjourned.

THURSDAY, MAY 29TH.

The Council met again to-day and proceeded with the consideration of more penal cases.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the First Professional Examination for the diploma of Fellow at the half-yearly meeting of the Board of Examiners in May:—

Philip Edward Homer Adams, B.A. Oxon., Oxford University and London Hospital; Robert Aird, M.B., Ch.B. Aberd., Aberdeen University; George Arthur, M.B., Ch.B. Glasg., Glasgow University and King's College, London; John Gerald Atkinson and Tom Bates, St. Bartholomew's Hospital; Athelstan Jasper Blaxland, University College, London; Frederick Barnes and John Hunter Clatworthy, Guy's Hospital; Frank Coleman, M.R.C.S. Eng., L.R.C.P. Lond., Charing Cross, King's College, and St. Bartholomew's Hospital; Albert William Duncan Coventon, B.A. Camb., Cambridge University and St. Bartholomew's Hospital; Henry Tregellas Doble, M.R.C.S. Eng., L.R.C.P. Lond., St. Mary's and King's College Hospitals; Richard Felton, Guy's Hospital; Cecil Irving Graham, M.R.C.S. Eng., L.R.C.P. Lond., St. Mary's Hospital; Philip Maynard Heath, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., University College, London; Henry Thomas Hicks, M.R.C.S. Eng., L.R.C.P. Lond., Guy's Hospital; Ernest Cranmer Hughes, B.A. Camb., Cambridge University and Guy's Hospital; Frank Alexander Jeans, B.A. Camb., Cambridge University and King's College, London; John Frederick Jennings, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's and King's College Hospitals; William Lowe, B.A. Camb., Cambridge University and London Hospital; Thomas Lyle, Queen's College, Belfast; Donald Johnstone McGavin, M.D. Lond., M.R.C.S. Eng., L.R.C.P. Lond., Birmingham University; James Cole Marshall, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's Hospital; William Mayhew Mollison, B.A. Camb., Guy's Hospital; Sydney Arthur Owen, B.A. Camb., Cambridge University and King's College, London; Charles Buckingham Shuttleworth, M.D., C.M. Toronto, M.R.C.S. Eng., L.R.C.P. Lond., Trinity College, Toronto, and King's College, London; Richard Atkinson Stoney, M.B., B.Ch., B.A. Dub., Trinity College, Dublin; Charles Bertram Thomson, M.R.C.S. Eng., L.R.C.P. Lond., Guy's Hospital; William Traill Thomson, Otago University and King's College, London; Frank Edward Taylor, M.A., M.B., M.Sc. Vict., M.R.C.S. Eng., L.R.C.P. Lond., Yorkshire College, Leeds, and King's College, London; Gordon Wilson Thomas, Yorkshire College, Leeds; Tom Walker, M.R.C.S. Eng., L.R.C.P. Lond., Owens College, Manchester; John Benjamin Valentine Watts, University College, Bristol; Kenrick Stanton Wise, B.Sc. Lond., St. Bartholomew's Hospital; Cyril George Russ Wood, M.R.C.S. Eng., L.R.C.P. Lond., University College, Bristol; Ernest Eric Young, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's Hospital.

183 gentlemen presented themselves for this examination; the above-named 35 passed, while 88 gentlemen were referred to their studies for six months.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in May the following candidates passed in the subjects indicated:—

Surgery.—P. G. Bennett (Sections I. and II.), Cambridge and University College Hospital; J. C. O. Bradbury (Sections I. and II.), Cambridge and Guy's Hospital; G. F. G. de Laubenque, Middlesex Hospital; H. F. B. Roberts (Sections I. and II.) and B. Rowlands, St. Bartholomew's Hospital; and P. P. Tobit (Section II.), King's College Hospital.

Medicine.—J. H. Clements, Birmingham and University College Hospital; E. Gray, London Hospital; W. P. A. Hardwicke, Durham; G. A. Jones (Sections I. and II.), St. George's Hospital; F. I. M. Jupe, Cambridge; E. J. Miller, King's College Hospital; H. F. B. Roberts (Sections I. and II.), St. Bartholomew's Hospital; F. H. Rotherham, London Hospital; and C. M. Woods (Section I.), Charing Cross Hospital.

Forensic Medicine.—E. Gray, London Hospital; G. A. Jones, St. George's Hospital; F. I. M. Jupe, Cambridge; E. J. Miller, King's College Hospital; F. H. Rotherham, London Hospital; and C. M. Woods, Charing Cross Hospital.

Midwifery.—C. A. Crowe, London and Westminster Hospitals; G. A. Jones, St. George's Hospital; and F. H. Hand, St. Mary's Hospital.

The diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery: J. H. Clements, W. P. A. Hardwicke, F. I. M. Jupe, G. F. G. de Laubenque, B. Rowlands, and P. P. Tobit.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates having passed the necessary examination have been admitted Fellows of the College:—

Miss C. McCrea, Mr. R. D. Patterson, Mr. R. S. Ryce, Mr. M. J. Smith, and Mr. D. Turner.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berne*: Dr. Leon Ascher, *privat-docent* of Physiology, and Dr. Max Howald, *privat-docent* of Pathological Anatomy, have been granted the title of Professor.—*Bonn*: The title of professor has been granted to Dr. Pletzer and to Dr. Wendelstadt.—*Halle*: Dr. Heilbronner, *privat-docent* of Neurology and Psychiatry, has been promoted to an extraordinary professorship.—*Munich*: The charge of the Hygienic Institute has been temporarily entrusted to Professor Rudolf Emmerich until a successor to the late Professor Buchner is appointed.—*Naples*: Dr. Carmelo Abate has been recognised as *privat-docent* of Laryngology.—*Pennsylvania*: Dr. Geo. E. de Schweinitz has been appointed to the chair of Ophthalmology.—*Vienna*: Dr. Wilhelm Latzko has been recognised as *privat-docent* in Midwifery and Gynæcology.

VACCINATION FEES.—The Plympton (Devon) Board of Guardians on May 16th decided to support the resolution of the Rugby Guardians and to petition the Local Government Board to amend the Vaccination Order by providing that the fees for revaccinations at the homes of the persons vaccinated should be the same as for revaccinations performed elsewhere—viz., 2*s.* 6*d.* instead of 5*s.* The guardians also recommended that the Government should undertake the gratuitous supply of lymph to private practitioners.—The Barnstaple (Devon) Board of Guardians at their meeting on May 16th also decided to support the petition of the Rugby Guardians.—At the meeting of the Tavistock (Devon) Board of Guardians held on May 17th a motion was passed urging the suggestion that persons who desired to be revaccinated should attend the house of the public vaccinator or a station appointed for that purpose, otherwise they should themselves defray the cost of revaccination at their own homes.—The Devonport Board of Guardians on May 23rd and the Wellington (Somerset) Board of Guardians at the meeting on May 22nd also decided to support the memorial of the Rugby Board of Guardians.

ROYAL METEOROLOGICAL SOCIETY.—The first of the afternoon meetings of the session of this society was held at the society's rooms, 70, Victoria-street, Westminster, on May 21st., Mr. W. H. Dines, B.A., the President, being in the chair. Captain D. Wilson Barker read a report prepared by Mr. Dines and himself on the Wind Force Experiments which had been made on H.M.S. *Worcester* off Greenhithe and at Stoneness Lighthouse, 817 yards from the ship on the north bank of the river. Dr. H. R. Mill read a paper on the Cornish Dust Fall of January, 1902. When the West of England newspapers of Jan. 24th announced falls of "pink snow" and "muddy rain" in several parts of Cornwall and South Wales it seemed to Dr. Mill possible that fresh light might be thrown on what was at present the chief object of progressive meteorology—viz., the movements of the upper air. He therefore took steps to collect as much information as possible from the whole of the district, and found that the phenomenon was reported from 75 different places in the south-west of England and Wales. These were all south of a line joining Milford Haven and Chepstow and west of the meridian of Bath. By means of a map Dr. Mill showed that four separate areas were visited by the dust between Jan. 21st and 23rd—viz.: (1) Cornwall, 1400 square miles; (2) North Devon, 150 square miles; (3) Milford Haven, 60 square miles; and (4) Bristol Channel, 600 square miles. The dust appeared to have been confined mostly to low rather than high ground, for none was reported to have fallen on the Mendip Hills, Dartmoor, Exmoor, and the Welsh mountains. The observations showed that Jan. 22nd was undoubtedly the day when most falls occurred and that the colour of the dust was yellowish or brownish. From a consideration of the meteorological conditions at the time and for several days before Dr. Mill was inclined to believe that the evidence pointed to the dust having been transported in the upper air from the African deserts.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—The provincial meeting of this society will be held at the Pendlebury Children's Hospital, Manchester, on Friday, June 20th, at 4 P.M. The proceedings should prove interesting judging from the list of communications which have been promised and which will be set out in our diary. At the conclusion of the meeting the members and their friends will dine at the Queen's Hotel. For the following day an excursion into Derbyshire has been arranged and those who intend to be present are requested to communicate with Dr. George Carpenter, 12, Welbeck-street, London, W., as soon as possible. The annual general meeting of the society will be held at the Hotel Cecil on July 16th, at 6.45 P.M., and will be followed by dinner at 7.30 P.M.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL.—The annual report of this institution for the year ending Dec. 31st, 1901, states that the in-patients numbered 1284, an increase of 101 on the previous year, which had been the highest yearly number on record. The average daily number of patients was 47. Four patients died, three of whom were admitted in a moribund condition. In the out-patient department 1026 women were delivered. There were three deaths, two from hæmorrhage before delivery and one from septicæmia. The expenditure for the year amounted to £5090, being £875 in excess of the ordinary income and an increase of £450 on the amount for the year 1900, accounted for partly by increases in the cost of provisions and other necessaries and partly by the additional number of patients. The ordinary income amounted to £3836, which is an increase of £592 on that of the previous year.

UNIVERSITY OF LONDON: FACULTY OF MEDICINE.—A meeting of the Faculty of Medicine was held at the University on May 23rd, Mr. H. T. Butlin, the dean of the faculty, being in the chair. The faculty had under consideration the regulations for the matriculation examination recently approved by the Senate to which attention has already been drawn in THE LANCET. Under these regulations, in addition to English and elementary mathematics, which must be taken by all students entering for the examination, there is a large number of optional subjects, of which three must be chosen, one of the three being either Latin or a branch of elementary science. A proposal had been made that the Senate should publish in the University Calendar "advice to students as to the optional subjects they should select, having in view the faculty in which they intend to proceed to a degree." The Faculty of Medicine was asked whether it desired to indicate the optional subjects which should be chosen by a student preparing to obtain a degree in medicine. The following motion was passed:—

> In the opinion of the Faculty of Medicine it is undesirable that any official advice should be published in the Calendar of the University as to the optional subjects which should be taken at the matriculation examination by intending undergraduates in medicine.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting of this society was held at 11, Chandos-street, London, W., on May 21st. The President, Mr. Christopher Heath, took the chair. The meeting was well attended. From the report read by the secretary it appeared that 35 new members were elected during 1901; 14 had died and two elections had been declared void; 299 members were on the books at the end of the year, an increase of 19. Six fresh applications for grants had been received from widows and the grants had been given. Two widows had died, leaving 51 in receipt of grants. Three orphans had been elected; two had become ineligible; 14 still remained for assistance. The receipts available for grants and expenses had been £3409 7*s* 6*d*. and the grants and expenses had been £3397 6*s* 2*d*. A donation of £200 had been received from the executors of the late Miss C. A. Birch. During the year Mr. J. R. Upton resigned the office of honorary solicitor which had been held successively by his father and grandfather. The directors had passed a cordial vote of thanks to Mr. Upton for his long and valuable services and had since heard of his death with great regret. Mr. H. G. Tudor was elected an honorary member. Mr. Tudor's family have acted as brokers since the foundation of the society and have always given their services gratis. A vote of thanks to the editors of the medical journals for their ready help in making known the objects of the society was passed. The following were elected to fill the vacancies in the court of directors: Mr. R. Debenham, Mr. J. B. Crozier, Dr. J. B. Constable, Dr. H. C. Pope, Dr. F. de H. Hall, Mr. F. Canton, Dr. J. Crabb, Mr. H. W. Kiallmark, and Dr. Scanes Spicer. A letter was read from Dr. Robert Barnes inclosing a donation of £100 and a cordial vote of thanks was accorded to him. A vote of thanks to the chairman closed the business of the meeting.

FREEMASONRY.—*Middlesex Hospital Lodge, No. 2848.*—The installation meeting of this Lodge was held at Freemasons' Hall on May 15th, when Bro. William Duncan, M.D., was installed Worshipful Master for the ensuing year. In the unavoidable absence of the Director of Ceremonies his place was ably filled by Bro. Vincent Cotterell. The Worshipful Master appointed as his principal officers Bro. F. J. Wethered, S.W., Bro. A. G. R. Foulerton, J.W., Bro. Henry Morris, Treasurer, Bro. F. Clare Melhado, Secretary. Mr. John Glenton Myler was initiated into Freemasonry. At the banquet which followed over 70 brethren and their guests were present. The retiring Master, W. Bro. T. G. A. Burns, on being presented with a Past Master's jewel, returned thanks to the brethren, saying what a great happiness it had been to him to preside as the First Worshipful Master of the Lodge.—*Cheselden Lodge, No. 2870.*—A Lodge of Emergency was held on March 14th, at which Bros. T. W. Buckley, P. W. Sargent, J. G. Turner, and H. G. Toombs were admitted to the second degree. At a regular meeting on March 21st the Worshipful Master, W. Bro. Thomas Wakley, Jun., admitted Bros. F. G. Parsons, H. O. Crouch, E. M. Corner, and W. F. Umney to the third degree and Messrs. L. A. R. Wallace, W. H. Battle, H. T. D. Acland, and H. S. Sington were initiated into Freemasonry. A Lodge of Emergency was held on April 18th for the purpose of admitting Bros. Buckley, Sargent, Turner, and Toombs to the third degree and Bros. L. A. R. Wallace, Battle, Acland, and Sington to the second degree. At a regular meeting held on May 16th Messrs. E. A. Gates, Z. Mennell, and Arthur Mead were initiated and Bros. L. A. R. Wallace, Battle, Acland, and Sington were admitted to the third degree. Bro. C. G. Seligmann and Bro. J. R. Beale were elected as joining members of the lodge. W. Bro. G. Crawford Thomson was unanimously elected Worshipful Master for the ensuing year. The sum of 20 guineas was voted to the Royal Masonic Institution for Boys to be placed on the list of the Worshipful Master who is representing the lodge as a steward at the forthcoming festival. A magnificent banner has been presented to the lodge by Bro. J. G. Wainwright, Treasurer of St. Thomas's Hospital, the first initiate of the lodge. The Worshipful Master of the Cheselden Lodge (for the time being) has been elected an honorary member of the following seven medical lodges: Rahere, Sancta Maria, Æsculapius, Cavendish, Middlesex Hospital, Chére Reine, and London Hospital.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Midwives Bill.

ACCORDING to the new rules of procedure now in operation two Fridays after Whitsuntide, the third and the fourth Friday after Whit Sunday, are reserved for Bills promoted by private Members and consequently it comes about that the consideration of the Midwives Bill as amended by the Grand Committee stands as the first order of the day for the sitting on Friday, June 6th. There will therefore be ample time for the discussion of the short list of amendments of which notice has been given.

HOUSE OF COMMONS.

MONDAY, MAY 26TH.

Uncertified Deaths in the Scottish Highlands.

Mr. WEIR asked the Lord Advocate if he would state the number of uncertified deaths in each of the six Highland crofting counties; and, in view of the fact that there was no information in the registrar's office as to the number of interments without the production of a medical certificate, would such steps be taken as would admit of this information being available.—The LORD ADVOCATE replied: The number of uncertified deaths in each of the crofting counties in 1900 was as follows: Shetland, 224; Orkney, 80; Caithness, 51; Sutherland, 104; Ross and Cromarty, 420; Inverness, 425; and Argyll, 175. The further information desired by the honourable Member cannot be obtained without legislation, which at present I cannot promise.

Lamp Accidents.

Mr. H. C. RICHARDS asked the Home Secretary (1) whether his attention had been called to the verdict of the jury as to the cause of the recent loss of life at the fire in Lever-street, St. Luke's, and whether the report of the London County Council on the occurrence had been brought before him; and (2) was he aware that five deaths had occurred in less than 12 months by the unrestricted use of American Tea Rose Oil in this district, and, if the Home Office were not prepared to take action, whether he would consider the advisability of additional powers being given to the London County Council to inspect and to regulate the sale of all dangerous American oils in the county of London.—Mr. Ritchie replied: I have had before me the verdict of the jury and the report of the Public Control Committee of the London County Council to which the question refers. In cases of accidents from defects in lamps or from the breaking of lamps it is a matter of great difficulty to decide in what way or to what extent the nature of the oil in use has occasioned or affected the accident; and I do not think that the suggestion at the beginning of the second paragraph of the question can be taken as a correct and sufficient statement of the causes of five, or indeed any, deaths in St. Luke's. Legislation would be necessary in order to bring under the control of a local authority petroleum not already so placed by the Acts of 1871 to 1881; and it is clear that such legislation would have to be of a general character, not confined to a particular locality. Moreover, I am not convinced that it would be effective in preventing or seriously diminishing the class of accidents in question or that there is sufficient justification for its introduction.

TUESDAY, MAY 27TH.

The Milk and Butter Question.

During the consideration of the vote for the Board of Agriculture several members called the attention of Mr. Hanbury to the working of the last Sale of Food and Drugs Act, that passed in 1899, which gives the Board of Agriculture, as well as the Local Government Board, certain powers as to adulteration. Sir Edward Strachey asserted that a great deal of milk was being sold in London to which large quantities of separated milk had been added along with colouring matter to conceal the adulteration, and he suggested that the central authority should send round inspectors to see that the local authorities were exercising proper supervision in this connexion. In his reply Mr. Hanbury said that there could be no doubt that in certain parts of the country the Act had not been carried out as efficiently as it might have been. The Act, however, was comparatively new and it would be well to leave local authorities a little more time to use their powers before the Board of Agriculture intervened. The department had two inspectors engaged in watching the effect and the extent of the operation of the Act; their reports kept him fully informed, and the only question was how long a period of grace should be allowed to local authorities who did not exercise their powers under the Act. His own feeling in regard to preservatives in butter and milk was that their use should be discouraged. As to the mixing of butter with other articles his view was that the farmer had a perfect right to his trade description and that articles ought not to be sold as butter which were not entitled to that description.

The Extermination of Rabies.

Mr. Hanbury also made a statement on this subject. He regretted the long retention of the muzzling order in certain districts but it had been found necessary owing to the continued presence of disease. He was not in favour of exemption even for sheepdogs. In the event of an outbreak of rabies he should not hesitate to issue a muzzling order without exemptions of any kind. No loophole should be left for the spread of a disease so terrible as rabies. A strong appeal was made in favour of the pet dog which was taken abroad and whose owner wanted to bring it back. This country, however, was now free from rabies with the exception of Carmarthen and part of the country round Plymouth. The continent, on the other hand, was not free from it. No precautions, therefore, could be too severe. The reason why the regulations were now more stringent than before was that the old regulation, whereby the owner of a dog was able to take his dog home on keeping it in quarantine for three months in his own house and not then allowing it to go loose until it was certified by a veterinary expert to be free from disease, had been grossly abused. The regulation had not been observed in cases. This was in itself good reason for the abolition of the privilege, and since the muzzling order had been withdrawn in so many places the case for the abolition had become much stronger. It seemed to him, when it was considered how many millions of people there were in this country to be kept free from the risk of rabies and how few people took their dogs abroad, the public health must be considered and not the convenience of that small body of persons.

Vaccination: Dr. S. A. M. Copeman's Experiments.

About one and a half hours were devoted to discussion on the vote for the Local Government Board.

Mr. Henry Broadhurst, the Member for Leicester, made complaint of the charges for vaccination. He thought that they were in many cases excessive and he suggested that the Local Government Board should issue regulations which would secure their reduction. He also complained that magistrates dealing with applications for exemption from vaccination often badgered and bullied those who came before them and said that he saw no reason why the Local Government Board should not issue instructions to protect parents in the exercise of the right conferred on them by the statute. Further, he asked the President of the Board to give an assurance that no more persons would be vaccinated with lymph derived from monkeys.—Mr. Thomas Bayley said that he desired to call the attention of the House to the action of Dr. S. A. M. Copeman, one of the servants of the Local Government Board. In a paper read before a medical society this gentleman stated that he had taken small pox virus from small-pox patients in Gloucester, or some other place where there had been an epidemic, and vaccinated monkeys and afterwards had taken vaccine from the monkeys and successfully vaccinated a great number of children. The President of the Local Government Board might laugh but the country regarded this matter in a very serious light. It was a disgrace for any Government department to allow one of its servants to do such a thing. The question he had to ask the right honourable gentleman was, whose children were they who were vaccinated with small pox taken through a monkey? Was the consent of the parents obtained before this experiment was made upon them? He had no doubt that this vaccine was issued with a sort of Government guarantee that it was pure vaccine.—Mr. Long, interrupting the hon. Member, said that he was indulging in the wildest suggestions. This lymph which he called small-pox given through a monkey had nothing on earth to do with the Local Government Board.—Mr. Bayley: But he was a Government servant and he was paid by the Government for these experiments.—Mr. Long: No, no. The hon. gentleman is probably not aware of the fact that a great many scientific gentlemen are employed by Government departments and that some of these gentlemen conduct for the public benefit experiments on their own account, and do a great deal of research work with which the Government department has nothing to do. Dr. Copeman did this particular research work, for which he has been thanked by the highest medical authority. He produced this lymph, though not in the remarkable manner suggested by the hon. Member, but the Local Government Board is in no way responsible for it. They do not condemn what he did. On the contrary, they believed that it was of the highest scientific value.—Mr. Bayley: But the Government paid him.—Mr. Long: The Government paid Dr. Copeman his salary as an inspector, but that does not prevent his engaging in research work in his own time.—Mr. Bayley: Will the right hon. gentleman tell me whose children were vaccinated?—Mr. Muntz: May I ask the hon. Member why he thinks a monkey is inferior to a calf?—Mr. Bayley: What I want to know is whether the lymph was used compulsorily to vaccinate children?—Mr. Long said that he would endeavour to deal with the complicated problem which the hon. Member had presented to the House. He had tried very hard in following the questions asked by the hon. Member in connexion with Dr. Copeman's experiments to find out what particular part in the puzzle the monkey was supposed to play but he had never yet succeeded in arriving at satisfactory information on the point. The hon. Member had told them that the whole country was moved to its very heart by this question but he (Mr. Long) could only say that with the exception of the hon. Member and one or two others he had met nobody who was in the least excited as to whether the monkey or the calf was used, not, as he said, for the purpose of conveying small pox either to the monkey or the calf. The process was really a simpler one than the hon. Member seemed to think. He was mistaken in thinking that the vaccine of the monkey passed directly to the child. It was passed through the calf, the safeguard to which the hon. Member apparently attached so much importance. Dr. Copeman conducted some extremely valuable experiments entirely upon his own account and he thought that the House would agree that it was undesirable that scientific men employed by the Government should be precluded from scientific research, which not only contributed to their own efficiency in their departmental work but to the great advantage of the public at large. Dr. Copeman made certain experiments. First of all Dr. Copeman vaccinated himself and having been satisfied that the lymph was not likely to produce injurious results he vaccinated the children of certain people with it. He (Mr. Long) was sorry he could not tell the hon. Member whose children they were but he assumed that the parents knew how the lymph had been obtained and were not at all disturbed by the monkey having played some part in its production. As to the charges of medical men for vaccination he could only say that when the Vaccination Act was passed the Government had no special experience as to what the working of it would be and he thought it was quite possible that he might have to reconsider the present payments made in respect of vaccination. As matter of fact he had the subject under consideration now. As to issuing a circular to magistrates indicating how they were to administer the law with reference to the conscientious objector, he could not undertake such a novel and undesirable course of action. The magistrates had before them the Act of Parliament and they were quite capable of interpreting it.

BOOKS, ETC., RECEIVED.

American Orthopedic Association, Chairman, Publication Committee, 372, Marlborough-street, Boston, U.S.A.

Transactions of the American Orthopedic Association. Fifteenth Session, held at Niagara Falls, June 11th, 12th, and 13th, 1901. Volume xiv. Price not stated.

Arnold, Edward, 37, Bedford-street, Strand, W.C.

A Text book of Physics. With Sections on the Application of Physics to Physiology and Medicine. By R. A. Lehfeldt, D.Sc., Professor at the East London Technical College. Price 6s.

Physiology for Beginners. By Leonard Hill, M.B., F.R.S., Lecturer on Physiology, London Hospital Medical School. Price 1s.

Baillière, J. B., et Fils, 19, Rue Hautefeuille, Paris.

Les Cures de Vichy: Indications, Régimes, Bains, Douches, Buvette, Exercice, Vichy et ses Environs. Par le Dr. Salignat, Médecin Consultant à Vichy. Price 2 francs.

Baillière, Tindall and Cox, 8, Henrietta-street, Covent Garden, W.C.

The Practitioner's Handbook of Diseases of the Ear and Naso-Pharynx. By H. Macnaughton-Jones, M.D., M.Ch., F.R.C.S. Irel. & Edin.; W. R. H. Stewart, F.R.C.S. Edin.; William Milligan, M.D., C.M.; Herbert Tilley, M.D., B.S., F.R.C.S. Eng.; Ambrose Birmingham, M.D., F.R.C.S. Irel., F.R.U.I. Irel.; and Robert Dwyer Joyce, F.R.C.S. Irel., M.R.C.S. Sixth edition. Price 10s. 6d. net.

Cassell and Company, Limited, London, Paris, New York, and Melbourne.

Clinical Methods: A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., M.R.C.P., and Harry Rainy, M.A., F.R.C.P. Edin., F.R.S. Edin. New, revised, and enlarged edition. Price cloth 10s. 6d.

Fischer, Gustav, Jena.

Bericht über die vom Komitee für Krebsforschung am 15. Oktober 1900, erhobene Sammelforschung. Herausgegeben von dem Vorstand. (I. Ergänzungsband zum Klinischen Jahrbuch. Im Auftrage des Königlich Preussischen Herrn Ministers der geistlichen, Unterrichts- und Medicinal-Angelegenheiten, unter Mitwirkung der Herren Prof. Dr. Kirchner und Dr. Naumann.) Price 10 marks.

Gaultier, Magnier et Cie, 55, Quai des Grands Augustins, 7, rue Bonaparte, Paris.

L'Art et la Médecine. Par le Dr. Paul Richer, Membre de l'Académie de Médecine. Illustré de 345 reproductions d'œuvres d'art. Prix 30 francs.

Grant, Robert and Son, 107, Princes-street, Edinburgh; Williams and Norgate, 14, Henrietta-street, Covent Garden, London.

Transactions of the Royal Society of Edinburgh. Vol. xl. Part II. (No. 18). On a Possible Stridulating Organ in the Mosquito. (Anopheles maculipennis, Meig.) By A. E. Shipley, M.A., and Edwin Wilson, F.E.S. (With a plate.) Price 1s. 6*d*.

G. P. Putnam's Sons, 24, Bedford-street, London, W.C., and New York

The Mental State of Hystericals: A Study of Mental Stigmata and Mental Accidents. By Pierre Janet, Litt.D., M.D., Professor of Philosophy at the Collège Rollin. With a Preface by Professor J. M. Charcot. Translated by Caroline Rollin Corson. Price 15s.

Isbister and Co., Limited, 15 and 16, Tavistock-street, Covent Garden, W.C.

A Hero of Donegal: Dr. William Smyth. By Frederick Douglas How, Author of "Bishop Walsham How," "Bishop Selwyn," "*Noble Women of our Time.*" With eight illustrations. Price 2s. 6*d*. net.

Karger, S. Karlstrasse 15, Berlin.

Operations-vademecum für den Praktischen Arzt. Von Dr. Edmund Leser, Professor an der Universität Halle, A.S. Second enlarged, revised edition. *Price* M.5.

Grundriss der Pathologischen Anatomie für Studirende und Aerzte. *Von Professor Dr.* Langerhans, Prosector am Städtischen Krankenhaus Moabit in Berlin. Third enlarged and revised edition. Price M.13.

Alkoholismus im Kindesalter. *Von Professor Dr. Max* Kassowitz, Direktor des I. Oeffentlichen Kinder-Kranken-Institutes in Wien. Price 80 Pf.

Zum Studium der Merkfähigkeit. Experimental-psychologische Untersuchung. *Von Dr. Aug. Diehl, Nervenarzt* in Lübeck. With a Preface by Professor Dr. Aug. Forel. Price M.1.

Neurasthenie und Hysterie bei Kindern. Von Dr. Alfred Saenger, Nervenarzt in Hamburg. Price 80 Pf.

Jahrbuch für Kinderheilkunde und *Physische Erziehung. Unter* Redaction von O. Heubner, A. Steffen, Th. Escherich. 55., der dritten Folge 5 Band 5 Heft. Ausgegeben am 1. Mai, 1902. Preis des Jahrgangs (zwei Bände) M.36.

Kegan Paul, Trench, Trübner and Co., Limited, Paternoster House, Charing-*cross road*, W.C.

B. Bradshaw's *Dictionary* of Mineral Waters, Climatic Health Resorts, Sea Baths, and Hydropathic *Establishments*. With maps and plans. 1902. Price 2s. 6*d*.

Livingstone, E. & S., Edinburgh.

A Text-book of Medical Jurisprudence, Toxicology, and Public Health. By John Glaister, M.D., D.P.H. Camb., F.R.S. Edin., *Professor* of Forensic Medicine and Public Health in the University of Glasgow. Price 15s. net.

Löhr, C.M., Cottage Hospital, Potters Bar, Middlesex.

The Nurse's Report Book, *for Day* and *Night*. Arranged for three weeks, with Temperature Charts. By C. M. Löhr, Member of the Royal British Nurses' Association. Fourth edition. Price 6*d*. post free; or 5s. per dozen.

Longmans, Green, and Co., 39, Paternoster-row, E.C.

The Essentials of Histology, Descriptive and Practical. For the Use of Students. By E. A. Schäfer, LL.D., F.R.S., *Professor of* Physiology in the University of Edinburgh. Sixth edition. Price 9s. net.

Maloine, A., 23-25, rue de l'École de Médecine, Paris.

Les Aveugles à travers les Ages. La Clinique Nationale Ophtalmologique *des Quinze-Vingts*, avec une Statistique sur les Causes de la Cécité, basée sur 2000 Observations. L'Hospice des Quinze-Vingts Moderne. Par le Docteur Constantin Golesceano. *Préface de M. le* Docteur J. V. Laborde Price 6 francs.

Methuen & Co., 36, Essex-street, Strand, W.C.

Lights and Shadows in a Hospital. By Alice Terton. Price 3s. 6*d*.

Murray, John, Albemarle-street, W.

Dangerous Trades. The Historical, Social, and Legal Aspects of Industrial *Occupations* as affecting Health, by a Number of Experts. Edited by Thomas Oliver, M.A., M.D., F.R.C.P., Medical Expert on the White Lead, Dangerous Trades, Pottery, and Lucifer Match Committees of the Home Office; Professor of Physiology, University of Durham. Price 25s. net.

A First Course of Chemistry (Heuristic). By J. H. Leonard, B.Sc. Lond. Author of "A First Course of Practical Science." Price 1s. 6*d*.

Naud, C., 3, rue Racine, Paris.

Intubation du Larynx: Instruments, Technique, Avantages. Par le Dr. Perez-Avendaño, Ancien Interne des Hôpitaux *de Buenos* Ayres. Préface du Dr. Marfan, Professeur agrégé à la Faculté de Médecine, Médecin de l'Hôpital des Enfants Malades. Price 4 francs.

Manuel Pratique de Bactériologie, Parasitologie, Urologie, Anatomie Pathologique. Par le Dr. Petit et G. Borne. Price 3 francs.

Porth, C., 105, Grand Avenue, Milwaukee, Wis., U.S.A.

Visual Economics, with Rules for Estimation of the Earning Ability after Injuries to the Eyes. By H. Magnus, Med. Dr. of Breslau, Germany, and H. V. Würdemann, M.D., of Milwaukee, Wis., U.S.A. Price $2·50.

Power, Maurice H., Philadelphia.

Philadelphia Hospital Reports. Volume iv.-1900. Edited by Roland G. Curtin, M.D., President of the Medical Board; and Daniel E. Hughes, M.D., Chief Resident Physician. Price not stated.

Smith, Elder & Co., 15, Waterloo-place, S.W.

General Index to the Transactions of the Pathological Society of London for Vols. xxxviii. to l. 1887-99. Price not stated.

Stuber, A. (C. Kabitzsch), Würzburg.

Die Krankheiten der Verdauungsorgane im Kindesalter. Für Aerzte und Studierende. *Von Dr.* Ernst Schreiber, Privat-docent an der Universität Göttingen. *Price, paper, M.5·40; cloth*, M.6·40.

igot Frères, 23, Place de l'École de Médecine, Paris.

Traité Théorique et Pratique du Massage et de la Gymnastique Médicale Suédoise. (Leur Emploi Thérapeutique). Par J. E. Marfort, Masseur-Gymnaste de l'Institut des Demoiselles Nobles. Deuxième edition. Price 4 francs.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

Adams, A., M.A., M.B., has been appointed Medical Officer and Public Vaccinator for the No. 5 District of the Liskeard (Cornwall) Union.

Allbutt, Clifford, M.D., F.R.S., has been appointed Examiner in Medicine and Therapeutics for the Indian Medical Service.

Boger, William Henry, L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer and Public Vaccinator for the No. 4 District of the Liskeard (Cornwall) Union.

Bridger, J. F. E., M.R.C.S., L.R.C.P. Lond., has been appointed Civil Surgeon to the Troops and Boer Prisoners stationed at Antigua.

Brown, Major E. Harold, I.M.S., M.D., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Cowden, W. J., M.D. R.U.I., has been appointed Certifying Surgeon under the Factory Act for the Dromore District of the County of Down.

Cunningham, D. J., M.D., F.R.S., has been appointed Examiner in Surgical Anatomy and Physiology for the Indian Medical Service.

Hammond, William, L.R.C.P., L.M. Edin., M.R.C.S., L.S.A., has been re-appointed Medical Officer and Public Vaccinator for the No. 6 District of the Liskeard (Cornwall) Union.

Harding, Norman E., M.B., Ch.B. Edin., has been appointed Locum Assistant Medical Officer to the Durham County Asylum.

Leith, R. Calder, M.A., F.R.C.P. Edin., F.R.S. Ed., has been appointed Examiner in Pathology and Bacteriology for the Indian Medical Service.

Leonard, F. C., M.D., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Low, V. Warren, M.D., B.S., F.R.C.S., has been appointed Surgeon to the Out-patient Department of St. Mary's Hospital, Paddington.

MacCarthy, Brendan, M.D., B.Ch., B.A.O. Dub., has been appointed Permanent Medical Inspector on the staff of the Local Government Board at Londonderry.

Marsh, Howard, F.R.C.S., has been appointed Examiner in Surgery and Diseases of the Eye for the Indian Medical Service.

Murray, R. Milne, M.A., F.R.C.P. Edin., F.R.S. Ed., has been appointed Examiner in Midwifery and Diseases of Women and Children for the Indian Medical Service.

Powell, J. F., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the *Victoria Hospital*, Folkestone.

Provis, F. Lionel, M.R.C.S., L.R.C.P. Lond., has been appointed Registrar to the Chelsea Hospital for Women.

Rees, D. C., M.R.C.S., L.R.C.P. Lond., Senior Government Plague Medical Officer, Cape Colony, lately Medical Superintendent, London Tropical School of Medicine, has been appointed Medical Inspector on the staff of the Medical Officer of Health for the Cape Colony.

Stockman, Ralph, M.D., F.R.C.P., F.R.S. Ed., has been appointed Examiner in Chemistry, Pharmacy, Botany, and Zoology for the Indian Medical Service.

Waters, James, L.S.A. Lond., has been appointed Medical Officer of Health and Public Vaccinator to the Bildeston District of the Cosford Union, Suffolk, and Medical Officer to the Workhouse at Semer, Suffolk.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Army Medical Service, War Office, S.W.—Thirty Commissions.

Aylesbury, Royal Buckinghamshire Hospital.—Resident Surgeon, unmarried. Salary £80, rising to £100, with board and apartments.

Ayr District Lunacy Board.—Medical Superintendent. Salary £500, with house, coal, gas, &c.

Bethlem Hospital.—Two Resident House Physicians for six months, with apartments, board, &c. Honorarium at rate of £25 per quarter.

Birmingham and Midland Hospital for Skin and Urinary Diseases, Birmingham.—Clinical Assistant.

Bristol City Lunatic Asylum.—Medical Assistant, unmarried. Salary £140 per annum, increasing to £160, with apartments, board, and washing.

Central London Sick Asylum at Cleveland-street or Hendon.—First Assistant Medical Officer. Salary £120 per annum, with board and residence at Hendon Asylum.

Dudley Guest Hospital.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

Durham County Asylum.—Third Assistant Medical Officer. Salary £150, rising to £180 a year, with apartments, board, laundry, and attendance.

Fisherton Asylum.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

Forres Leanchoil Hospital, Morayshire.—Medical Officer. Salary £60 per annum.

GLASGOW ST. MUNGO'S COLLEGE, MEDICAL FACULTY.—Notman Chair of Physiology.

GRAVESEND HOSPITAL.—House Surgeon. Salary £90 per annum, with board and residence.

HORTON INFIRMARY, Banbury.—House Surgeon and Dispenser. Salary £80 per annum, with board and lodging.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £20, with board and residence. Also Clinical Pathologist and Bacteriologist. Honorarium 50 guineas.

HOSPITAL FOR WOMEN, Soho-square, W.—Honorary Assistant Anæsthetist. Also House Physician for six months. Salary £30.

HULME DISPENSARY, Manchester.—Honorary Physician.

INDIAN MEDICAL SERVICE, India Office, S.W.—Nineteen appointments in Indian Medical Service.

LIVERPOOL BOROUGH HOSPITAL, Bootle.—Junior House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon for six months. Salary £25, with board and lodging.

LONDON HOSPITAL, Whitechapel, E.—Surgeon.

LONDON TEMPERANCE HOSPITAL, N.W.—Assistant Resident Medical Officer for six months. Honorarium at rate of 50 guineas per annum, with board, residence, and washing.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Non-resident House Surgeon. Honorarium at rate of £25 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Assistant Physician.

NORFOLK AND NORWICH HOSPITAL.—Second Assistant House Surgeon for six months, with board, lodging, and washing. Honorarium £20.

NORTHAMPTON GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, attendance, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance, light, and fuel.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Resident Medical Officer. Salary £150 per annum, with apartments, attendance, coal, and light.

ST. MARY'S HOSPITAL FOR SICK CHILDREN, Plaistow, E.—Resident Medical Officer. Salary £100 per annum. Also Assistant Resident Medical Officer. Salary £80 per annum. Both with board, residence, and laundry.

SHEFFIELD ROYAL HOSPITAL.—Honorary Dental Officer.

SOMERSET AND BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, and washing.

STAFFORDSHIRE COUNTY ASYLUM, Stafford.—Junior Assistant Medical Officer, unmarried. Salary £150, rising to £200, with apartments, board, &c.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

SUSSEX COUNTY HOSPITAL.—Second House Surgeon and Anæsthetist.

SWANSEA GENERAL AND EYE HOSPITAL.—Resident Medical Officer. Salary £75, with board, apartments, washing, and attendance.

THROAT HOSPITAL, Golden-square, W.—Junior House Surgeon. Salary £100 per annum, with lunch.

WHITTINGHAM COUNTY ASYLUM, Lancashire.—Junior Assistant Medical Officer, unmarried. Salary £150, with apartments, board, washing, and attendance.

WILTS COUNTY ASYLUM, Devizes.—Assistant Medical Officer, unmarried. Salary £160 a year, rising to £190, with board, residence, attendance, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Physician. Salary £100 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory Acts at Rochford in the county of Essex.

Births, Marriages, and Deaths.

BIRTHS.

ALDERSON.—On May 16th, at Eldon-square, Newcastle-on-Tyne, the wife of Wilfred B. Alderson, M.D., M.S. Durh., of a son.

BOW.—On May 20th, at Pentland-terrace, Edinburgh, the wife of M. Ranken Bow, M.B., C.M. Edin., of a daughter.

MAUND.—On May 17th, at Brackley House, Newmarket, the wife of John H. Maund, M.R.C.S., L.R.C.P. Lond., of a daughter.

MARRIAGES.

GOODMAN—CLAY.—On April 28th, Cyril Goodman, M.A., M.B. Cantab., of Cairo, to Sue Elizabeth, younger daughter of Cassius M. Clay.

STANDAGE—LONSDALE.—On March 11th, at Holy Trinity Church, Bangalore, India, by the Rev. A. J. Jones, M.A., chaplain, Captain Robert Fraser Standage, I.M.S., son of the late Alfred Standage, of Hurcott, Worcestershire, to Gwendolen, daughter of the late William Lonsdale of Hutton Roof, Eastbourne.

SWINDALE—NEALE.—On May 19th, John Aston Swindale, M.B., B.S. Durh., to Mary Frances, daughter of W. A. Neale, J.P., of Waihi, N.Z.

DEATHS.

BODINGTON.—On May 8th, in Paris, George Fowler Bodington, M.D. Durham, F.R.C.S. Eng., M.R.C.P., late Superintendent of the Government Asylum, British Columbia, aged 73.

SIMMONDS.—On May 24th, at Camberwell-road, Henry Morris Simmonds, M.R.C.P., L.S.A., aged 75 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

FEES FOR INSURANCE EXAMINATIONS.

WE have received several more communications concerning the fees tendered by life assurance societies to medical men for undertaking the examination of candidates for policies. One of them contains the form of the medical report required by the Gresham Life Assurance Society, Limited. The report is marked "North-eastern branch, Parade Chambers, High-street, Sheffield; Francis Rankine, District Manager," so that perhaps it is not in general use by the society. It consists of questions to be put by the medical examiner to the person whose life is proposed for assurance and it is suggested that the medical man should take down the answers of the person examined, as far as possible, in his own words. The medical man is first asked to fill up a long tabular statement regarding the family record, spaces being left for such useful information as the existence of the candidate's sister's gout and the duration of his or her mother's father's last illness. Then follows a table under six main headings with 28 sub-headings, setting out the applicant's pathological history. We pity the medical man who has to fill up such a table and the applicant who has to answer the questions. Then we come to the medical examination. Four observations are required about the heart and five about the chest, elaborate measurements being necessary for conscientious answers. Five observations have to be made about the urine—and it is not considered sufficient that a medical man should state the presence or absence of albumin or sugar; he is also asked to state the tests which he has employed. We note that the medical man is constituted a kind of detective in behalf of the Gresham Life Assurance Society, Limited. He is asked how he has identified the person proposing to assure as himself or herself, and whether the sum proposed is excessive in relation to his or her position in life. Altogether it is preposterous that a medical man should be asked to undertake the filling up of such a document; but if he is seriously asked to render such service to the society he should be paid properly and not be offered 10s. 6d.

THE R.A.M.C. UNIFORM.

To the Editors of THE LANCET.

SIRS,—I am much obliged to "V. M. O." for his letter which appeared in THE LANCET of May 17th, p. 1440. In reply to "Surgeon Lieutenant-Colonel" I beg to say that some little time ago I received a memo from the Volunteer Ambulance School of Instruction to the effect that Volunteer medical officers were to wear "Sam Browne" belts of R.A.M.C. pattern in all orders of dress except review order, &c., and in Paragraph 240 of the Volunteer Surgeon's Guide these instructions appear.

I am, Sirs, yours faithfully,
SURGEON-CAPTAIN.
May 24th, 1902.

A PLEA FOR THE FINAL YEAR STUDENT.

To the Editors of THE LANCET.

SIRS,—In these days of cramming and multitudinous subdivisions of subjects for the last and qualifying tests of our examining boards, the lot or burden of the poor student is becoming unbearable. After some years of a busy working-class practice in a large manufacturing city I am forced to admit that with a few exceptions I derived very little material benefit from the questions put to me at my "final." To prepare the general practitioner who constitutes about 85 per cent. of all medical men turned out each year, for his future career there are practically seven or eight absolutely essential subjects which he should be well and practically taught—namely, anatomy, physiology, materia medica, surgery, medicine, midwifery, forensic medicine, and chemistry; the remaining few odd subjects, which have been added during the past few years, are pharmacy, biology, and pathology including bacteriology. I shall begin with pharmacy. Beyond what can be learned in a couple of hours about this subject in these days of manufacturing chemists nothing is practically left for a medical man to do in the way of dispensing. As for biology, what examples of this science present themselves to the busy practitioner? None, so far as my experience goes. Lastly, there come pathology and bacteriology. Would it not be quite sufficient for the present-day student to be taught and examined in the grosser pathology which is encountered in general medical and surgical practice and in which the students of 10 and 15 years ago were well versed and in my opinion were, and are up to the present time, as good and as practical men as are now being turned out? What have the researches of bacteriologists done to shorten the course and duration of diseases supposed to be of microbic origin? Phthisis still is rampant and still incurable. Enteric fever runs its full course and still presents its complications. Of what use is the knowledge of a microbe to the practitioner when called out between 1 and 2 o'clock on a winter's morning to the bedside of a man stricken down with pneumonia? Is not a knowledge of what will relieve and soothe his patient to be much preferred?

Since the introduction of bacteriology and antiseptics the poor student is having a hard time and he gets these two subjects so deeply ground into him that for the first six months or so of post graduate life, when launched into a busy practice, he goes forth with fear and trembling, and at night may possibly suffer some remorse lest he has omitted some part of professional technique. After that time he begins to acquire more confidence in himself, forgets, fortunately for himself, a large number of theories, and then his success commences. In conclusion, on behalf of the large number of future general practitioners I would like to suggest that examining boards should include men recruited from the ranks of the busy general practitioner class—men of not less than 20 years' experience—as they are well fitted to know exactly what is required of the student, being themselves so much in touch with the sick and suffering. Each student should also be allowed to perform under personal supervision the minor operations of the surgical and obstetrical arts, such as minor amputations, circumcision, putting on forceps, and the administration of anæsthetics, thereby making him self-reliant and skilful. It is not possible for everyone to attend post-graduate schools.

I am, Sirs, yours faithfully,

Belfast, May 14th, 1902. R. H. D. POPE, L.R.C.S. Irel., &c.

THE LAW FUND.

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON.

The following additional subscriptions have been received by Dr. Paramore, 2, Gordon-square, W.C.:—

	£	*s.*	*d.*
Sir Samuel Wilks, Bart., F.R.S.	2	2	0
Dr. W. W. Hunt Tate ...	2	2	0
Dr. Peter Horrocks ...	1	1	0
Dr. George T. Beatson (Glasgow)	2	2	0
Mr. J. Bland-Sutton ...	2	2	0
Mr. Malcolm Morris ...	1	1	0
Dr. Henry C. Martin ...	3	3	0
Dr. J. Arthur Brown ...	1	1	0
Mr. John Padman	2	2	0
Dr. Rowland Thurnam, for self and partner, Dr. H. J. Trenchard (Nordrach Sanatorium)	2	2	0
Mr. W. Adams Frost ...	2	2	0
Mr. W. M. Bristow ...	0	5	0
Mr. Thomas Jago	0	10	6
Mr. George Thorpe ...	0	10	6
Dr. John Thompson ...	1	1	0
Mr. W. Erasmus Paramore	1	1	0
Mr. R. Horace Paramore	1	1	0
Dr. R. Paramore	2	2	0
Anonymous	0	5	0
L. A. B.	0	10	0
One who Read the Case	0	2	6
F. S.	0	2	6
Mr. C. J. Rayley Owen	1	1	6
Mr. F. Everard Row ...	0	10	6
Mr. J. Browne O'Connor	0	10	6
Mr. George Frederick Hugell	0	10	7
Mr. James Clifton	0	5	0
Mr. Donyer W. F. Latham	0	10	6
Mr. Owen Bowen	0	5	0
Dr. John Hopper Baker	0	10	6
Dr. FitzGerald Isdell ...	0	10	6
E. S.	0	2	6

MEDICAL MAGISTRATES.

THERE is no doubt that medical men as magistrates could summarily dispose of many cases of malingering and of pretenders who claim to have received bodily injury. As an instance of this a tramp at Scarborough, on May 27th, claimed exemption from work in the workhouse alleging that he had a broken arm. The arm was examined by one of the magistrates who happened to be a qualified medical man. The limb proved to be merely bruised and not broken. The magistrates sentenced him to 14 days' imprisonment.

THE "Y" FUND.

SURGEON-GENERAL H. S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from Professor and Mrs. A. E. Wright, Staff Surgeon J. H. Thomas, R.N., "F. E.," Dr. E. Baxter Forman, Dr. Kerr, Dr. Fuller England, Dr. R. C. Brown (Preston), Mr. J. R. Preston (Fleetwood), "A Well-Wisher" (through Mrs. C. White), Mrs. Dallas Edge, Mrs. J. Irwin, Mrs. H. Stokes, Surgeon-General A. F. Preston, A.M.S., Surgeon-Colonel W. T. Martin, A.M.S. (retired), and the following officers of the Royal Army Medical Corps: Lieutenant-Colonels E. M. Wilson, C.M.G., D.S.O., W. S. Pratt, W. G. A. Bedford, C.M.G., J. G. MacNeece, R. Vacy Ash, N. McCreery, G. T. Trewman, H. H. Stokes (retired); Majors W. H. Horrocks, E. R. Cree, H. P. G. Elkington, Birt, James, Captain J. Clarke (M.); and Lieutenants A. F. Carlyon and W. M. Power. The fund now amounts to £198. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington-gardens-terrace, Hyde Park, London, W.

NOTIFICATION OF DISEASE.

To the Editors of THE LANCET.

SIRS,—May I call attention to one objection there is to the compulsory notification of disease by medical men as it is now in vogue? In poor neighbourhoods the visits and attendances of medical men have to be cut down to the lowest actually necessary amount. Many of the notifiable complaints are difficult to identify without proper observation—in some cases lasting for days. Medical men practising in poor neighbourhoods know that they may only have one chance of seeing patients who come or are brought to the surgery. They know also that their visits to the homes of the patients must either be gratuitous or unwelcome to the patients and their friends. But if, in face of these facts, a medical man seeing a suspicious case—scarlet fever, typhoid fever, or small-pox—and preferring to avoid risk of infection and spread of the disease certifies "that *in my opinion* the person, &c.," is suffering from one or the other of these diseases he may find that the patient's friends after a day or so receive a note from the medical man at the hospital to the effect that it "does not appear that so-and-so has been suffering from such and such disease." And so the medical man is discredited and loses patients because another medical man says that his opinion is different. For with the poor "hospital doctors" and "hospital opinions" cannot err—"can do no wrong." This is particularly the case when the hospital is unknown or at a distance. *Omne ignotum pro terribile.* Of course, it is just possible that after all the original medical attendant may have been right. Undoubtedly, the mistakes that have been detected in notifications of these diseases do in many cases arise from this cause. Therefore, a medical man must ask himself, "Shall I notify or shall I let the infection take its chance?" For my part, having some regard to the good opinion of the people among whom I am practising, I have come to the conclusion that it is wiser not to notify until you are quite sure. But then while I am making sure I am perhaps spreading the disease. The truth is, it is not fair to put medical men in this dilemma. If there is found to be an error or a difference of opinion about the case after further observation at the hospital it ought to be the notifying medical man who receives the information and silence ought to be observed both to the patient and to the friends. As it is at present the patient or the friends are practically told that "their fool of a doctor has made a mistake," with the inevitable consequence to the doctor. It may be said that there is always the medical officer of health to be called upon as a second opinion. But this is not the case. Medical men have no hold upon the casual cases brought to their surgeries. If people have any suspicion they will give false addresses sooner than be notified as infectious.

Nor is this all. I was called to a case which I was able to watch. I identified it after a day or two as chicken-pox, but knowing the possibility of human error I decided to call the medical officer in to see the case. He came and declined to say on first visit. He came again and certified the case as small-pox. The patient was taken to the hospital. Next day an intimation was received by the friends from the hospital that the case was one of chicken-pox. Then I scored, but the remarks about the medical officer of health for the district were the reverse of complimentary for all that I could do to explain the difficulty. For obvious reasons I must not publish my name, but I inclose a card and sign myself THE MISUNDERSTOOD.

May 20th, 1902.

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W. NASH, A.M.S.

Additional subscriptions:—Lieutenant Langford Lloyd, 10*s.*; Major F. Smith, 5*s.*; Captain G. A. T. Bray, 10*s.*; previously acknowledged, £89 10*s.*; Total, £90 15*s.*

LAPSUS LINGUÆ.

A COMICAL incident occurred in the Plymouth Police-court on May 21st. A considerable number of parents were summoned for neglecting to have their children vaccinated and much amusement was caused when, in one of the first cases, the presiding magistrate gravely announced that an order would be made for the child to be "baptised" within 14 days. Apparently the magistrate could not get the phrase out of his mind, for he erred in a precisely similar way three times within an hour.

◆

Mr. A. Robinson and Mr. L. J. Serin.—Before we can publish comments on the practice of selling drugged and fermented milk as nursery milk we must have proof of its existence. We shall be happy to receive any literature on the subject and any references to the conviction of offenders.

L. P. G.—Undoubtedly the General Medical Council might take notice of such conduct but the information must be properly laid before them. They cannot be expected to pay attention to anonymous accusations.

A. S A. may possibly find the information that he seeks in our advertisement columns. He should communicate with the secretaries or superintendents of the various nursing associations.

Entomologist.—D. Sharp's "Insects" (Cambridge Natural History Series), published by Messrs. Macmillan and Co., contains all the information and more.

M.B., F.R.C.S.—With certain precautions which the makers enjoin the "Pasteur" filter would fulfil our correspondent's requirements.

M.B., B.C., is recommended inaction. Why stir up a dead quarrel?

Ishmael.—The references will be found in Neale's Digest.

During the week marked copies of the following newspapers have been received:—*Hong-Kong Daily Press, South-Western Star (London), Western Daily Mercury, Yorkshire Mercury, Cork Constitution, Sheffield Independent, Bradford Observer, Morning Post, Essex Herald, Hereford Mercury, Hartlepool Mail, Suffolk Chronicle, Surrey Advertiser, Bristol Mercury, Dublin Express, Darlington Star, Times of India, Daily Graphic, Huddersfield Examiner, Sanitary Record, Local Government Chronicle, Hertfordshire Mercury, Dundee Advertiser, West Sussex Gazette, Bolton Chronicle, Kent Messenger, Middlesbrough Gazette, Birmingham Post, Rushden Argus, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 29th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp Shade.	Min Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
May 23	30·20	S.E.	0·30	75	61	51	53	54	Raining
„ 24	30·36	N.	0·01	114	69	52	57	61	Cloudy
„ 25	30·44	N.W.	...	119	72	58	57	60	Fine
„ 26	30·32	N.	...	120	71	52	51	58	Fine
„ 27	30·06	W.	...	120	74	52	56	60	Fine
„ 28	29·72	W.	...	122	72	50	57	60	Fine
„ 29	29·79	W.	0·03	105	65	52	51	56	Hazy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), *Gt. Northern Central* (2.30 P.M.) *West London* (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.).

TUESDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (4th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (5th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West *London* (2 P.M.), *Chelsea* (2 P.M.), *Gt. Northern Central* (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.) St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (7th).—Royal *Free* (9 A.M.), *London* (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.) Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.).

At the *Royal Eye Hospital* (2 P.M.), the *Royal London* Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (4th).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by *Dr. Lewers*, *Dr. A. Lea*, and *Dr. Williamson*. *Mr. M. Robson*: *Notes* of a Case of Primary Ovarian Gestation (showing the specimen). Paper:—Mr. A. Doran: Pregnancy after Removal of both Ovaries for Cystic Tumour.

THURSDAY (5th).—RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—The President: The Sources of Phosphorescence.

NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital).—4 P.M. Clinical Cases will be shown.

FRIDAY (6th).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (Society's Rooms, West London Hospital).—9 P.M. Cases:—Dr S. Taylor: A Case of Symmetrical Œdema of the Legs in a Man.—Dr. A. Saunders: Rheumatic Endocarditis in a Case of Transposed Viscera.—Dr Beddard: Pulmonary Stenosis.—Dr. A. Saunders: Pulmonary Stenosis.—Dr. G. P. Shuter: A Case of Acromegaly.—Mr. J. R. Lunn: (1) A Case of Doubtful Congenital Dislocation of Hip in a Girl, with Skiagram; *(2) A Case of Arteritis of the large Vessels* with no Pulses at the Wrists in a Man; (3) Epithelioma of the Finger of a Man, with Sections for Microscope.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (2nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Ball: Discharges from the *Ear, their Causes and Treatment.*

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr J. J. Pringle: Clinique. (Skin.)

ROYAL INSTITUTION OF GREAT BRITAIN.—5 P.M. General Monthly Meeting.

TUESDAY (3rd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Malignant Diseases of the Uterus.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. James Taylor: Clinique. (Medical.)

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. K. Pearson: The Laws of Heredity with Special Reference to Man.

POST GRADUATE CLINICAL DEMONSTRATION (Westminster Hospital).—4.30 P.M. Dr. W. A. Wills: A Case of Raynaud's Disease with Sclerodermia (with some other illustrative cases).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Ferrier: Disseminated Sclerosis.

WEDNESDAY (4th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. McAdam Eccles: Surgical Anatomy.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Jackson Clarke: Clinique. (Surgical.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Habershon: Congenital Heart Disease.

THURSDAY (5th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Medical Anatomy and Physical Diagnosis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr Hutchinson: Clinique. (Surgical.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Voelcker: Demonstration of Selected Cases.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Galloway: Demonstration of Dermatological Cases. (Post-Graduate Course.)

FRIDAY (6th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr Reece: Small pox and Vaccination.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. Jobson Horne: Clinique. (Throat.)

ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Sir B. Baker: The Nile Reservoir and Dams.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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We cannot prescribe or recommend practitioners.

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Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

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Notes, Short Comments, and Answers to Correspondents.

SCOTTISH POOR-LAW MEDICAL OFFICERS.

THE dispute about the parish of Clyne Poor-law medical officer still continues. A special meeting of the parish council was held on March 25th, at which a letter from the Local Government Board for Scotland was read wherein it was pointed out that a parish council has no concern with its medical officer except in so far as he is medical officer to the paupers under care of the guardians. The parish council, however, could give its medical officer due notice to go at the end of his year of office, and it need not assign any reason for so doing. It was mentioned at the council that a plébiscite of the ratepayers had been taken on the question. The votes were as follows In favour of Dr. G. Nicoll remaining, 200; against, 14; neutral, 32. Finally, a motion was carried by one vote saying that it was inadvisable for the parish council to interfere but that it was very desirable that Dr. Nicoll should be available as far as could reasonably be expected. The whole position is absurd and arises from the parish council going outside its province. It has a duty to provide medical attendance for paupers, but it is in no way its duty to provide a parochial medical attendant. If the inhabitants of Clyne wish for a medical man to reside in their midst to be entirely devoted to their service they should offer a suitable retaining fee, but even then we doubt whether any self respecting medical man would consent to put his liberty of action in the hands of such persons as some of the ratepayers of Clyne would appear to be from the published reports of their actions.

THE MEDICINAL PROPERTIES OF SAFFRON

To the Editors of THE LANCET.

SIRS,—In your issue of Feb. 15th, at page 469, there is a reference to saffron and its properties, in connexion with which the following notes may be of interest to readers of THE LANCET.

Sadīdu Kāzerūnī (circ. 1350 A.D.), in his commentary entitled "Al-Mughnī" (*liber sufficiens*), on the "Kānūn" of the famous Ibn Sīnā (Avicenna), writes as follows regarding saffron [illegible] wonderful effect in strengthening the mental faculties, [illegible] brilliance, and causes exhilaration and cheerfulness. Strong[illegible] perfumes are valuable adjuvants."

Again, the "Bahru-l-Jawāher" ("Ocean of Essences") states: "Saffron prevents the flow of moist humours to the eye when used either as an ointment or as a collyrium. It is hot in the third degree, dry in the first degree, laxative and digestive, improves the complexion, and when mixed with wine is very intoxicating, causing heaviness, headache, and drowsiness. It clears the eyesight, facilitates parturition, is a respiratory stimulant and cardiac tonic; is diuretic, controls the animal passions, is of service in internal pains and uterine disorders, dispels the effects of a debauch, is aphrodisiac, and beneficial in diseases of the spleen."

The "Makhzan-al-Adwiya" ("Storehouse of Medicaments") gives the following account of "the properties and actions of saffron." "Exhilarating and tonic to the five senses, excitant and digestive, laxative and corrective of the impure humours arising from the phlegm, preserving them from alteration and corruption. It is diuretic and astringent, aphrodisiac, and stimulant to the animal spirits, is a hepatic and intestinal tonic, and a respiratory stimulant. Its use provokes mirth and laughter, purifies the kidneys, bladder, and skin, and conveys the virtues of other drugs to the heart and all the viscera. It removes obstructions of the brain, liver, and spleen."

If saffron really possesses the qualities claimed for it by Oriental physicians and pharmacologists, we have at once a reason for its use in decoctum aloës compositum, and it is evident that its removal would be a loss.

In any case it is interesting to know that saffron has for more than five centuries possessed a high reputation for efficiency in the above-noted particulars. I am, Sirs, *yours faithfully*,

GEORGE RANKING, M.D. Cantab., Lieutenant Colonel I.M.S.

Calcutta, March 6th, 1902.

SADDLE SORENESS.

IN the April number of the *National Cyclists' Union Review* Mr. E. B. Turner, F.R.C S. Eng., discourses upon "Saddle Soreness, its Causes, Prevention, and Cure." There are plenty of causes but Mr. Turner is fain to confess that there is practically no prevention and no cure. A member of our staff says that from his own experience he can say the same thing. He has tried all sorts of saddles and has finally settled down to one which everyone whom he has asked to try it pronounces to be abominably uncomfortable. The only way to avoid saddle soreness is for the rider to make trials of saddles until he finds one that he likes and has got it properly adjusted. When this desirable consummation has been achieved let him on no account move the saddle. Let him remember, too, that, as Mr. Turner points out, a bicycle must be ridden and not simply sat upon, and he should also remember that no one saddle will fit everyone any more than will a boat, or a gun, or a pair of boots.

INCONTINENCE OF URINE.

To the Editors of THE LANCET.

SIRS,—I shall be glad if anyone who has had successful experience in the treatment of the incontinence of children will inform one of his less fortunate brethren as to the remedies employed. In a case which I have had under my care for a considerable period none of the usual drugs have had any permanent effect. I have tried gradually increasing doses of tincture of belladonna, both alone and in combination with liquor strychninæ but with only temporary relief. As soon as the higher doses are withdrawn the habit returns. As the boy in question is located at a big public school it is, of course, a great drawback to him. I may say that the urine is normal as to reaction and specific gravity. Any hints as to treatment will be gratefully appreciated.

I am, Sirs, yours faithfully,

April 1st, 1902. S. S. B.

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W. NASH, A.M.S.

WE received on April 1st, from Major B. M. Skinner, R.A.M.C., the secretary to the fund for the memorial to Surgeon-General W. Nash, A.M.S., the following list of further subscriptions:—

	£	s.	d.
Surgeon-General J. A. Marston, C.B., K.H.S.	1	1	0
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Major S. G. Allen	0	5	0
Previously acknowledged in THE LANCET of March 15th (p. 764) and 29th (p. 919)	23	2	0
	£34	16	0

Subscriptions promised should be remitted as stated in THE LANCET of March 15th, p 764. They will be duly acknowledged.

◆

R. M.—The position of public vaccinators is a very difficult one. Our correspondent will find the matter discussed in an article in THE LANCET of Nov. 16th, 1901, p. 1352. We do not wish to say anything that might check the very necessary wholesale vaccination that is now taking place, though we are quite aware that the methods of some public vaccinators are open to question.

Colonist.—The M.D. Brux. is registrable in Australia and the regulations of the universities there, according to the Australian Medical Directory, make allowances in many cases for work done elsewhere.

A Subscriber for the Last 30 Years.—The matter is one for arrangement The incomer should receive only his share of the money earned since the date of partnership.

R. W. E.'s verses are to the point, but the subject is just now so fraught with serious issues that we think it well not to deal lightly with it.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 3rd, 1902

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb.	Dry Bulb	Remarks 8.30 a.m.
Mar. 28	29 81	S.W.	...	83	54	47	45	47	Cloudy
,, 29	29 83	S.W.	...	62	56	46	44	46	Cloudy
,, 30	29 93	S.W.	0 05	63	49	46	48	48	Raining
. 31	29 89	S.W.	0·09	90	43	44	48	49	Cloudy
April 1	29·56	W.	...	68	57	48	48	51	Cloudy
,, 2	29 79	N.W.	...	81	54	39	40	44	Fine
,, 3	29 80	S.W.	...	76	52	42	40	44	Overcast

During the week marked copies of the following newspapers have been received:—*Greenock Herald, Wyndham Farmer (Otago, N.Z.), Redditch Indicator, Surrey Advertiser, Coventry Herald, Belfast News, Birmingham Daily Mail, Municipal Reformer, Echo, Standard, Bristol Mercury, Liverpool Daily Post, Herts Advertiser, Times of India, Reading Mercury, Mining Journal, Local Government Chronicle, Hertfordshire Mercury, Windsor and Eton Express, Portadown News, Sunday Magazine, Kensington News, Daily Telegraph, St. James's Gazette, Pharmaceutical Journal, Manchester Guardian, Dublin Evening Telegraph, Gazette Méd Paris, &c.*

The Lettsomian Lectures

ON

CERTAIN DISEASES OF THE BLOOD-VESSELS.

Delivered before the Medical Society of London

BY A. PEARCE GOULD, M.S. LOND., F.R.C.S. ENG.,
SURGEON TO THE MIDDLESEX HOSPITAL.

LECTURE III.[1]

Delivered on March 17th.

MR. PRESIDENT AND GENTLEMEN,—The very interesting problems connected with the occurrence of thrombosis and the great practical importance of the affection are, I hope, a sufficient justification for my devoting this lecture to that subject. Ever since the science of physiology has existed the coagulation of the blood has been a phenomenon of absorbing interest to physiologists, and although many keen observers and profound thinkers have devoted much patient labour to its study we have to confess that it remains to-day in great measure an unsolved mystery. But if the coagulation of the blood is one of the great elemental problems to the physiologist, thrombosis, or the coagulation of the blood in living blood-vessels, is a theme of equal interest and importance to the pathologist and to the practitioner of medicine and surgery. To its beneficent agency we owe the very existence of our race. The great function of reproduction seems to be specially dependent upon the benign influence of thrombosis in sealing the tiny vessels in the ovary when an ovum bursts from the Graafian follicle, in closing the ruptured vessels of the torn hymen, and in plugging the much larger uterine sinuses which are opened by the separation of the placenta. The whole art of surgery may without any exaggeration be said to have been possible only because blood may coagulate within living vessels and the debt of surgery is perhaps only fully realised when one stands almost impotent beside the ceaseless dripping from a wound in a hæmophilic patient. For most of us, I fear, the word "thrombosis" conjures up before our minds not these benign effects but some of those disastrous results which we so often see following upon the untimely clotting of blood within the vessels. We think of pains and long-drawn-out disabilities, of extended periods of rest and idleness, perhaps of permanent lameness or paralysis, or even of sudden death, or the ante-mortem agony, all of them so often resulting from thrombosis. Indeed, it plays almost as prominent a part in disease and death as in the preservation of health and life; perhaps we hardly realise how large a part it plays and it is not uninstructive to use some spare moment by trying to count up the many and different forms in which we meet with thrombosis and how enormous an advance in practical medicine it will be when thrombosis will be known only as a beneficent phenomenon and when we are able to prevent its occurrence as a baneful process. As a very minor illustration of the importance of thrombosis and of the large influence it may have in marring a life I may mention a case I saw last year of a man, 49 years of age. He told me that in 1876 he was attacked with typhoid fever and during his convalescence he suffered from thrombosis of first one femoral vein and then the other, for this he was laid aside for 18 months. Ever since that time he has been liable to thrombosis from slight injuries and, indeed, it has often occurred without obvious exciting cause, and out of 25 years he has spent no less than six years, two months, and one week invalided by these successive clottings! When I saw him last July he had plugging of the left median basilic and the lowest inch of the basilic vein, which had quickly followed upon his being rather roughly seized by the left elbow. I feel sure that all of you can recall case after case where blood-clotting has proved almost as great a bar to a happy, useful, vigorous life as in this case. I forbear to speak of those many tragedies that we witness as the result of the sudden detachment of one of these clots.

It is no wonder, then, that the literature of thrombosis is very extensive and that many of the greatest pathologists—John Hunter, Cruveilhier, Virchow, Paget, Lister, Cohnheim, and a whole host of others—have made it a special study and have endeavoured to fathom the deep mystery that covers the origin and nature of intravascular coagulation. I cannot attempt to sketch the history of the theory of thrombosis, how it has gradually been freed from error and misconception and amplified by new facts. I propose only to touch upon a few points and to mention one or two of the less commonly seen forms of thrombosis that have happened to come under my observation.

The first appearance observed in circulating blood about to clot is the presence of minute protoplasmic masses called "platelets" which becoming increasingly viscous cohere into tiny irregular masses. These platelets are probably not constituents of normal circulating blood, but are derived from the red corpuscles, possibly from their disintegration. Their increasing viscosity is probably dependent upon some unknown condition of the blood plasma. Around these minute masses of agglutinated platelets fibrin is deposited and incloses corpuscles in its meshes if the blood-stream is not so turbulent as to "whip" them out of the forming fibrin. This fibrin is deposited from the blood in such a way as to impart to the clot a definite structure. But the question that interests us most is, Why do these clots form? What is the condition antecedent to the formation and agglutination of the platelets? Is it to be sought in the blood or in the blood-vessel? These are questions as old as the scientific study of pathology and a full and completely satisfactory answer to them is not yet forthcoming. John Hunter regarded a plastic inflammation of the vessel wall as the primary and essential step in the whole process and Cruveilhier advocated the same view. Virchow in his great work on thrombosis and embolism laid stress on the opposing view and regarded the coagulation as a blood change effected by some alteration in the blood itself independent of changes in the vessel-wall, which, however, were often set up by the presence of a blood-clot. More lately, and as the outcome of the study of micro-organisms and the part they play in so many forms of disease, it has been shown that in many thrombosed vessels bacteria are present both in the vessel-wall and in the clot, and it is thought that these organisms may be the primary cause of the coagulation. Opinions differ, however, as to whether the micro-organisms produce the clotting by acting directly upon the blood-cells or whether by their presence in the vessel-wall they set up changes which unfit them for their special function of maintaining an open channel for the blood and thus lead to blood coagulation. It is evident that if a blood change is the chief cause of intravascular coagulation there must also be some local condition that determines the thrombosis at a particular part of the system. This is a problem of exactly the same kind as that presented by other local manifestations of general infections, such, for example, as acute infective osteo-myelitis, tuberculous and syphilitic osteitis. In each case there is a general infection and a localising influence.

As regards the blood itself, we must abandon the idea that a condition of hyperinosis—an excess of fibrin—ever plays any part in the causation of thrombosis. The proportion of fibrin present in the circulating fluid no doubt varies within somewhat wide limits, but the greater or less tendency to thrombosis never depends upon the more or less of fibrin present, but upon some agent that excites the separation of the fibrin from the plasma. The blood changes that might bring about thrombosis we may suppose to be one or more of the following: (1) a change in the corpuscles leading to their disintegration; (3) an increase in the viscosity of the platelets; (3) an increase in the fibrin ferment; and (4) an increased liberation of fibrin ferment. It is possible that various micro-organisms or their toxins may influence in some way or other either the formation of platelets from red corpuscles or the production of fibrin ferment in the blood. It is also possible that certain products of inflammation absorbed into the general blood stream may have the same effect. Bearing upon this question is the well-known fact of the tendency of a clot once formed to extend—in the direction of the circulation, it is said. This growth of a clot is sometimes very rapid and very extensive and one explanation of it is that there escapes from the clot first formed some element capable of exciting coagulation in the adjacent blood, fibrin ferment possibly. If this is so it affords support to the view that a blood change may be both the primary step in thrombosis and the direct cause of the coagulation. Conversely, it has been shown that a state of the blood may be induced in which coagulation cannot occur, and it is thought that an exhaustion of fibrin ferment may actually be the nature of this change. The late Sir William Roberts suggested that gouty thrombosis might be due to the presence in the circulating blood of minute particles of uric acid which he thought might have the same effect in exciting coagulation as the addition of minute crystals or other fine particles to recently shed blood.

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[1] Lectures I. and II. were published in THE LANCET of March 1st (p. 576) and 15th (p. 717), 1902, respectively.

Thrombosis is so commonly a localised affection that we are forced to consider the local conditions which influence it as of primary importance. They may, so far as we know, be grouped under two heads—(1) changes in the nutritive condition of the vessel walls and (2) changes in the regular equable flow of the blood. The changes in the vessel wall include all traumatic, inflammatory, and degenerative changes—however produced—and, of course, include the consequences of the invasion of the tissues by streptococci and other micro-organisms. It is when these changes affect the integrity of the inner coat and particularly its endothelial lining that coagulation is most prone to occur. I referred to this point in my last lecture, and we saw in the disease we were then considering—arteritis obliterans—a striking example of the influence of disease of the tunica intima in causing clotting. Atheroma, calcification of the middle coat of an artery when so advanced as to interfere with the nutrition of the internal coat, acute infections of vessels either from without or from the blood within them, and all forms of injury are frequent causes of thrombosis and in many instances appear to be the sole causes acting independently of any special blood condition. However, we must not too readily conclude that a clot within a diseased vessel is caused entirely by that disease. In some cases an alteration in the blood is probably a contributory cause. The disease in the vessel is often very chronic and coagulation may be the result of ill-understood cumulative conditions. The full vitality of the blood is only maintained when the circulation is vigorous and all the great functions are regularly discharged. Diseases of blood-vessels are so very often associated with imperfections in the circulation and with defects in one or other of the great viscera that it must be that some change is often present in the blood flowing through these diseased vessels—a change predisposing it, perhaps, to develop platelets or to coagulate.

The circulatory disturbances which are believed to play an important part are those which result from (1) the sudden dilatation of a vessel, as one often sees in varix or aneurysm, or (2) the entrance of a small vein into a large one, or (3) the little pouchings naturally present in veins behind their valves. It is thought that in these situations slight irregularities of the flow of blood, little eddies perhaps, may occur—what Recklinghausen has called "Wirbelbewegungen"—and that here blood corpuscles break up into platelets and fibrin ferment is set free and clotting is started. In such a vein as the one I now hand round, where a dilatation of the size of a pullet's egg has developed in an internal saphenous vein which is not notably enlarged, we can understand that there must be a considerable departure from the regular even flow of blood in one direction—that is, the normal condition. Within this great sacculus clotting has occurred and it did not extend any distance beyond it. I excised this vein from the upper part of the leg of a woman and with an entirely satisfactory result. Cohnheim held that the full vitality of the endothelium of a vessel partly depended upon the regular and rapid flow of blood over it, and he suggested that in such cases as those which I have mentioned and in others of great enfeeblement of the circulation the natural stimulus—or whatever influence it may be—of this rapid steady blood-flow is lost, that as a result the endothelium suffers, and that from this follows some deteriorating effect upon the blood leading to its coagulation. This view is interesting as emphasising the great mutual influence and dependence of blood and blood-vessel.

There are two modifications of the circulation that I would like to draw special attention to. The first is the regurgitation from deep into superficial veins that is such a frequent, if, indeed, it is not an entirely constant, phenomenon in varicose veins. In the first of these lectures I described this phenomenon and mentioned how constant I had found it. I believe that the disturbance in the circulation it causes, the undue tension in the varices, is an important cause of thrombosis in varicose veins: I make this statement the more confidently because when I have operated in such a manner as to prevent this regurgitation (Trendelenburg's operation) I have found the tendency to thrombosis removed. I mentioned striking cases of this in my first lecture. I must not recapitulate them. There is no doubt that thrombosis is much more common in varicose veins than in others. Of course, several other explanations of this fact are forthcoming, such as the effect of the abrupt dilatation and pouching that I have already referred to, the projection of the veins exposing them to contusions and other injuries, and the degenerations or inflammations of the inner coat which occur more often in varicose than in healthy veins. But the good effects of occlusion of the highest part of the superficial vein affected seems to me to be strong evidence that the greater tension and the modification in the blood-current caused by reflux, must play an important part in leading to thrombosis. There is another well-known fact that bears upon this. I am sure that all of us have seen cases of thrombosis that we have treated *secundum artem* by rest in the horizontal position; we have been pleased to watch the arrest of the disease, the gradual lessening of the pain and swelling, and the passing away of all the unpleasant symptoms. At length the time has come when we have felt that the thrombus must be so far organised as to be firmly incorporated with the vessel wall and that the danger of embolism is past. We allow our patient to get up; the legs that have been horizontal for some weeks with low tension in all the vessels are suddenly put in the vertical position and the tension in all the vessels is raised. At once a fresh attack of thrombosis occurs. Why? From the injurious effect of an abrupt alteration (increase) of the tension in the veins. I have seen cases where this unfortunate accident has occurred time after time until many months have been spent by the patient in resting for one after another of his attacks of thrombosis. But this clinical observation is such a commonplace one that I need not detail cases to illustrate it. We all of us, I suppose, regard the period of first getting up as one full of risk for a patient with thrombosis, so frequently is it followed by a fresh clot. Negative evidence to the same effect is afforded by the good effect upon thrombosis of rest in the horizontal position. How commonly it is attended with immediate arrest of extension of the clot and of all the other symptoms. It is the lessened tension in the veins that is the chief cause, I submit, of the improvement. And here I may mention one other point. We all know that thrombosis is much more common in the lower limbs than in the upper. Why is this? Is it not mainly because the tension in the veins undergoes greater, more frequent, and more prolonged increase in the lower limbs than in the upper? The general higher vitality of the upper than the lower limbs, which is shown in so many ways, may also partly explain this difference. A striking confirmation of this view is afforded by the fact that venous thrombosis occurs more often from tricuspid regurgitation than from any other form of heart disease.

The other alteration in the circulation that I wish to refer to is that produced by a block in a main artery. It is commonly stated that when a clot forms in a vessel it exhibits a tendency to extend in the direction of the circulation. This is undoubtedly true of venous thrombi but it is not true to the same extent of arterial thrombi. Here we often see that the thrombus extends up along the artery towards the heart and it may be for some distance. I may remind you of some of the cases of obliterative arteritis I mentioned in the last lecture in which, for instance, the arterial disease with occlusion by clot extended as far as up to the popliteal artery, but the thrombus extended not only the whole length of the femoral artery but in one case the clot reached up to the aorta and even as high as the origin of the renal artery. I think it is truer to say that both in arteries and veins clots tend to grow centrally and towards the heart.

Another very important modification of the circulation is that brought about by great enfeeblement of the heart. Thrombosis undoubtedly occurs in many conditions of enfeebled circulation and Virchow especially has described these so-called marantic thrombi. But not only is there no exact relationship between the rate of blood-flow and coagulation, but recent observations have demonstrated the presence of micro-organisms in many so-called marantic thrombi and this discovery necessitates a careful reconsideration of our theories of intravascular coagulation from mere slowing of the blood-stream. Micro-organisms have been demonstrated in thrombi in many conditions, such as puerperal thrombosis, post-enteric, post-pneumonic thrombosis, and in the clots occurring in the late stages of tuberculous disease, as well, of course, as in the more definitely septic conditions. The *organisms most commonly present in such* clots are streptococci staphylococci (less often), and occasionally the bacillus coli, bacillus proteus vulgaris, and some others. Only last year Dr J H. Bryant read a paper at a *meeting of the Pathological Society of London* in which he described four cases of thrombosis where he found organisms in the clots which he regarded as the cause of the coagulation, in one case he found streptococcus and staphylococcus albus, in two cases bacillus proteus vulgaris, and in one case the bacillus subtilis in one saphena vein, and staphylococcus in the opposite saphena vein, in each case in pure culture. A great deal of attention has recently been paid to this investigation, especially by French observers, and the belief is gaining ground that micro-organisms play a great and hitherto unexpected rôle in the pathology of thrombi. It may be so. But possibly we shall take a too narrow view if, because organisms are found in clots or on the walls of plugged vessels, we at once assume that the organisms are the sole or main causes of thrombosis, indeed, I would venture to suggest that the whole discussion of the causes of thrombosis, of which I have given a very imperfect outline, is vitiated by one fallacy The discussion is based on the assumption that a clear and sharp distinction is to be drawn between the blood and the blood vessels. Do we not press this distinction too far? Developmentally we know that they own one common source, in the mature state their inter relations are far more close than we readily imagine, and before we can truly appreciate the nature, causes, conditions of thrombosis I think we must grasp the idea that the blood and the inner coat of blood vessels are parts of one organ—of one organic whole. Any grave defect of this organ may lead to thrombosis and whether the change is initiated in the fluid blood or the more stable tunica intima is not a distinction of primary importance.

Leaving these more theoretical considerations I will ask your patience while I refer to one or two of the less common forms of thrombosis. I have seen at least two cases of thrombosis of the spermatic veins. One of the patients was a man, aged 32 years, under the care of my colleague, Mr G Lawson, at the Middlesex Hospital On Feb. 1st, 1894 he was kicked on the scrotum, a good deal of pain and swelling followed but he continued at his work as an asylum attendant that day Next day he stayed in bed and his pain was better He tried to get up on Feb. 3rd but finding his pain worse he went back to bed and stayed there till Feb. 7th and after that he did a part of his work each day till Feb 14th, when he was admitted to hospital because any strain or effort brought on an acute dragging pain in the left testicle. He was then found to have a firm, uneven swelling in the left cord in the upper part of the scrotum The *vas deferens* could be traced over its posterior aspect, not lost in the swelling and it seemed to be clear that this was a thrombosed spermatic vein. The patient was kept in hospital till March 5th, where he left convalescent. A year or two *before* this a youth, aged 18 years, was admitted to Middlesex Hospital under the care of Mr J W Hulke with a swelling in the left spermatic cord. He gave no history of injury and said that he had noticed a dragging pain in the part for three or four days. In this case a firm narrow cylindrical cord could be felt extending from the top of the left testicle up to the external abdominal ring It was clearly in the spermatic cord and quite distinct from the vas deferens, and Mr Hulke and others who saw it were quite clear in their opinion that it was a thrombus in a vein of the spermatic plexus The testicle was a little tender only There was no urethritis in either of these cases. This patient, like the other, was rested in bed and left the hospital convalescent.

My colleague Mr Henry Morris kindly allows me to mention a curious case that was under his care in the Middlesex Hospital. An unmarried woman, aged 28 years, accidentally noticed a lump of about the size of a pea in the left breast when she was feeling some pimples in the skin of the part. It gave her no trouble and she took no further notice of it. A year later, in May 1899 she bruised the left breast and two days after on feeling the painful part noticed a lump there which she thought was the same as the one noticed before. She was seen by one of the assistant surgeons to the hospital and advised to come in The note of her condition *on admission is as follows* "A tumour of small size is situated in the outer and upper segment of the left breast towards the axilla. It is about one inch long and half an inch across, placed radially from the nipple It is hard, smooth, somewhat lobulated, it is freely moveable. It does not fluctuate. It is felt to be in the mammary gland itself and to be over the pectoralis major The axillary glands are neither enlarged nor hard. A large abnormal vein runs across the left axilla—a congenital abnormality' Mr Morris operated and found the lump was a thrombosed vein in the breast. I think this must be a very rare experience and with such a history as this patient gave it would have been almost impossible to arrive at a correct diagnosis before the operation.

I have seen some cases of chronic spreading thrombosis which I think are probably closely allied to cases of arteritis obliterans and if I wanted to give a name to them I should call them *endophlebitis obliterans*. Up to the present I have only seen them in the superficial veins of the lower extremity The patient notices a little stiffness in the leg hardly amounting to pain and on feeling the part a slightly tender "knot" is felt. The symptoms at first are not severe enough to lead the patient to rest or to consult a medical man. Slowly the "knot" lengthens into a firm cylindrical cord which can be rolled under the skin or may be fixed to it by periphlebitic œdema—it is only a little tender to the touch. Steadily this induration of the vein—for such it is—extends up the leg and I have known it reach from the ankle to the groin. The connexion of the firm cord with a subcutaneous vein can easily be demonstrated. So far as I have seen the extension of the clotting and obliteration of the vein is always in an upward direction. I saw a case last year where a very robust healthy young married man, who had rather numerous but not very large varices scattered over the right leg and thigh was attacked with this form of thrombosis. When I saw him he had already been many weeks in bed and the clotting had been watched spreading up along the whole length of the internal saphena vein—quite up to the groin The treatment of these cases by rest is very unsatisfactory—it may entail several months of idleness. Excision of the thrombosed vein except at its earliest stage is a rather troublesome and wholly unnecessary procedure. I have found that to excise a portion of the vein a little above the evidently diseased part effectually stops the spread of the trouble. This is a very simple procedure and it has the further advantage that it removes the danger of embolism which might conceivably occur even in these cases of chronic thrombosis. Three years ago I had a woman under my care with this affection involving the left internal saphena vein up to a little above the knee. I removed an inch of the vein four inches higher up and in 14 days she left the hospital convalescent, the disease being arrested and the pain to which it had given rise had quite passed off.

Among the cases of obliterative arteritis that I related in my last lecture was one that I was indebted to the courtesy of Dr W Pasteur for the opportunity of seeing and for the permission to publish. In addition to the disease in the arteries of the legs which led to gangrene in the feet there were acute abdominal symptoms during the last few days of the man's life and it was to this abdominal condition that death was at last due The symptoms were persistent vomiting and the presence of an ill-defined tumour in the lower half of the abdomen—this was not resonant. The man died from exhaustion eight days after the onset of these symptoms. The necropsy revealed thrombosis of the superior mesenteric vein and partial obliteration of the companion artery, the mesentery and a certain length of the ileum were greatly thickened, hardened, and very dark in colour, being infiltrated with blood.

Thrombosis of the superior mesenteric vein is not a common condition Dr Welch has been able to find records of 32 cases, he states that the condition is commoner in the superior mesenteric vein than in the inferior and much more frequent in the mesenteric arteries than in the veins. I had an example of superior mesenteric vein thrombosis under my care two years ago and as the symptoms were exceedingly ambiguous I hope a brief summary of the case may be of interest. The patient was a carpenter, 40 years of age, who had enjoyed good health up to the time of the illness in question This illness began 12 days before he was admitted to the hospital with languor and a sense of fulness at the epigastrium His appetite was poor and he ate very little. Three days later (May 17th) his bowels ceased to act, no flatus even being passed. Four days later still (the 21st) he came to the hospital out-patient department complaining of loss of appetite and constipation; he had no pain, his temperature was normal, and his pulse was 88. He was ordered sulphate of magnesia and haustus gentianæ alkalinus. After three days more (the 24th) he was seized with severe pain at the epigastrium and for this he took next morning an ounce of castor oil which he retained but which did not produce any action of the bowels. Then on the 25th he began to vomit and he suffered much from paroxysms of griping pain at the epigastrium. On the 26th, as nothing had passed from the bowels for more than a week, his medical attendant administered a glycerine, and then a soap-and-water, enema which returned unaccompanied by any motion and he was then sent into the hospital. He was then, 12 days after the onset of the illness, a well-nourished man lying flat in bed with extended legs; he seemed to have no pain; his temperature was 98° F. and his pulse was 88; his tongue was thickly coated. His abdomen was not distended; it moved freely with respiration, its walls were flaccid; no peristalsis was visible. We could not detect any swelling or elicit any tenderness; the cæcum was not full. The liver edge was felt two inches below the costal margin at the end of inspiration; liver dulness was present. Elsewhere the abdomen was resonant There was no hernia; the rectum was empty and digital examination revealed no abnormality. The urine was acid, of specific gravity 1026, and loaded with urates; it was free from albumin and did not give the indican reaction. Soon after his admission an enema of castor oil was given, followed by soap-and-water; this was returned without any motion and soon afterwards he complained loudly of colicky pains and his pulse rose to 108 and became very feeble. Hot fomentations soothed him and in an hour his pulse was down to 80 and of good quality. The next morning (the 27th) Dr. Pasteur saw the man with me and we decided to give him calomel in one-grain doses every four hours till the bowels acted. After two doses he passed a slight motion of dark offensive liquid; he had great pain at the time and soon afterwards he vomited. But he had a comfortable night without pain and next day he took an ounce of compound senna mixture. On the 29th the bowels acted twice, the motions consisting of a small quantity of dark fluid with a little solid fæcal matter. There was now no vomiting, he was free from pain, and slept well; his pulse was 96. His abdomen was still quite soft and moved freely; there were a little tenderness and sense of resistance to the left of the umbilicus; he was passing flatus freely. But he did not have a good night and next day (May 30th) he complained of dull aching pains in both loins; there was no vomiting but also no motion; the abdomen was a little more distended, especially on the right side. At 3 P.M. he took half an ounce of castor oil and afterwards passed two motions, chiefly fluid. He vomited in the night and the acute pain returned. Dr. Kingston Fowler saw him with me on the next afternoon (May 31st) and agreed that there was no clear indication for immediate operation. We ordered morphia when the pain was severe. After this he became worse rather rapidly; the pain became very severe, vomiting returned, and his abdomen became distended and rigid and his pulse rose to 144. In my absence Mr. T. H. Kellock operated next morning, June 1st. He found a quantity of blood-stained serous fluid in the peritoneum, a long coil of the small intestine was of a dark-purple, almost black, colour, and the corresponding mesentery was thickened and firm with several hæmorrhages into it. Recognising that the condition was one not to be satisfactorily dealt with by operation Mr. Kellock at once closed the wound. The man died in the evening of the same day.

The following notes were taken at the necropsy. "Small intestine more or less gangrenous for entire length. Duodenum and upper one-third of jejunum were considerably discoloured and below this the walls were almost black. The intestine was neither distended nor collapsed. Coils slightly adherent through early inflammatory exudation. Large intestine and vermiform appendix normal. Mesentery greatly thickened, firm, and yellowish-green in colour Veins distended with blood-clot. Tissue round veins in portal fissure much thickened and the portal vein contained clot. The chief vein of pancreas was distended and filled with clot, which, however, appeared more recent than that in mesenteric veins. No definite changes in arteries. No constriction or any other lesion to account for gangrene. Pancreas appeared rather swollen, otherwise normal. Spleen enlarged and distinctly firmer than normal."

Mesenteric thrombosis seems to be most often caused by some intestinal lesion, but in my case none was observed. The symptoms usually set in abruptly with severe pain of a spasmodic colicky kind, referred to the epigastrium; vomiting quickly follows and the abdomen becomes distended and tender. There may be absolute constipation or there may be the passage of motions containing dark altered blood. Death appears to be an invariable result and surgery offers no succour to these patients. I must confess to being entirely nonplussed by the case which I have just related; in several particulars it differed from the common course of the affection, especially in its slow, gradual onset, the length of time which it lasted, and the periods of apparent improvement in all the symptoms.

The last cases of thrombosis to which I will refer are two occurring in the innominate veins. The first was in a little girl, 10 years old, a patient under the care of Dr. S. Coupland in the Middlesex Hospital in 1894. She was admitted on Dec. 18th suffering from typhoid fever. On Feb. 11th, 1895, when convalescence seemed to be progressing well, each external jugular vein was found to be thrombosed—firm, knotty, and exquisitely tender; on the left side the swelling around the vein became very marked. A week later, Feb. 19th, the note is: "Greatly improved. Feels well and is recovering strength rapidly. Neck is excessively painful still but the inflammation is certainly subsiding. Both external jugular veins are thrombosed. Temperature 100°." On Feb. 23rd she complained of pain in the chest below the right nipple. The superficial veins over the chest, especially on the right side, were enlarged, there was pitting on pressure on both sides of the chest, and the face looked puffy. There was no œdema of the upper limbs. There were no other physical signs of chest lesion. These symptoms continued and on Feb. 28th she had dysphagia. The œdema of the chest wall was greater: that of the face had disappeared. The neck was now less tender. The superficial veins over the chest were larger and appeared to be carrying on a collateral circulation. Then signs of fluid in the left pleura were detected and on March 8th she was tapped and 24 ounces of semi-purulent and sanguineous fluid were withdrawn; this seemed to give a certain amount of relief. But the child got worse. Thus on March 12th the note runs: "Child is generally worse; there is great puffiness of left side of face; great œdema of the chest wall. Pulse 136, very weak—indeed, scarcely to be felt at the wrist." The left pleura was again tapped on March 13th and this time one and a half pints of yellowish cloudy fluid were drawn off. Under the microscope a few pus cells were seen in it, together with a large number of red corpuscles in various stages of disintegration. During the tapping the aspirator unfortunately broke down twice and air was admitted to the pleura and to the subcutaneous tissue of the chest wall. Strange to say, two days later (March 15th) this child was sitting up in bed with a normal temperature and busy with her sewing. But the fluid reaccumulated and on March 17th I opened and drained the left pleura, evacuating two pints of thin pus. For a time respiration was terribly embarrassed and oxygen and brandy were administered; in an hour she became quiet, breathing well, and was evidently relieved by the operation. The patient then for a time steadily improved; her pulse became better and stronger and we began to entertain hopes of recovery. On April 12th a trace of albumin appeared in the urine; this rapidly increased in amount and by May 4th is noted as being present in "great quantity." At the end of April dyspnœa and restless nights returned and on May 7th she was unable to lie down. There was then dulness at both bases up to the angle of the scapula. On the 9th I drew off 23 ounces of very sanguineous fluid from the left pleura; it gave immediate but partial relief and she sank and died next evening (May 10th).

The great veins at the root of the neck are preserved in the Middlesex Hospital Museum and the specimen is thus described in our catalogue: "The veins of the neck and the superior vena cava. The superior vena cava is occupied by clot which projects into the right auricle. The innominate, subclavian, and jugular veins are completely blocked by clot and converted into fibrous cords. On the left side there is considerable matting about the upper end of the jugular vein. The azygos vein is enlarged. From a girl, aged 12 years, in whom the condition ensued five months after an attack of enteric fever. Double hydrothorax was present."—(Specimen shown.)[2]

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[2] Middlesex Hospital Medical Register, 1155, 1893, P.M. 105, 1894.

The second case was one that I saw four times in consultation with Dr. O. Percival White and Dr. Norris. The patient was a married lady, aged 30 years. During the seventh month of her first pregnancy accidental hæmorrhage occurred and the child was born dead on May 12th, 1900. She passed through the puerperal state quite normally. At the end of four weeks she went away to Folkestone and about a week later she developed a thrombus in the right internal saphena vein. Two months later—July 9th—she returned to London. Dr. White found her looking extremely ill, with a much higher pulse-rate than he could account for. Her temperature was 100° F.; the right saphena vein was still tender and firm. On July 16th she complained of pain in the right side of the neck. As there was an old-standing small thyroid adenoma here it was thought that this might be the cause of the trouble. But when I saw this patient again on July 19th there was no doubt whatever that clotting had occurred in the right axillary, subclavian, and external jugular veins—these could be felt as firm and very tender cords. There was marked venous congestion and œdema of the right hand and arm and the patient complained of extreme pain in these parts. The œdema of the upper limb and right side of the chest became enormous, but by the end of the month the œdema and the pain had both become less, although it was clear that the internal jugular vein was also plugged and the patient complained much of buzzing in the ears as well as of the intense pain in the arm. The right arm gradually got perfectly well. Then the same process was gone through on the left side, but the pain and the circulatory disturbance did not seem to be quite so severe. At the end of August fluid was discovered in both the pleural cavities and these were repeatedly tapped, clear serum being drawn off. The relief afforded was only transient and on Sept. 12th the patient died. The cause of the pleural effusions would appear in this case to have been venous engorgement only, due to obstruction of the azygos veins. In the former case there was evidently injection of the pleura with a pyogenic organism; it was not a hydrothorax but an empyema.

The Ingleby Lectures

ON

CHRONIC HYPERTROPHY OF THE FAUCIAL AND PHARYNGEAL LYMPHOID OR ADENOID TISSUES.

Delivered at the University, Birmingham,

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LECTURE I.

Delivered on May 27th.

MR. DEAN AND GENTLEMEN,—It is customary and very right that at the commencement of these lectures some reference should be made to keep alive the memory of him who founded and endowed them, the late Dr Ingleby. He was born at Cheadle in Staffordshire in 1794. He was apprenticed to a medical man there for five years. He then went to the London and Edinburgh medical schools and came to Birmingham in May, 1816, being appointed surgeon to the General Dispensary in August of that year. In 1828 he became lecturer on midwifery in the School of Medicine and not a little of the reputation of Queen's College was due to him. He acquired a very extensive and important practice and as an obstetric practitioner he stood alone in the provinces. His opinion was sought by patients from London and all parts of the kingdom. As an author in midwifery he was without a rival and he gained a European reputation by his work on obstetric medicine. He also wrote a book on Uterine Hæmorrhage and published a course of clinical lectures in THE LANCET. As a lecturer he had no pretensions to eloquence or to fluency; he never talked learnedly but used good Saxon words with taste and precision, his *forte* being description and detail. He was a man of no display and in consultation was unassuming almost to a fault, careful to a degree not to place a practitioner in any difficulty. He was never heard to speak with discourtesy or disparagement of any fellow practitioner. In private life he was singularly amiable and gentle and was never known to be angry, although he was remarkably nervous and excitable. A case of unusual severity would spoil both his slumbers and his appetite. He suffered nothing to interfere with his practice and he pursued it with the enthusiasm and fate of a martyr. He laboured not wisely but too well and slowly but certainly his health gave way under the pressure of habitual fatigue. Nothing, however, would induce him to take even a temporary rest and not until the mischief was beyond a remedy did he see how fatally he had trifled with his life. For six weeks prior to his death he suffered from occasional attacks of atonic gout, clearly the consequence of his extreme abstemiousness and over-toil. He was again advised to rest, to take more nourishment, and to undergo a course of treatment. This advice, though consistent with his own opinion, was utterly disregarded. In this condition a feverish cold further depressed his vitality and an attack of pleuritis followed on the 24th of January, for which he was bled, leeched, blistered, and purged. The inflammation ran on to effusion, when its severity subsided, leaving its subject in an exhausted, dying state. A slight rally was followed by an attack of meningitis and by death on the 28th of January, 1845. Thus perished prematurely, at the age of 50 years, one of the brightest ornaments of our profession and one of the most amiable, useful, and esteemed members of society—a victim to an undue devotion to study and to the duties of his immense practice. This brief outline of his life and death conveys to us both an example and a warning—so plain that he who runs may read. Could he but speak to us from the land of the beyond the warning would be his theme. I pray you to give heed to the example.

In accordance with the wishes of the founder I purpose to speak of conditions peculiar, at all events to a great extent, to childhood—viz., Hypertrophy of the Faucial and Pharyngeal Lymphoid or Adenoid Tissues. I have selected this subject as being one of great interest to those engaged in the general work of our profession and as one upon which I am able to speak with some authority. Although I have not much that is new to bring before you at the present time I feel there is much that needs saying upon the subject.

The structure of these lymphoid tissues consists of a network of loose connective tissue in the meshwork of which are lymphatic follicles and also, according to Sajous, some conglomerate glands. They are covered with cylindrical epithelium and are richly supplied with blood-vessels. They occur as distinct and well-defined rounded masses between the anterior and posterior pillars of the pharynx—the faucial tonsils—as an irregular layer across the upper part of the posterior wall and vault of the naso-pharynx—Luschka's tonsil—and as scattered patches over the posterior and lateral walls of the pharynx, sometimes in the latter situation extending downwards as distinct bands from Luschka's tonsil, behind the posterior pillars of the pharynx. There are also two patches at the base of the tongue in the glosso-epiglottidean fossæ known as the lingual tonsils but which are outside the scope of these lectures. These tissues during inflammatory catarrhal attacks increase in size and are also very prone under certain conditions to overgrowth or hypertrophy—and it is this latter condition alone as distinct from the former that I purpose to speak about.

The faucial tonsils when hypertrophied are generally spoken of as "enlarged tonsils." Hypertrophy of Luschka's tonsil has gone by many names: "adenoid vegetations in the naso-pharynx," "adenoid growths," "post-nasal growths" (or "growths" for short), "post-nasal adenoids," and now "adenoids." This last is a short and convenient name, and so long as the true nature of the condition is kept in mind there can be no valid objection to its general use. "Enlarged tonsils and adenoids" is now a common way of denoting this hypertrophy of the two groups of tonsils. Hypertrophy of the scattered patches and lateral bands in the pharynx is usually termed "chronic follicular or granular pharyngitis." It may be said that there is practical agreement that enlarged "tonsils and adenoids" are usually associated, that they occur essentially in childhood and adolescence, and that they are almost equally prevalent in the two sexes. Considerable diversity of opinion, however, exists as to the influence or importance of most of the assigned causes—viz., heredity, scrofula, lymphatic temperament, climate, anterior nasal stenosis, cleft palate, vaginal secretions at birth, the acute exanthemata, whooping-cough, and nasal and naso-pharyngeal catarrh. Heredity (including both the transmission of a special tendency to this hypertrophy, of which some well-marked instances have come under my notice, and the liability of children with a tuberculous family history to lymphatic affections) is certainly a cause, and that it may be the only one is shown by the occasional manifestation of the symptoms from the time of birth. Climate is undoubtedly a most important factor. The atmosphere in large cities and for miles around is laden, more or less, with irritating ingredients—particles of carbon, acrid fumes, &c.—and the constant passage of these impurities over these tissues so sensitive to stimulation is sufficient in itself to produce over-growth. Add to this a winter climate—though the word "winter" might almost be omitted—of rapid alternations of temperature, periods of cold winds, wet, fog, and gloom, with only occasional intervals of dryness and sunshine, and you have ideal conditions for the production of acute catarrhal inflammations—rhinitis, adenoiditis, and tonsillitis. Let only these attacks be repeated, or, above all, neglected, as is so often the case with the masses, and you soon have a chronic tonsillitis and adenoiditis with the inevitable hypertrophy as a sequel. A cold, moist climate, clay subsoil, &c., is a sufficiently exciting cause altogether apart from the effect of the vitiated air of large towns. Measles, scarlet fever, whooping-cough, and influenza are active exciting causes, the first symptoms often dating from one of these illnesses. Anterior nasal stenosis is considered by some authorities to be a predisposing and even an exciting cause of adenoids, but a careful examination of a very large number of children with adenoids sufficient to cause almost complete nasal stenosis has shown the nasal fossæ to be generally patent, and only stenosed anteriorly in cases where catarrh has been present as well. In fact, my observations have led me to the conclusion that anterior stenosis from turbinate congestion, &c., is either concurrent with an adenoiditis or a result rather than a cause of the hypertrophy. Deflections of the septum sufficient to cause anything like complete stenosis are very rare in children. To sum up, heredity, bad climate, bad hygiene, bad feeding, and neglected colds will account for the majority of cases.

The age at which the hypertrophy takes place, or rather causes symptoms requiring treatment, is shown by the following table of 1000 cases operated upon by me at the Birmingham Ear and Throat Hospital from Jan. 1st, 1899, to Jan. 15th, 1902—a little over three years. Of the 1000 cases 556 of the patients were females and 444 were males, and 816 were under and 184 were over 16 years of age. The youngest patient was 14 weeks old and the oldest was 36 years old.

Table of 1000 Cases of Hypertrophy Operated upon at the Birmingham Ear and Throat Hospital between Jan. 1st, 1899, and Jan. 15th, 1902.

Age.	Number.	Age.	Number.
In the first year	9	In the eleventh year ...	37
" second year	17	" twelfth year... ...	57
" third year	48	" thirteenth year ...	49
" fourth year	74	" fourteenth year ...	41
" fifth year	105	" fifteenth year ...	34
" sixth year	76	" sixteenth year ...	39
" seventh year... ...	71		
" eighth year	55		816
" ninth year	51	Over 16 years of age ...	184
" tenth year	53		
			1000

An analysis of the 816 cases among patients under 16 years of age shows that the greatest number were in their fifth year, those in their sixth, fourth, and seventh years ranking next. Considerably over one-third, therefore, of the 816 cases occurred in these four years.

Although in children enlarged tonsils are nearly always associated with adenoids it will be most convenient to consider the special characteristics, symptoms, and treatment of each separately.

The clinical importance of enlarged tonsils has been recognised for a great number of years, but symptoms were assigned to them which were in reality due to adenoids—then unknown. Consequently, tonsillotomy often failed to give more than partial relief and became to some extent discredited. Disappointed parents attributed to the operation the poor development of the thorax, the sexual organs, and mammæ in girls, and the tradition still lingers. An occasional protest against removal of the tonsils is still made on these grounds.

In size, shape, and consistence enlarged tonsils vary much, but they may be arranged in three groups: (1) where the hypertrophy is chiefly in the horizontal diameter—the projecting tonsil; (2) where the hypertrophy is chiefly in the vertical diameter—the elongated tonsil; and (3) where the hypertrophy is chiefly in the antero-posterior diameter—the broad sessile or flat tonsil. These types may, and often do, approach each other and are found in combination with one another, the most frequent being the elongated with the projecting. This occasionally has in exaggerated forms the appearance of a double tonsil. This is probably due to the persistence of the lower of the two furrows which, according to Killian,[1] are present at birth. Persistence of the upper furrow is more common and without careful examination its circular edge might be mistaken for the edge of an excavated ulcer.[2] The surface of the tonsils may be even and of a fairly normal aspect or ragged with large and irregular openings into the crypts. Very rarely it is papillated, as in these two tonsils removed from a girl, aged five years, where the surface is covered with projecting papillæ, some half an inch long, and presents an appearance that might be mistaken for multiple papillomata. The consistence may be normal, dense and fibrous, or soft and mushy, according to the predominance of the fibrous or lymphoid tissues. The older the patient the more fibrous the tissues, as a rule, but much depends on the occurrence and length of chronic inflammatory attacks. The secretion from the follicles may be caseating and retained in the crypts and recesses of the tonsils. The pillars of the fauces may from previous inflammatory attacks be more or less adherent and in marked cases almost blended with the tonsils, especially in the sessile variety.

The symptoms caused by enlarged tonsils may be classified as (1) obstructive, (2) catarrhal, and (3) reflex.

1. *Obstructive symptoms.*—The size alone of the tonsils may cause considerable mechanical trouble. Swallowing when the projecting tonsils are in apposition is rendered difficult—a special effort has to be made by the child to get the food out of his mouth and in extreme cases fluid only can be swallowed and that with difficulty. Under similar conditions buccal respiration is much impeded (a serious matter if nasal stenosis from adenoids coexists) and the voice is thick and indistinct. In some cases the palate is pressed upwards to such an extent that the action of the palato-tubal muscles is impeded and deafness results from imperfect middle-ear aeration.

2. *Catarrhal symptoms.*—The crypts and recesses, especially in those forms where lymphoid tissue predominates, are suitable places for the lodgment of the catarrh microbe—the pneumococcus and other micrococci akin to it—and form "centres" for catarrhal attacks. The microbe, probably ever present, waits only for some diminution of tissue resistance, such as an exposure to cold will produce, to exert its maleficence. The catarrh may either keep localised, causing tonsillitis and exaggerating or producing obstruction, or in those of less resisting power may extend to adenoids, if present, causing adenoiditis, and from there to the middle-ear or to the nasal cavities or downwards to the organs of respiration and digestion, according to the constitutional peculiarity or tendency of the individual. Owing to absorption of toxin generated by the catarrh microbe or the passage of the microbe itself through the lymphatics, the lymphatic glands corresponding to the tonsils (the upper set of the deep cervical group) often become inflamed and enlarged. In the slighter cases the glands enlarge during catarrhal attacks and subside with the disappearance of the catarrh. In others the glands do not disappear on the subsidence of the catarrh but remain distinctly enlarged and become larger and tender on pressure during every subsequent catarrhal attack but with little or no tendency to break down or to suppurate. In the more severe cases there is from the first a decided tendency for the glands to break-down and to suppurate. This variation is due to the difference in the resisting power of the individual and the intensity and amount of the toxin absorbed. Tonsillotomy prevents these attacks and if promptly done at the outset may arrest the progress towards suppuration. Glands, too, that have been enlarged for a considerable length of time often gradually diminish in size and disappear after tonsillotomy. The two following cases illustrate this and the possible arrest of suppuration.

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[1] Archiv für Laryngologie, vol. vii.

[2] Dundas Grant: Brit. Med. Jour., vol. ii., 1901.

Case 1.—The patient, a boy, aged 14 years, with a good family history, was seen on Nov. 5th, 1900, for enlargement of the right upper cervical glands of some years' duration, one of them being of the size of a small hen's egg, painless, but becoming larger during colds and tender to pressure. Treatment had been of no avail and tonsillotomy had been done at Cape Town. The right tonsil was, however, very large, with a ragged surface, the adenoids were in a similar condition, and patches of hypertrophied lymphoid tissue were scattered over the pharynx. Right tonsillotomy and removal of adenoids was advised and performed, and after recovery from the operation the pharyngeal patches were cauterised. This was followed by gradual diminution of the glands and the patient's mother reported on Feb. 17th, 1902, that they had completely disappeared.

This is an extreme case and it was a question at the time of operation if the glands should not then be excised but the mother wished to await the result of the simpler procedure and was much gratified at the result.

Case 2.—A healthy child, aged six years, living in the country, was seen on Nov. 22nd, 1900, for enlargement of the left upper cervical and parotid sets of glands—a sequel of a cold contracted a fortnight previously. Twelve months ago a similar condition happened on the right side and was followed by suppuration of the glands necessitating incisions. On the right the scars were well marked and one was adherent to a hard nodular gland. On the left side a mass of glands, tender when touched, formed a prominent swelling below the left ear and the angle of the jaw. Both the tonsils and adenoids were large and soft but were not inflamed. As no fluctuation could be detected a hope was held out that suppuration might be prevented by immediate tonsillotomy and curetting of the adenoids. This was done and in a few days there was a marked diminution in the swelling and in a fortnight it had practically disappeared, though a few of the glands remained slightly enlarged for a few months. The child was seen again a year later for a reopening of the scar over the nodular gland on the right side, but the left side remained perfectly well.

These enlarged glands have been, and, indeed, are now, often termed tuberculous, greatly to the alarm of the parents. That they are not tuberculous is probable by the absence of extension to neighbouring glands, by the absence of systemic infection, and most of all by the satisfactory result—in the great majority of cases—of treatment directed to the tonsils. I wish particularly to impress upon you that in those cases it is the tonsils and not the glands which need treatment.

3. *Reflex symptoms.*—The only reflex symptom that I have been able to attribute to enlarged tonsils is "cough." This may be short, dry, or hacking in character and almost constant, or occurring in paroxysms and distinctly spasmodic in character. It is difficult when "adenoids" are also present to say to which group the credit of the reflex should be given, but every now and then cases occur—such as the following—which seem to point definitely to the tonsils as a cause.

Case 3.—A boy, aged six and three-quarter years, was sent to me by Dr. Alexander Bryce on Sept 7th, 1900 The chief symptom complained of was "cough" which was frequent, croupy in character, and not benefited by treatment. The breathing was noisy at night. The tonsils—the left one especially—were enlarged and the surface of both was ragged. There were slight adenoids. I endorsed Dr Bryce's opinion that the tonsil condition was the cause of the cough and a few days later did tonsillotomy and curettement of adenoids, completely curing it.

Case 4.—A boy, aged five years, was sent to me by Dr. Tildesley on Sept. 18th, 1900, for constant hacking cough, worse at night and causing restlessness and disturbing sleep. There was no thoracic cause or nasal obstruction or deafness. Both tonsils were enlarged and were soft in consistence and there were slight adenoids. Tonsillotomy and curetting of adenoids was done on the following day and the cough rapidly got well.

The diagnosis is simple. The possibility of tonsillitis accounting for the whole or part of the symptoms must be kept in mind; the presence of febrile symptoms and the inflamed aspect of the tonsils will clear up this point. A thorough examination should in all cases be made, the surface and condition often being of more importance than the actual size. When the examination has been completed (which should include the buccal cavity, pharynx, nasopharynx, nose, ears, and lymphatic glands) the tongue depressor should be pressed backwards until the child retches; this brings the tonsils into relief and, especially in the flat forms, shows their full extent and condition.

The treatment resolves itself into the question of operation or not. The fact that the tonsils project a little more than is usual does not render tonsillotomy either necessary or advisable. It should be undertaken solely for the relief of some definite symptom or symptoms which cannot be satisfactorily treated by other means.

I consider operative treatment necessary when the tonsils are so large that they mechanically cause some obstructive symptom, even if otherwise healthy—when they are the centres for frequent or prolonged catarrhal attacks or acute inflammatory attacks, when they are the cause of lymphadenitis; when the crypts and recesses are filled with caseating secretion which does not yield to treatment; when they are the probable cause of a troublesome reflex cough. I consider it advisable when an adenoid operation is necessary even if the hypertrophy is not very marked

The operation of tonsillotomy in children is now seldom performed except under an anæsthetic and in conjunction with an adenoid operation The question of the anæsthetic, therefore, will be dealt with when the latter question is considered. Tonsillotomy alone may, however, be necessary in older children. Then local anæsthesia induced by applying a 10 per cent solution of cocaine or eucaine is all that is needed, but if the child is nervous and sensitive nitrous oxide gas may be employed and will give ample time.

Various methods have been devised for the removal of the enlarged tonsils—a blunt-pointed bistoury and vulsellum forceps were used in early times and are still by some surgeons. The operator stands in front of the patient, seizes the left tonsil with the vulsellum forceps which are held in the left hand, and draws it towards the middle line and removes as much tonsil as possible by cutting upwards with the bistoury If the surgeon is ambidextrous the right tonsil may be removed in a similar manner, the forceps now being held in the right hand; but if not ambidextrous it will be necessary for him to stand behind the patient. For a tractable child with projecting tonsils this method may be satisfactory, but the combination is not a common one and doubtless it was to overcome this difficulty that guillotines were invented. The earliest forms were very ingenious and consisted of a concealed ring knife and a transfixing spear, so attached that the tonsil was levered inwards whilst the ring knife cut through it. I am under the impression that the credit of this inception should be given to a French surgeon named Matthieu. His name is still associated with the instrument, although there have been many modifications with many names attached to them—Luer, Bosking, &c. To the late Sir Morell Mackenzie we owe the introduction of the spade guillotine and this type, though modified in many ways, and not always to the improvement of the instrument, has nearly displaced the French one. It is simple in construction and can be used with the patient in any position and with or without light. If properly used no difficulty will be found in removing the greater part even of the flat forms of tonsils. In my own practice I always use Mackenzie's pattern, from five to six inches in length, and with a well balanced metal handle. The method of using it is all important If the patient is in the sitting posture the head must be steadied by an assistant who must make steady pressure just beneath and behind the angle of the lower maxilla at the time of the removal of the tonsil The operator should stand in front of the patient for the removal of the left tonsil, to the right and slightly behind for the removal of the right tonsil, unless he is ambidextrous or has a reversible handle to the guillotine. The guillotine should be warmed by dipping it in hot water The first step is the proper engagement of the tonsil and here care must be taken to first encircle the lower edge. The second step is to press firmly the guillotine outwards and the third to press sharply home the blade with the thumb. These movements though distinct should be performed almost as one—steadily but rapidly

The causes of inefficient removal or failure are due generally to a non-recognition of the first two movements and to the use of too large a guillotine, or more rarely to adhesions between the tonsils and the pillars of the fauces preventing proper engagement with the guillotine. When this latter is the case it is sometimes necessary to separate the adhesions prior to tonsillotomy. After removal the severed tonsil generally adheres to the guillotine and very seldom gives trouble by falling into the patient's pharynx.

even in the lying down position. If the patient is in this latter position both tonsils can be removed by the operator standing on the right side or behind the head for the removal of the right tonsil if he prefer. If the patient is under an anæsthetic a gag must be used and it may be necessary to change it to the other side of the mouth after the removal of the first tonsil. If, however, it is carefully placed and managed by an anæsthetist who has had experience in these cases the change is seldom required. In a combined tonsil and adenoid operation the question arises which should be first removed. This depends upon the size of the tonsils; if these are so large that they would interfere with the free exit of the curette or other instrument with the adenoids they must be operated upon first, but if not it is better first to remove the adenoids.

After the operation no portion of tonsil should be seen projecting beyond the pillars of the fauces—preferably there should be a distinct hollow. Removal of a superficial slice is not enough; the greater part of the enlarged tonsil must be removed, a small pad only being left. It has happened to me on three or four occasions to enucleate completely a tonsil with the guillotine, the blade—probably not over-sharp—slipping over a convex surface not so embedded as usual. I have not known of any detriment following this, such as lodgment of particles of food in the hollow left, injury to the internal carotid by a sharp fish or other bone caught between the pillars of the fauces, or undue approximation of the pillars of the fauces. These are possible consequences and to obviate them a small pad of tonsil tissue should be left.

Other methods of operation—viz., with tonsil scissors, the cold wire snare, the écraseur, the galvano-cautery snare, morcellement, and crushing—may be occasionally advisable in adults, but as yet I have not found it necessary to adopt any of them in children. In a few cases in older children I have, when tonsillotomy has been much dreaded by anxious parents, employed ignipuncture with the galvano cautery. A straight point is used and inserted into the substance of the tonsils, previously well cocained, at a bright red heat. It is not advisable to make more than two punctures at one sitting and usually three or four in all will suffice to achieve the desired result.

The risks of a well-performed tonsillotomy are practically *nil*. It is impossible to wound the internal carotid artery either with a guillotine or with a blunt pointed bistoury if ordinary care be used (a sharp-pointed one should never be used). The immediate hæmorrhage is at times free, especially if the whole of the tonsil is by any chance enucleated, but it generally ceases of itself, and I have never yet had occasion to tie a vessel or ever had any anxiety about it. Recurrent hæmorrhage—that is to say, hæmorrhage occurring within the first 24 hours after operation—is more serious; a large quantity of blood may be swallowed before the patient or the nurse is cognisant of it; in one or two instances I have known it continue to syncope before medical assistance could be obtained.

The first step in the treatment is to ascertain exactly the origin of the hæmorrhage, whether it is from a single vessel, in one or both tonsils, or a general oozing from one or both. If the former a pair of Spencer Wells forceps should be clamped on and left *in situ*, but I have never had occasion to do this in the case of children. If caused by a general oozing the bleeding surface should be well swabbed with adrenalin solution and chloride of calcium in from 5 to 10 grain doses, according to the age of the patient, should be given every hour until the bleeding stops. If the application of adrenalin does not suffice firm pressure should be made over the bleeding stump with a pad of lint, with or without adrenalin, and kept in position either by the finger or a pair of forceps, but I rely much on the calcium chloride. In one case where there was a distinct hæmophilic history I gave it for some days prior to the operation with a very satisfactory result and I now frequently give it to adults beforehand as a precautionary measure.

True secondary hæmorrhage is rare but it does occasionally take place even as late as the sixth day from the opening up of a small vessel during the separation of a slough. The following cases are illustrative of recurring and secondary hæmorrhage.

CASE 5.—The patient, a boy, aged 11 years, was operated upon at home on Sept. 8th, 1896, at 9.15 A.M., for much enlarged tonsils causing obstructive symptoms and for slight adenoids. Dr. G. Elkington and Dr. H. S. Wilson were associated with me in the case. Chloroform was given by the open method. There was less bleeding than usual at the time of operation although there was a predominance of fibrous tissue in the tonsil structure. The patient was carried back to bed and was kept very quiet all day. About 8 P.M., almost 11 hours after the operation, he commenced to swallow somewhat frequently and at 8.30 P.M. Dr. Wilson saw that blood was coming from the tonsils and applied a concentrated solution of tannin. This, however, did not prove effectual, as about 11 P.M. he vomited a large quantity of almost pure blood, certainly not less than two pints. A solution of perchloride of iron was now applied and the bleeding apparently ceased, the boy being blanched and almost in a state of syncope. I was sent for, but when I saw him at 2.30 A.M. the bleeding had ceased, the tonsils being coated with blood-clot and iron. The pulse-rate was 150 and barely countable. I remained in the house the rest of the night in case of need but there was no return of the hæmorrhage. His pulse-rate 24 hours later had fallen to 85 and he made a slow but good recovery.

CASE 6.—A boy, aged 14 years, overgrown and very stout and flabby-tissued, came to me on Nov. 9th, 1900, for removal of adenoids and enlarged tonsils, which were causing marked nasal obstruction and catarrhal trouble. The operation was performed in a private hospital. The bleeding was profuse at the time of the operation but soon ceased. He was carried carefully back to bed and his throat again examined but there was no sign of hæmorrhage. Some two hours later, however, profuse hæmorrhage set in; the blood was swallowed and vomited and a good deal came freely through the mouth and nose. I was summoned and found him blanched, almost pulseless, with sighing respiration, and still bleeding; this I found to be a general oozing from the tonsils. Suprarenal liquid with chloretone was thoroughly applied to the oozing surface, 10 grains of chloride of calcium were given every hour, and a saline enema was slowly administered. Bleeding soon ceased and did not recur and the boy made a good recovery. Had I to operate on a similar tissued boy I should now certainly give him a preliminary course of calcium chloride.

CASE 7.—A delicate girl, aged 11 years, was operated upon at home on Sept. 5th, 1900, in coöperation with Dr. F. W. Underhill, for enlarged tonsils and adenoids, causing right suppurative otitis media, cervical adenitis, and frequent catarrhal attacks. Nothing unusual occurred at the time of the operation, but Dr. Underhill noticed that subsequently the tonsil surface was more sloughy than was that of her brother who was operated upon at the same time. On the sixth day after the operation, as the weather was warm and sunny, the patient was out in the garden, running about, I expect, when she felt ill and faint. She came in and vomited a large quantity of blood; she was put to bed at once but vomiting and spitting out of blood continued. Messengers were sent for medical assistance and I was summoned. Before anyone arrived the child had bled to syncope and the hæmorrhage had ceased. I found her lying pallid and almost exsanguine. On examination a firm, adherent blood-clot was seen over the surface of the right tonsil and this I did not deem it advisable to remove. I ordered calcium chloride and made arrangements to be available in case of recurrence. Fortunately this did not happen and she made a good recovery, though for some time she was very anæmic. The hæmorrhage was clearly due to the separation of a slough opening up a small vessel.

Another risk, also a small one, is sepsis, with its probable complication septic pneumonia. It is impossible to sterilise the patient's throat prior to operation but possible sources of infection, such as carious teeth, alveolar abscess, &c., should be looked for and removed. Instruments can be and should be sterilised and the surgeon's hands rendered as aseptic as possible. Sponges, if used, should receive the most careful cleansing and sterilising; personally, I never use them but employ a swab of cotton lint wrung out of hot water for what mopping out is needed.

The patient's condition at the time of operation is also important. The operation is one of election and a time should be chosen when the patient is well and free from any febrile condition—when his tissues are in a fairly good state of resistance. The better his resisting powers the smaller the risk of sepsis. It need hardly be said, too, that the patient should be placed in the best hygienic surroundings that his circumstances will admit.

The treatment after operation is simple. The essentials are: (1) avoidance of exertion immediately afterwards (a fertile cause of recurrent hæmorrhage); (2) an equable temperature during the healing process (to prevent catarrhal attacks); (3) suitable diet; and (4) the use of a cleansing wash. The operation should therefore be performed at home or in a hospital and the child should be put straight to bed afterwards in a warm room and kept there for at least three days and indoors the rest of the week unless the weather is exceptionally warm. Nothing hot or hard should be given; the first day sterilised milk only—cold or lukewarm; slop diet the next two days; then if the child is doing well ordinary light diet. If the throat is very painful when swallowing one-twelfth of a grain of cocaine lozenge may be given before meals or the throat may be sprayed with a weak cocaine solution, but this is seldom needed. After food the mouth and throat should be washed out or sprayed with an alkaline antiseptic solution.

Should sepsis happen an examination will show the stumps of the tonsils covered with an ashy grey slough. The parts which surround the palate, uvula, and pillars of the fauces will be red, swollen, and flecked with whitish patches, the tongue will be furred, and the breath offensive, the cervical glands will be painful and enlarged, the throat will be painful, especially on movements of deglutition, febrile symptoms will be marked, and possibly ushered in with a slight rigor. When this happens a full dose of calomel should be given at once and after its action quinine or perchloride of iron. If the child is old enough and able to gargle the mouth and throat should be frequently washed out with an alkaline antiseptic wash, such as borax, chlorate of potash and thymol, or with solution of chlorine. If the child is unable to gargle the throat should be frequently sprayed with a similar solution and iodoform or one of its odourless substitutes insufflated over the sloughy surface. The strength of the child must be maintained by good nursing and feeding and a careful watch should be kept for any lung or other complications. A sloughy surface is often present in delicate children but without any spreading inflammation or febrile symptoms, and it clears gradually without special treatment as the healing progresses, and can hardly be called septic. Whenever sloughing occurs there is the possibility of secondary hæmorrhage during the separation process.

In the slighter cases where operation is not needed, and in the few that for some reason or other operation is inadvisable, local and constitutional treatment should be instituted; cleansing gargles or sprays should be used, followed by the application of astringents, glycerine and tannic acid, hydrastis, &c., and iodine and iron, cod-liver oil, malt, and hypophosphites should be given internally. A long stay at the seaside or in the country often brings about a remarkable change for the better.

[A number of illustrative specimens and instruments were shown at the end of the lecture.]

CONCERNING INJURIOUS CONSTITUENTS IN WHISKY AND THEIR RELATION TO FLAVOUR.

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Some 18 months ago in these columns[1] we drew attention to the physiological action of furfural, a universal constituent of both raw and matured pot-still whisky, and also to the apparently different physiological effects of whisky containing and freed from aldehydes. Since then the successful application on the large scale of a method, indicated in our last communication, for removing the aldehydes from whisky during distillation has brought this subject prominently before pharmacologists and chemists. We therefore think that it will be not without interest to enter somewhat more fully into the probable effects of removing the aldehydes and the higher alcohols from whisky than was possible in our last article. More especially is this the case since it must now be regarded as established that *at least some* of the raw and offensive smell and taste of freshly distilled whisky are due to its aldehydes. The knowledge of this fact is directly due to our original investigations, and although these were initiated from a purely pharmacological standpoint, this by-result—viz., the effect upon the flavour of raw whisky of the removal of the aldehydes—is likely to be of practical importance.

As is well known, the whisky that is generally sold to-day is blended whisky—that is, a mixture of spirits of various kinds. Blending consists essentially of mixing whisky derived entirely from malt and made in a pot-still, often of very varying age, with so-called silent spirit, or spirit obtained by the fermentation of various materials and the distillation of the subsequent wort, this latter usually being accomplished in a Coffey-still—i.e., in a still provided with a rectifying column. Silent spirit is cheaper than pure malt whisky not only on account of the materials from which the former is produced but also because it requires less maturing.[2] Whisky, on the other hand, derived from malt and made in a pot-still is when raw a very nauseating and foul-smelling liquid. Upon being kept in wood for varying periods of time it becomes changed in character, the irritating smell and disagreeable taste disappearing and the spirit assuming, according to its original properties, a more or less marked bouquet. By suitably blending these two varieties of whisky the trade are able to produce a drinkable article at a relatively cheap price. The alcohol percentage is rendered more or less constant by dilution with water and the colour of the liquid is brought up to a uniform artificial tint by means of caramel or some other suitable agent.

From this very superficial sketch it will be evident that whisky can only very rarely be strictly termed pure, consisting, as it does, of a drink the basis of which is generally pure whisky, this latter being artificially doctored to suit the public taste and the distiller's pocket. It is essential to bear this in mind because an improvement by chemical means of the manufacture of whisky is apt on account of its title to create prejudice; this should not be so since subsequently to fermentation the whole manufacture of whisky, whether in pot-still or in Coffey-still, is essentially a chemical process, and if the chemistry of it cannot at the present time be followed step by step it is due in no small degree to the fact that the employés in distilleries are neither chemists themselves nor are they in the majority of cases even directed by chemists. When chemical knowledge has eventually permeated into the distilleries in the Highlands then we shall certainly know more of the minute chemistry of whisky than we do now.

In its essentially chemical character whisky differs at once from wine: a wine can go on "living" long after it is laid in the winebin, can live and change even up to the time it is poured into its penultimate resting-place—the wineglass of the consumer. In the ageing of wine we have biological and chemical processes to consider, in the maturing of whisky chemical and chemico-physical ones. Wine-producers have never hesitated to utilise all that physics, chemistry, and biology can do for them, champagne is frozen and wines are pasteurised and, if need be, sugared or plastered; the manufacture of whisky stands still, and distillers exorcising any improved method with the epithet "doctor" view with mistrust any technique other than the one adopted by their forefathers.

There are, however, other reasons more cogent than the above why any process for the improved manufacture of whisky should be welcomed by pharmacologists and, indeed, hygienists. It has been pointed out on many occasions that whisky is by no means free from injurious constituents other than alcohol. It is also true that whisky is not simply alcohol but differs very considerably from it, at least in taste. Whether it differs also pharmacologically is not so clear. There is no doubt that wines influence digestion according to their acidity, bouquet, &c., but this has not been shown with regard to whisky.[3] That the effect of whisky upon the system is simply that of its ethyl alcoholic content is perhaps not strictly true, though there is very considerable physiological evidence in favour of this thesis. Be this as it may, we all prefer, at least all whisky-drinkers, whisky to correspondingly diluted ethylic alcohol. The difference between the two is essentially one of so called by-products. It is also to the class of by-products that the injurious constituents of whisky belong. It is true that these substances are present in very small quantities. Our information, however, upon this point is largely derived from German sources. In Germany pot-stills are practically non-existent, and it is to whisky produced in these stills that our remarks especially refer.

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[1] The Lancet, Dec. 8th, 1900, p. 1643.

[2] The amount of maturation required by silent spirit before it is fit for blending varies. The rectifying column is theoretically supposed to keep back from the distillate all substances boiling above 78° C. As the whole operation is conducted under considerable pressure this theoretical result is not always accurately attained. The usual rectifying apparatus seems to be more efficient in removing higher alcohols, &c., than in getting rid of some of the lower boiling point impurities; thus acetic aldehyde can generally be detected in patent still spirit but furfural with its boiling point of 162° is most rarely if ever present.

[3] Chittenden and his collaborators have made many experiments upon this subject. Their earlier experiments were made upon digestions in vitro and showed that in so far as whisky was concerned the only instance in which it differed materially from ethylic alcohol was in its influence upon pancreatic digestion. Here it exerted a marked inhibitive action, much greater than that produced by ethylic alcohol

That whisky does contain injurious substances other than ethylic alcohol is shown by the sudden death of an employé in a West of England distillery. This unfortunate man died suddenly after imbibing a quantity of "feints." A post-mortem examination revealed the fact that his stomach contents had a similar odour to amyl nitrite. Although there was no evidence of the chronic effects of alcohol upon the liver, &c., there was evidence of acute irritant poisoning. The medical man who reported the case inferred that death was probably due to amylic alcohol.[4] A sensation of throbbing and headache was recently experienced by one of the authors of this paper and others upon inhaling the vapour arising from the low-wines and feints in a pure malt whisky distillery.

If, then, certain of the by-products of whisky are injurious to the consumer the question naturally arises, Are these individual by-products necessary? If this question be answered in the negative the conclusion which must be drawn is that whisky would be much better without them. This matter is of further interest in that at least one of the assumed effects of maturation is to diminish the amount of these substances present. From this it follows that any improved method for the manufacture of whisky which prevents the formation of these substances or at least keeps them out of the finished product performs one of the functions of maturation. At the present time there is, however, some difference of opinion as to to what class of chemical substances the injurious constituents of whisky belong and as to the precise relation between them and those substances which give to whisky its characteristic and agreeable flavour. Many observers have shown that iso-amylic alcohol, the main constituent of the so-called fusel oil, is much more poisonous than ordinary ethylic alcohol. Analytical results, although discrepant,[5] point to the conclusion that the quantity of fusel oil in matured spirit is considerably less than that in the raw substance. Coincidently with this diminution in fusel oil during maturation the flavour of the whisky improves. The taste of fusel oil itself when suitably diluted is not, however, unpleasant and this substance is actually used for the purpose of giving a whisky taste to silent spirit. The amount of fusel oil calculated as amylic alcohol present in whisky, whether raw or matured, is practically always under 0·1 per cent., and it thus follows that although these higher alcohols are much more poisonous than ethylic alcohol, yet nevertheless in the quantities present they would under ordinary circumstances hardly affect to an appreciable degree the action of the spirit.[6] However, if they are not necessary whisky is better without them.

Acting upon the above assumption many attempts have been made to remove fusel oil from raw whisky. It is to be noted that these attempts have all been directed specifically to the fusel oil itself, although it is more than probable that certain other constituents to be considered below though not aimed at have been affected by these processes. The rationale of certainly the earlier of these processes has been to obtain rapidly that oxidation which is supposed, upon not very certain grounds, to take place gradually during so-called "natural" maturation. This artificial oxidation has been brought about by very varying methods, all of which, however, have not only promoted—as, indeed, does natural maturation—oxidation *per se* but also evaporation. It must be noted here that in the evaporation of a complicated liquid like whisky those substances will have the greatest tendency to escape which have the lowest boiling-point. The higher alcohols do not possess this property. Nevertheless, however high the boiling point of a given constituent of whisky may be some of it will escape. Under these circumstances it is difficult in judging of these artificial maturation processes, as indeed of so-called natural maturation, to know how much of the effect to ascribe to evaporation and how much to oxidation.[7] Recently, however, a process for the artificial maturation of whisky, primarily intended for the removal of fusel oil, has been patented which certainly owes its result entirely to forced evaporation. This process is certainly as successful, if not more so, than those combining evaporation with oxidation. We have had especial facilities of examining the product of this last-named process and there is no doubt that by means of it raw whisky is deprived in the course of half an hour or so of its raw and offensive smell. Analyses of the treated spirits show that the greatest change which they have undergone is a diminution in their fusel oil content.

If, however, we come to examine this so-called defuselised whisky we find that it approaches more or less closely to silent spirit, that is, pure ethylic alcohol, in character. In other words, the spirit has by the process lost some of the essential attributes of whisky. This fact leads us to a consideration of the relation between the higher alcohols and the bouquet-giving constituents of whisky. That there is a relation between these two sets of bodies is practically universally admitted since there is strong evidence that the alcoholic constituents of fusel oil, amylic, propylic, and butylic alcohols are largely concerned in the production of the compound ethers which have actually been isolated from whisky or old whisky casks. Valeric ether is one of the few bouquet-giving substances which has actually been obtained from grog.[8] Another substance having the aroma of jargonelle pears is butyric acetate. This is produced from butyric alcohol and acetic acid, the latter being formed by the oxidation of ethylic alcohol, either in the fermenting back or subsequently.[9]

It must not be assumed; however, that the substances above named are the only ones to which the flavour of good old whisky is due. Rich malt whisky when perfectly raw contains free acids of the fatty series and also compound ethers. There is further analytical evidence to show that the actual development of compound ethers in the cask during maturation is slight;[10] in other words, that it is the compound ethers which were originally present that bestow upon the matured whisky its eventual flavour. If we accept this view we must assume that the maturation of whisky consists not so much in a process characterised by the development through oxidation of bouquet-giving substances as in the disappearance or change in the nature of bodies which mask the flavour of the compound ethers originally present. One fact seems quite certain—viz., that a whisky originally poor in fatty acids and compound ethers never develops into a full-bodied whisky.

Another class of compounds present in whisky both raw and matured and which have up to the present attracted but little attention are the aldehydes. The most recent process invented for the improvement of whisky manufacture consists in the extraction, by chemical means, of the aldehydes from the low wines. This is done by transforming them into hydrazones. These substances being non-volatile do not pass over upon the subsequent distillation of the

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of the same strength. According to these observers, however, subsequent experiments made *in vivo* showed that the above experiments *in vitro* had not much practical value. *In vivo* whisky behaved practically identically with ethylic alcohol of the same strength.—Vide Chittenden and others. American Journal of Medical Sciences, 1896, January–April, pp. 35, 163, 314, 431, also American Journal of Physiology, 1898, vol. i., p. 164.

[4] Swain: Brit. Med. Jour., 1891, vol. i., p 903. It must be, however, noted with regard to this death that the "feints" consumed undoubtedly contained aldehydes, and that the poisonous nature of the aldehydes was apparently unknown to the author. The inclusion in this paper of an explanation of technical terms would render it too long; the reader is referred on this subject to, *inter alia*, the following.—Allen, Commercial Organic Analysis, vol i., Matthews, Alcoholic Fermentation; and Moercke, Handbuch der Spiritus Fabrication.

[5] Allen · Evidence before Select Committee, 1891. Also Bell Evidence before same Committee.

[6] In some analyses at present unpublished and made while this paper was passing through the press, the percentage of higher alcohols reached 0·25 per cent.

[7] These considerations are especially of interest with regard to furfural or the compound ethers. Furfural boils at 162°, ethyl acetate at 73° (lower than ethylic alcohol), and amyl acetate at 137° (*vide infra*).

[8] Lindet: Comptes Rendus, cxii., 102. Allen. Organic Commercial Analysis, vol. i., p. 149.

[9] Another consideration which should not be neglected in this connexion is that these higher alcohols are biological as distinguished from chemical products. They are produced in the fermentation backs at the end of fermentation and probably depend for their origin chiefly upon those conditions of yeast life occurring as a consequence of the disappearance of the sugar. Further, the species of ferment used seems to affect the character of the higher alcohols produced.

[10] Bell: Loc. cit.

dical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

(7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. as's (3.30 P.M.), St. George's (3 P.M.), St. Mary's (2.30 P.M.), sex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), itan (Gynæcological, by Physicians, 2 P.M.), Soho-square .), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), thern Central (2.30 P.M.) West London (2.30 P.M.), London (2 P.M.).

(8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St 's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), West- (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (9th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (10th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.). West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (12th).—Royal Free (9 A.M. and 2 P.M.), London (2 P.M.) Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (8th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. F. J. Poynton and Dr. A. Paine: A Contribution to the Study of Malignant Endocarditis.—Dr. W. Ewart and Mr A. S. Morley: The Possibility of Recovery from the Active Stage of Malignant Endocarditis (illustrated by cases and specimens)

WEDNESDAY (9th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Demonstration of Cases of Interest.

HUNTERIAN SOCIETY (London Institution, Finsbury Circus, E.C.).—8.30 P.M. Clinical Evening.

THURSDAY (10th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—Specimens will be shown by Dr. H. M. Jones. Paper:—Dr. H. Croom: The Secondary Aspects of Deciduoma Malignum.

HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Papers:—Dr. R. Bowles: The Practical Treatment of Functional Vasomotor Disturbances.—Mr R. Johnson: Some Points in the Treatment of Tuberculous Disease of the Knee.

FRIDAY (11th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. T. Carwardine: Cases illustrating the Mode of Origin of certain Cysts of the Neck.—Dr. W. J. Tyson: Case of Intestinal Obstruction due to Embolism of a Branch of the Superior Mesenteric Artery.—Mr A. E. Barker: Cerebellar Abscess with Sudden Paralysis of the Respiratory Centres.—Mr. H. L. Barnard: The Simulation of Acute Peritonitis by Pleuro-pneumonic Disease.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Dr. W. Wingrave, Dr. W. H. Kelson, Dr. StClair Thomson, Mr. A. H. Cheatle, Dr. Lack and others.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH (9, Adelphi terrace, Strand, W.C.)—7.30 P.M. Discussion on the Tenure of Office of Medical Officers of Health.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (7th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. M. H. MacLeod: Clinique. (Skin.)

ROYAL INSTITUTION OF GREAT BRITAIN.—5 P.M. General Monthly Meeting.

TUESDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Taylor: [illegible] (Medical.)

WEDNESDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. [illegible] Clinique. (Surgical.)

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Discussion on the Prevention of Malaria (opened by Dr. P. Manson).

THURSDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

FRIDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. R. Lake: Clinique. (Ear.)

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low wines; by this means the raw whisky is rendered entirely free from aldehydic bodies. The interesting point of this process is that by means of it only the aldehydes and the acetals (compounds of the aldehydes with alcohols) are removed; the higher alcohols, fatty acids and compound ethers are left intact. Raw whisky treated in this way loses practically entirely its pungent and irritating taste and smell. This fact must lead us to reconsider the view which has been up to the present universally adopted—viz., that the characteristic smell and taste of raw whisky are due to the higher alcohols. This obviously cannot be so, as the new whisky produced in the above manner—i.e., from dealdehyded low wines—although containing the higher alcohols has no pungent taste or flavour. We must, therefore, now ascribe the pungency of raw whisky either to aldehydes or to acetals.

Concerning the actual aldehydes present in whisky either raw or matured very little is known, until quite recently no accurate method of estimating them has been available. Concerning their amount it may be said that as much as 20 milligrammes of aldehydes have been found in 100 cubic centimetres of German Branntwein.[11] One aldehyde, however, furfural, has for a long time attracted the attention of chemists and pharmacologists. The reason for this most probably is that this substance gives a very delicate colour reaction by means of which its presence even in the most minute traces can easily be detected.[12]

Furfural in dilute solutions has a taste which is not unpleasant and resembles that of benzaldehyde. This latter substance has a taste of bitter almonds and is constantly used for flavouring liqueurs and artificially concocted brandies and other spirits. Benzaldehyde is distinctly poisonous and its use for this purpose is not to be recommended. Furfural has been the subject of a good deal of pharmacological work.[13] It is about 50 times as poisonous as ordinary ethylic alcohol and gives rise in adequate quantities to epileptiform convulsions, general muscular paralysis ending in paralysis of the respiratory muscles, and death. In the body furfural is oxidised to pyromucic acid, which substance is physiologically inactive. The symptoms to which furfural gives rise are practically the same in all animals, but with regard to dose pigeons seem most susceptible to its action. In the higher animals when given on an empty stomach it is absorbed almost as rapidly as when injected sub cutem and it gives rise to complete paralysis of voluntary movement. As the animal recovers from this epileptiform convulsions appear. These convulsions are probably due to irritation of the cortical motor centres and are thus brought into line with those caused by one of the constituents of absinthe. The exact origin of these convulsions is a matter of interest in that, speaking generally, drugs stimulating the cortical motor centres stimulate also the psychical centres. For instance, cocaine and belladonna exert a marked stimulating action upon the cortical motor centres, the effect, however, not extending to convulsions but manifesting itself in restlessness. In larger doses both these drugs, especially belladonna, give rise to a mental condition characterised by mania of a very restless kind. Profound restlessness often follows the consumption of spirits and is difficult to explain simply as the result of ethylic alcohol. It is, further, a fact well known to alienists that epileptic mania, one of the most dangerous forms of mania of which we have any cognisance, often alternates in epileptics with true epileptic convulsions. The relation between mania and convulsions is tersely expressed by a leading alienist in adopting the term "ideational convulsion" for the former. Pure ethylic alcohol, so far as we know, causes neither mania nor convulsions. The class of bodies which we are now considering—viz., aldehydes—do universally cause convulsions, and there is also evidence that at least one aldehyde—viz., furfural—gives rise to great cerebral excitement, animals to whom it had been administered becoming possessed with "a kind of sad fury."[14] The fact that different kinds of alcoholic drinks produce when freely imbibed different mental states—gay, sad, maudlin, &c.—also points to the conclusion that it is probably the by-products contained in spirituous drinks, rather than the ethylic alcohol itself, which give the special timbre to the mentation of the drinker or drunkard.

These considerations are of some ethical interest in that crimes in public-houses, or, at any rate, committed by persons in the initial stages of alcoholic poisoning, are by no means infrequent. These crimes have two peculiarities: they are generally motiveless, at least when judged by the standard of the sane, and they are committed by persons who have taken sufficient drink to affect their minds but not enough to paralyse their muscles. This latter fact shows that the actual amount of alcohol consumed has not been great. The crimes seem to have been committed under the influence of some mental aberration. We know that alcohol paralyses control and therefore it is conceivable that supposing a man had a grudge against his neighbour, although he might normally be able by exercising control to keep his hands off him, yet if he took a glass of pure alcohol and then found himself in the same public-house with the obnoxious acquaintance the alcohol would have so paralysed his control that he would proceed to attack the object of his dislike. The case, however, is quite different when, as sometimes happens, the two combatants were until the liquor was drunk apparently the best of friends and then suddenly under the influence of distorted imagination fell upon one another, often with the most disastrous results. When arraigned before the magistrate the next morning the excuse made by the prisoner for his conduct is that he was under the influence of drink. He was, but we very much doubt whether he was under the influence of ethylic alcohol.

With regard to the presence in whisky of aldehydes other than furfural and their physiological action very little is known. Ordinary aldehyde was found in a 25 years' old brandy to the extent of 0·0003 per cent.[15] Compound ethers, chiefly ethyl acetate, were present in the same brandy to the amount of 0·042 per cent. Acetic aldehyde (CH_3COH) has physiologically an irritant action upon all the mucous membranes and when absorbed causes, first irritation of the central nervous system and subsequently complete anæsthesia. Death takes place from asphyxia due to respiratory failure. Another aldehyde present in raw spirit is croton aldehyde.[16] This substance is also poisonous and when taken in approximately the same quantities as furfural causes great irritation and strong tremors. These tremors are of interest with regard to the work of Sten Stenberg[17] who investigated the difference between the acute alcoholic intoxications produced by raw potato spirit, potato spirit purified by being filtered through charcoal, and pure ethylic alcohol. All the liquids given contained equal quantities of ethylic alcohol, so, therefore, the difference between them was presumably simply one of by-products. The difference in the symptoms produced was not great; it was *a priori* to be expected that it would not be. Nevertheless it is evident from the experimental protocols, though apparently unnoticed by the investigator himself, that the occurrence of tremors was more common in the case of the raw potato spirit and the potato spirit purified by means of charcoal than in that of the pure ethylic alcohol. Experiments made recently[18] upon acute alcoholic intoxication by means of ordinary and dealdehyded spirit have shown that the return from the state of intoxication to the normal is different in the two cases, being in the case of the spirit containing aldehydes longer and accompanied by secondary symptoms—e.g., refusal of food, restlessness, and bad temper.

These specific facts, taken into consideration with the general physiologico-chemical properties of the aldehydes, especially their tendency to form compounds with proteids differing essentially from the original substances[19] and the fact that even if taken in doses apparently incapable of producing symptoms they are oxidised in the body to acids and thus diminishing the alkalinity of the blood tend to produce the phenomena of acid intoxication, certainly lead us to the conclusion that if they are not necessary for the production of whisky they are much better out of it.

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[11] Kunkel: Handbuch der Toxicologie, vol. i., p. 423.

[12] Lauder Brunton and Tunnicliffe: THE LANCET, Dec. 8th, 1900, p. 1643. It is interesting to note that this colour reaction was formerly taken as indicative of fusel oil.

[13] Curci: Ricerche Farmacologiche sulla Serie Furfurica, reprint from La Terapia Moderna. Lauder Brunton and Tunnicliffe: loc. cit. Cohn: Archiv für Experimentelle Pathologie und Pharmacologie, xxxi., p. 40. Lepine: Comptes Rendus de la Société de Biologie. Jeffrey and Serveaux: Archives de Médecine Expérimentales, 189[illegible], p. 185. Laborde: Bulletin de l'Académie de Médecine, xx., 1888; N 40, p. 170; N 42, p. 626. Daremberg: Bulletin de l'Académie, 1885, iv.; No 41, p. 332.

[14] Curci, quoted by Lauder Brunton (evidence before Select Committee, 1891).

[15] Ordonneau: Comptes Rendus, cili., 217, quoted by Allen: Organic Commercial Analysis, vol. i., p. 113.

[16] Kunkel: loc. cit., vol. i., p. [illegible]

[17] Archiv für Experimentelle Pathologie und Pharmakologie, [illegible], p. 345 et seq.

[18] Lauder Brunton and Tunnicliffe: loc. cit.

[19] [illegible] literature of this subject vide Tunnicliffe and [illegible] the Influence of Formic Aldehyde upon the Metabolism of [illegible] Journal of Hygiene, July, 1901.

This leads us to a discussion of the manner and the extent of the relationship, if any, between the aldehydes and the bouquet-giving substances in whisky. It must first of all be noted in this connexion that whisky produced from de-aldehyded low wines will be freed from both aldehydes and also acetals. It behoves us, therefore, to consider the probable effect upon the ultimate bouquet of whisky of the removal of both these classes of bodies. There can be no doubt concerning the effect of this treatment of the low wines upon the immediate taste of the whisky. Instead of the whisky appearing as a nauseating and irritant liquid it occurs certainly as an inoffensive drink. Alhehydes as such, speaking generally, are not possessed of an agreeable flavour. The lower aldehydes are, of course, notoriously irritating and so must those, *ex hypothesi*, be which are removed from raw whisky. This can easily be demonstrated by decomposing with dilute mineral acid the hydrazones formed by treating raw whisky with phenyl-hydrazine-sodium-sulphonate and left behind upon subsequent distillation. The original aldehydes are by this method liberated and have a pungent and irritating odour closely resembling that of the original whisky. With regard to the higher aldehydes it is known that in certain instances they occur as a constituent of the ethereal oils of certain fruits. Our knowledge upon this subject, however, is indefinite, although there seems no doubt that two substances known as citral and citronellal are used extensively in the manufacture of artificial perfumes. These substances, however, have never been demonstrated in whisky, raw or matured, and there is no reason to assume that they play any part in its flavour.

It is a known fact that there is now on the market a large assortment of artificially concocted fruit essences. These are largely used in the manufacture of so-called temperance beverages and in cookery, and they impart to the substances to which they are added a flavour almost identical with the fruit, as indicated on the label, to which they correspond. Although the composition of some of these essences is kept a secret the ingredients of the majority of them are known. The compound ethers are their most important constituents and are almost invariably associated with glycerine and occasionally with tartaric, succinic, or benzoic acids. Aldehyde—acetic aldehyde—is also made use of in some of these preparations, but it is difficult to see what purpose it serves, as it is admitted that both it and chloroform, which is also used, can be omitted without serious detriment to the flavour of the essence.[20] A study, then, of the composition of these essences leads us to the conclusion that aldehydes, speaking generally, are not likely to be intimately concerned in the development of bouquet.

With regard to the acetals it is an undoubted fact that these substances are intimately associated with the development of bouquet in wine. As was, however, pointed out earlier in this paper no analogy can *a priori* be assumed between the ageing of wine and the maturation of whisky. That the bouquet of mature whisky owes little, if anything, to acetal is certainly to be assumed from the fact that although it has been recognised as a constituent of mature spirits one of the greatest workers in this country upon this subject frankly asserts that he has never been able to demonstrate its presence in either raw or mature whisky. Nobody, so far as we know, has ever isolated it from raw whisky. With regard to the acetal corresponding to furfural we have no knowledge nor have we been able to obtain any information. That furfural undergoes but little change during maturation is evident from the fact that the quantitative estimations of it in raw and mature whisky differ but slightly. This difference, furfural apparently diminishing with age, can certainly be explained by its evaporation—the assumption that some furfural has been fixed or oxidised is

rely gratuitous. It must further be remembered that the

are unstable bodies and in the presence of dilute

dily decompose into the corresponding alcohol and

CONCLUSIONS.

ve considerations we seem justified in con-

aldehydes to which the initial irritating taste and flavour of raw pot-still whisky must be ascribed are only indirectly—viz., by their disappearance—concerned with the ultimate bouquet of old whisky. It further appears that since at least some of the energy of maturation is spent upon the disappearance of these substances it is probable that an initially dealdehyded spirit will become mature in a shorter time than an ordinary one. The last conclusion that we would draw is that since the aldehydes and furfural do not seem necessary for the production of whisky they are from the point of view of the public health better removed from it.

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from Allen, loc. cit., p. 215.

DILATATION OF THE HEART AND OTHER MANIFESTATIONS OF WEAKENING OF THE HEART AS RESULTS OF RHEUMATISM.

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RHEUMATIC dilatation of the heart and rheumatic myocarditis have of recent years been brought more or less prominently before the profession. This has been largely due to the observations of Dr. D. B. Lees and Dr. F. J. Poynton. Dr. Graham Steell also speaks of the injurious effect of rheumatism upon the cardiac muscle and says[1]: "My belief in the importance of the changes wrought by rheumatic endocarditis as the cause of initial incompetence received a rude shock by a post-mortem examination of a patient who had shown the ordinary clinical signs of mitral incompetence from valve lesion. The examination revealed practically sound mitral curtains but a markedly dilated heart." About a year before Dr. Lees and Dr. Poynton brought forward their paper upon dilatation of the heart due to rheumatism I read a paper before the Bristol Medico-Chirurgical Society in which I argued that the generally accepted view of the frequency of mitral regurgitation due to valvular disease had been based upon errors of observation,[2] and used a few clinical facts and others from the post-mortem room in support of my contention. It is scarcely necessary to remark that from the point of view of prognosis the subject is an important one. If a murmur heard at the apex be due to a valvular lesion then there must be few who will maintain that the injury will not be permanent. If, however, the murmur owes its existence to some dilatation of the heart, then there is hope, in some cases at least, that recovery may follow. Dr. Caton,[3] who has noticed cardiac murmurs arising during acute rheumatism disappear under the influence of blisters, mistakes, it seems to me, both the cause of the murmurs and the method of action of his treatment. The patients during the application of the blisters are kept in bed for a long period, and we may suppose that it is not the blisters that cure endocarditis but that prolonged rest in bed enables a dilated heart to contract again.[4] But murmurs may occasionally disappear even after the patient has left the hospital. In 1896 I admitted a girl, aged 10 years, into the Bristol Children's Hospital who was suffering from rheumatic pericarditis. She recovered and a year later she returned as an out-patient for some minor ailment. Although little dilatation of the heart could be detected, a blowing systolic murmur was present at the apex, and the history showed that some weakening of the heart was present. To use her mother's words, "she could not walk up hill as well as her grandmother." At the end of another two years the girl was seen a third time. She had grown considerably and she presented a more animated appearance. In spite of some anæmia, for which she attended the hospital, the dyspnœa on exertion had almost disappeared and no trace of the systolic murmur could be discovered. But rheumatic dilatation of the heart, although it may be uncomplicated by a valvular lesion or by general adhesion of the pericardium, may be permanent and, as the following case shows, may result in early death.

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[1] The Sphygmograph in Clinical Medicine, p. 35.

[2] THE LANCET, July 18th, 1896, p. 170.

[3] Brit. Med. Jour., vol. i., 1896, p. 207.

[4] It is interesting to note in this connexion that Hibberd observed in 24 cases of diphtheria in which a mitral systolic murmur was present that the murmur disappeared in three weeks in 21 of the cases and in the remaining three in eight weeks. Quoted by Morton Prince American Journal of the Medical Sciences, 1901, vol. cxxi., p. 205.

A youth, aged 19 years, was admitted into the Bristol Royal Infirmary on Nov. 16th, 1899, under the care of Dr. H. Waldo. Two years before he had suffered from an attack of rheumatic fever and did not regain his health after the acute illness had passed away. For three months before admission his strength had been rapidly failing. On admission he was obviously very ill. The cardiac impulse was diffuse and visible as far as the mid-axilla. A high-pitched systolic murmur was audible over the cardiac area and into the axilla and the second sound at the apex was replaced by a "faint rumble." The patient grew worse and was delirious some days before death which took place three weeks after admission. At the necropsy the heart was found to be generally and greatly dilated. It measured across the ventricles just over six inches. Some hypertrophy was also present, as is shown by the weight of 15¼ ounces. A small patch of adhesions about one and a half inches square showed that localised pericarditis had at the time been present over part of the front of the ventricles. Elsewhere the pericardium presented no trace of former pericarditis. The tricuspid and mitral orifices had shared in the general dilatation of the heart. The tricuspid orifice measured six inches in circumference, the mitral nearly five and a half inches. The cusps of the tricuspid valve were normal and neither the flaps of the mitral valve nor the chordæ tendineæ attached to them presented any trace of thickening. The pulmonary valve presented nothing abnormal and the aortic valve was also competent and its cusps were free from thickening. The coronary arteries were healthy and the cardiac muscle to the naked eye showed no fibrosis.

In this case it was impossible to conclude that the small patch of adhesions could have been the cause of the cardiac dilatation. Yet although sufficient damage must have been done to the cardiac muscle to cause death microscopical examination did not reveal any great amount of interstitial myocarditis, much less, in fact, than is not infrequently seen in old-standing cases of mitral stenosis. It seems possible that rheumatism may have the power of interfering with the nutrition of a growing heart and impair the function of the cardiac muscle without giving rise to evidence of very gross lesions. Gross lesions do, however, undoubtedly occur and in the severe rheumatic poisoning which is present in fatal pericarditis the microscope always shows some changes in the myocardium.

It is interesting to note also that in cases where death from pericarditis has been somewhat delayed the presence of disease of the cardiac muscle may often be clearly evident to the naked eye. When the heart has been opened white specks and streaks due to degeneration of the muscle fibres may be seen dotting the heart muscle beneath the endocardium. A similar appearance may occasionally be seen after death from rheumatic heart disease where no pericarditis is present. For example, a boy, 12 years of age, suffering from mitral stenosis, complained of pain in the region of the heart. The pulse became rapid and feeble and four days after the onset of the pain he died. At the necropsy the pericardium was found to be perfectly healthy but the ventricles were speckled with small yellowish-white spots and streaks. On opening the heart the inner surface of the ventricles presented the same appearance in a slighter degree and cuts into the muscular walls showed that the cardiac muscle was everywhere similarly affected.

While, however, lesions of the cardiac muscle may undoubtedly be produced by rheumatism they are not nearly so marked as are those which are frequently present in diphtheria, and it is often difficult to believe that the morbid appearances discoverable by the microscope will explain the cardiac failure which has resulted in death. Yet it must be mentioned that in one case, which I hope shortly to publish, the degeneration of the cardiac muscle fibres in a case of rheumatism was so extreme that it was difficult to understand how the heart could have continued to beat as long as it did. Dr. J. H. Sequeira,[5] noticing the want of evidence of severe damage to the cardiac muscle in some cases of rheumatic pericarditis, has brought forward a theory which he considers explains the dilatation of the heart. It does not appear to me that his theory can be supported by facts but it may be of interest to briefly consider it here. Adopting the views of Hill and Barnard as to the function of the fibrous pericardium Sequeira[6] considers that when inflamed it becomes weakened and fails to exert efficiently its power of preventing abnormal distension of the heart. It is doubtful, however, whether the inflammation of the serous pericardium affects the fibrous pericardium so seriously as to cause it to give way readily under pressure. In more severe forms of pericarditis, such as the suppurative pericarditis of pneumonia, where one would expect the fibrous pericardium to be more affected, the dilatation of the heart is not nearly so marked as in rheumatic pericarditis.[7] But on other grounds we may consider Dr. Sequeira's theory to be highly improbable. A few simple experiments in the post-mortem room will show that if the pericardium exerts a restraining power upon distension of the heart it must do so only in extreme emergencies and it is doubtful whether it can exert any pressure upon the heart even then. The method of showing this is as follows. After rigor mortis of the heart has passed off the pericardium is distended with water at a certain pressure—e.g., that of a column of water 10 inches in height. A measure is taken of the number of ounces of water used. After tying the vessels of the heart at their points of entrance into, and exit from, the pericardium this membranous sac is cut open and the cavities of the heart are distended at the same pressure as that employed in filling the pericardium. The amount of water required is noted, the heart is opened, and a measure is taken of the amount of blood-clot which it contains. The number of ounces of water used in filling the heart, together with the blood clot which it may contain, will almost invariably be found to be less than the amount of water held by the pericardium. A few examples may be given. In the case of a man, aged 24 years, who died from enteric fever, the pericardium held 20 ounces of water, and the four cavities of the heart 14 ounces of water and blood-clot; in that of a boy, aged 14 years, who died from enteric fever, the pericardium contained 15¼ ounces, and the cavities of the heart nine and a half ounces; in that of a man, aged 21 years, who died from enteric fever, the pericardium held 20 ounces, and the heart 15¼ ounces; in that of a youth, aged 18 years, who died from enteric fever, the pericardium held 12 ounces and the heart 11 ounces; in that of a man, aged 60 years, who died from carcinoma of the stomach, the pericardium held 18 ounces and the heart 12¼ ounces; and in that of a woman, aged 39 years, who died from cirrhosis of the liver, the pericardium held 18 ounces and the heart 13¼ ounces. In one instance, however, in which the heart was apparently healthy, the cardiac cavities contained more than had been held by the pericardium. In the case of a woman who died from suppurative peritonitis consequent upon perforation of a gastric ulcer the pericardium held only 15 ounces while the heart held 22 ounces. In another case where the heart was greatly dilated owing to the presence of fibrous myocarditis the pericardium held 24 ounces but the heart held 30 ounces. In the last case, however, it is worthy of note that the cardiac muscle was diseased and consequently the fact that the heart was capable of holding more water than the pericardium shows that the pericardium was unable to prevent the dilatation of the heart which resulted from this disease. This case, therefore, tends to militate against, rather than to support, the theory that the pericardium can exert a restraining influence upon dilatation of the heart. But allowing that in some instances a healthy heart can be distended in the post-mortem room more than the pericardium it is very doubtful whether that would be possible during life. All four cavities could not then be fully distended at the same time. There must be room within the pericardial sac for the auricles to empty themselves into the ventricles.

It would appear, then, that in most people the fibrous pericardium does not fit the heart so closely that there is not sufficient space within it for considerable dilatation of the heart. If this be so we may dismiss from our minds the idea that the dilatation of the heart which occurs in rheumatic pericarditis is simply due to weakening of the fibrous pericardium. Although microscopical examination of the cardiac muscle may not reveal the amount of disease one might expect, the most reasonable explanation of the dilatation is poisoning of the heart-wall.

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[5] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxii., p. 360.

[6] Ibid., p. 410.

[7] A recent paper by Dr. Still shows that the absence of marked dilatation of the heart in the pericarditis of pneumonia has attracted his attention. Brit. Med. Jour., vol. ii., 1901, p. 606.

Rheumatic poisoning of the heart does not, however, occasion only dilatation. After rheumatic pericarditis some hypertrophy usually takes place and may be great in degree. This has been attributed to the deleterious effect of adhesions, but occasionally one may meet with enlargement of the heart following a rheumatic attack in which neither adhesions nor valvular disease are present. For example, a boy, aged eight years, was admitted under the care of Dr. S. W. Wheaton into the Royal Hospital for Children and Women, Waterloo-road, in 1892, who had suffered for two years from symptoms pointing to disease of the heart. A few weeks before admission these symptoms had become aggravated at a time swelling of the knees had been present. On admission there were great dyspnœa and a rapidly beating heart, the pulse being 140 to the minute. The dyspnœa became worse and the pulse more rapid and at the end of 10 days the boy died. At the necropsy no trace of pericarditis could be found. The heart was much enlarged, extending downwards to the sixth intercostal space and outwards one inch to the left of the nipple line. Its weight was 10 ounces, double the normal weight for a boy of his age. A previous attack of rheumatism was indicated by thickening of the segments of the aortic and mitral valves and a recent attack by rows of small vegetations upon the same valves. The aortic valve, however, was competent and it was obvious that the thickening of the mitral valve could account neither for death nor for the great enlargement of the heart. Clinically the symptoms were those of pericarditis and it seemed reasonable to suppose that death had been due to rheumatic poisoning of the heart-muscle without the usual association of inflammation of the pericardium. Microscopical sections of the heart-wall seemed to show that the enlargement was in part at least of recent origin, since in addition to some interstitial myocarditis the blood-vessels were greatly injected. In this case apparently the enlargement was mainly, but by no means entirely, due to increase in the amount of blood in the heart-wall. That a great quantity of blood and serous fluid in the heart-wall may be partly responsible for enlargement of the heart in rheumatic pericarditis is suggested by the rapidity with which the weight of the heart may increase. Dr. Goodhart long ago noticed this rapid enlargement in rheumatic pericarditis and he showed a specimen before the Pathological Society of London from a youth, aged 17 years, where the heart apparently doubled its weight in a month.[8] Dr. Sequeira mentions a case where, in a girl, aged 11 years, it doubled its weight in three weeks, and I have met with an instance where the heart apparently increased in size to the same amount in a fortnight. A girl, aged 11 years, was admitted by me into the Bristol Children's Hospital for rheumatism with rheumatoid nodules. I could detect no enlargement of the heart. Three weeks later acute pericarditis set in and after it had lasted a fortnight the girl died. The heart was found to weigh 11½ ounces, fully double the normal weight in a girl of her age. There was recent endocarditis but no old disease of the valves. On microscopical examination the sections showed an unusual amount of interstitial myocarditis associated with great injection of the blood-vessels. In some sections the distended capillaries occupied nearly as much space in the field as the muscular fibres. This injection of the blood-vessels, in varying degree, is a constant feature of microscopical sections of the heart-muscle from cases of rheumatic pericarditis. The appearance of the interstitial tissue frequently suggests also that an increase of serous fluid in the heart-wall is present. It is possible, however, that enlargement of the heart may be in part due to increase in size of the muscle fibres. In their weakened condition they may attempt to gather fresh energy by calling more largely upon their sources of nourishment and swell up in so doing. Although the enlargement of the heart which occurs in rheumatic pericarditis may be of this comparatively simple nature it must be noted that it does not often subside when the acute inflammation has passed off. On the contrary, the hypertrophy may go on increasing until the heart even of a child of the age of 12 years may weigh between 20 and 30 ounces. Dr. J. F. H. Broadbent has suggested that when the heart is dilated adhesions resulting from the pericarditis prevent its return to the normal size. Adhesions, however, do little to hamper the action of the heart, as is shown by the fact that when they follow pericarditis due to other causes than rheumatism, such as pneumonia or tuberculosis, no enlargement of the heart takes place.[9] The only way in which pericardial adhesions could retain the heart in its dilated condition would be through the médium of other adhesions outside the fibrous pericardium provided on all sides with fixed points of attachment. Such fixed points, it is needless to say, cannot be found. The chest-wall provides in front an area of attachment, but adhesions when present there are generally of too loose a character to be capable of preventing movement of the heart. The mobility of the heart, it may be remarked, in cases of enlargement following pericarditis, can in some cases at least be proved clinically by noting the different positions of the apex-beat when the patient is lying in the recumbent position and upon the side. It has not been my custom to test this point in every case, but in three cases of enlargement of the heart following acute rheumatic pericarditis in which the position of the apex-beat in different positions of the body has been noted I find that movement occurred in every instance. Thus, in a girl, aged 12 years, who was examined before her return home after an attack of pericarditis, the apex-beat when she was lying on her left side was fully one inch to the left of the position which it occupied when she was standing up. It may be added that the girl returned six months later and died. The pericardium was found to be universally adherent by loose adhesions. Although the heart had been freely moveable it was much hypertrophied. The weight was 14 ounces.

The above facts—namely, that adhesions left by pericarditis due to such diseases as pneumonia or tuberculosis do not lead to hypertrophy of the heart, and that the heart may be freely moveable over the front of the chest-wall and yet continue to increase in size—show that neither internal nor external pericardial adhesions can be the cause of cardiac enlargement following rheumatism. To offer a better explanation is, however, not easy. Yet it seems possible that poisoning of the cardiac muscle may interfere with its nutrition and occasion hypertrophy. The power which poisoning of the heart-muscle possesses to give rise to enlargement of the heart is seen in the hypertrophy due to over-indulgence in alcohol. It may be mentioned in passing also that it seems possible that the enlargement of the heart attributed to exercise and work may also be due to poisoning of the cardiac muscle by waste products of metabolism. Such enlargement appears to occur, not where there is hard work merely, but where hard work and exposure to great heat are combined. The only two cases of enlargement of the heart which I have met with in the post-mortem room of the Bristol Royal Infirmary which could be attributed alone to the strain of excessive work occurred in a blacksmith and in a stoker in gas-works. Perusal of the Guy's Hospital post-mortem records for 10 years showed three cases which by exclusion of other causes seemed to resolve themselves into hypertrophy due to overwork. These three cases occurred in a blacksmith, a stoker, and a labourer in gas-works. Possibly work in great heat causes the water drunk to be thrown off almost entirely by the skin and leads to the retention in the circulation of waste products of metabolism which would otherwise be excreted by the kidneys. The waste products weaken the heart which in attempts to carry on its work occasions its own hypertrophy.

To return, however, to enlargement of the heart due to rheumatism, if a poison such as alcohol can produce enlargement of the heart it does not seem unreasonable to suppose that the toxins of rheumatism may do so also. This appears especially probable when it is remembered that rheumatism affects the heart most seriously while that organ is growing. Marked enlargement of the heart very rarely follows an attack of rheumatic pericarditis occurring after the age of 20 years. An altered nutrition due to poisoning of the cardiac muscle would explain also the weak nature of the hypertrophy. Some statistics[10] gathered by me from the Guy's Hospital post-mortem records illustrate this weakness. They show that rheumatic pericarditis occurring before the age of 12 years and followed by enlargement of the heart generally leads to death before the age of 20 years and very frequently about the age of 15 years. Thus the records during seven years showed 13 cases of death at the age of 15 years and under in which enlargement of the heart was associated with general adhesion of the pericardium but without marked valvular disease. In six of these the valves were described as being normal. As an example of the enlargement of the heart in these cases in the absence of associated valvular disease it may be mentioned that in a boy, aged 13 years, the heart weighed 22 ounces. Four cases of death occurred between the ages of 15 and 20 years, but in these cases valvular disease was more marked, and after the age of 20 years there was no case of enlargement of the heart associated with general adhesion of the pericardium in which the valvular disease was so slight that its importance as a cause of death could be excluded. Death may not occur until after the age of 20 years, but if much hypertrophy of the heart be present death will not be long delayed. A case now and again may be met with where the cause of death is an enlarged heart associated with general adhesion of the pericardium without marked valvular disease, as late as the age of 25 years, but I have never met with one after that age. An adherent pericardium may be found to be present in cases of death from rheumatic valvular disease at almost any age, but in later life unless aortic regurgition be present the cardiac hypertrophy is rarely great. Sequeira,[12] who has comparatively recently carefully investigated the question of prognosis after pericarditis, gives extensive statistics which point to similar conclusions, but the additional fact is brought out that the fatality of enlargement of the heart associated with general adhesions of the pericardium is much greater about the age of 15 years in girls than it is in boys.

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[8] Transactions of the Pathological Society of London, 1879, p. 279

[9] This is possibly not absolutely true. I have met with two cases in which dilatation of the heart appeared to have been the sequel of pericarditis in pneumonia. Such cases, however, in my experience are very exceptional.

[10] Adherent Pericardium in Children, Bristol Medico-Chirurgical Journal, 1894, p. 93.

Pericarditis is an evidence of the most acute form of rheumatic poisoning of the heart and consequently the results are generally serious, but other minor manifestations of weakening of the heart may follow less severe poisoning by rheumatism. Although after a child has suffered from rheumatism no enlargement of the heart and no murmurs may be evident, the parents may complain that the child has lost its energy and that it is perhaps subject to fainting attacks, possibly when standing in school. Even mild attacks of angina pectoris may be present. Such attacks are thought to be due to hysteria, but it is possible for a neurotic disposition to mislead by causing an exaggeration of symptoms which have a physical basis. We know that the fatal form of angina pectoris is generally due to serious disease of the cardiac muscle and it seems reasonable to think it probable that many of the milder varieties of cardiac pain are due to slight disease or to temporary disturbance of nutrition of the myocardium.

Another interesting sequel of rheumatism in children is tachycardia. A brief reference to a mild case may be of interest. A girl, aged four years, was brought to the Bristol Children's Hospital by her mother who stated that the child often turned pale, complained of pain over the region of the heart, and that on putting her hand to the chest the mother could feel the heart beating forcibly and at a great rate. Physical examination of the heart revealed nothing noteworthy. It was, however, beating rapidly—148 to the minute. There was a history of pain and swelling in the joints and, curiously enough, during the week after the first visit to the hospital the child had to be kept in bed owing to pain and swelling in the right knee. In another case the heart of a boy, aged eight years, who had suffered from rheumatism was said to beat occasionally "as fast as it could beat." Few necropsies have been made upon cases of tachycardia but the heart-muscle has been found diseased in three out of six cases, a fact which suggests that when attacks of rapidity of the pulse follow rheumatism they are an indication of weakening of the myocardium.[13]

Various points in connexion with disease of the cardiac muscle following rheumatism have been briefly dealt with. To summarise a few, they are first, that dilatation of the heart ending in death may occasionally occur without valvular disease or general adhesion of the pericardium being present; secondly, that in rare instances hypertrophy of the heart may occur without valvular disease or general adhesion of the pericardium; thirdly, that there is evidence that myocarditis may exist in the absence of pericarditis; and fourthly, that slight weakening of the myocardium may be shown by loss of physical energy, by attacks of cardiac pain, or by tachycardia.

The causation of dilatation and of hypertrophy of the heart associated with rheumatic pericarditis or with general adhesion of the pericardium has been considered and it has been thought that the most reasonable explanation of both is poisoning of the cardiac muscle.

Bristol.

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[12] Transactions of the Royal Medical and Chirurgical Society, 1899, vol. lxxxii., p. 421.

[13] Herringham: Edinburgh Medical Journal, 1897, p. 368.

THE VENTILATION OF SHIPS, WITH A DESCRIPTION OF AN EFFICACIOUS METHOD

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Now that scurvy has almost disappeared the chief cause of unhealthiness on board ships is overcrowding. Everyone who has read the report of the Plague Commission knows overcrowding to be, in the words of the president, Professor T. R. Fraser, "a relative term, and not co-relative with any specific number, but with the number present in a given space and the efficiency of the ventilation of that space."[1] Anything, then, that improves the ventilation of ships is of the greatest importance to us who practise at sea and to those in ships, passengers or crew, whose health is trusted to our care.

To secure adequate ventilation afloat is generally a struggle, except in a small craft in the tropics in fine weather. In bad weather it is almost impossible in an ordinary ship to get any ventilation at all, it is so difficult to exclude water from the pipes and openings intended to convey air only, and water must be kept out even if air has to be excluded also.

I am sorry to say that it was only recently that I came across a now widely used system of ventilators which has overcome this difficulty and which supplies a little fresh air during any weather. It was devised by Mr. Thomas Utley of Liverpool and has long been used in the largest ships in the world driving through the wildest weather, but I have not hitherto seen it described in the medical press.

Now, water troubles us in two separate forms—as rain, in comparatively small quantity, or in the great volume of seas swooping past, and each form has to be met differently. Rain, of course, gives less trouble and it is excluded in the Utley skylight ventilator by an obvious arrangement of louvres and baffle-plates in the ridge of the skylight. Something of the same sort is done in Boyle's inlet ventilator. But the most novel and ingenious of these patents are those which exclude sea-water in mass. In each of the ventilating passages are two valve chambers containing cork floats of similar size (five inches in diameter and two and a quarter inches thick for a 12½ inch scuttle) travelling up and down on a central spindle. These valves, when air only passes, remain in their position of rest with the gangway left clear, but should a sea strike the ventilator and try to pass the valves first the lower, or distal, float, which is very loose on the spindle, is floated up and jammed against the concave top of the chamber, the joint being secured by a flexible disc of red rubber with thin tapering edges so arranged that the greater the pressure of the sea the more firmly is the rubber approximated to the roof of the chamber. A little water is forced through centrally and that in the same way, if in sufficient volume to be troublesome, seals the proximal chamber and thus no water passes the valves. Between the seas the cork valves fall back as the water drains away and the passage for air is again established.

The Utley porthole ventilator is shown in section in the accompanying illustration. It replaces the ordinary round "ports," "sidelights," or, as we call them in the navy, "scuttles." In its best form it takes up rather more room inboard (a matter of very little importance in a ship with a lining), slightly diminishes the amount of light, and costs about twice as much as the ordinary scuttle, but in consequence of the improvement which it works in the hygiene and amenity of the ship it is extensively used. I saw it in the *Oceanic* and in the

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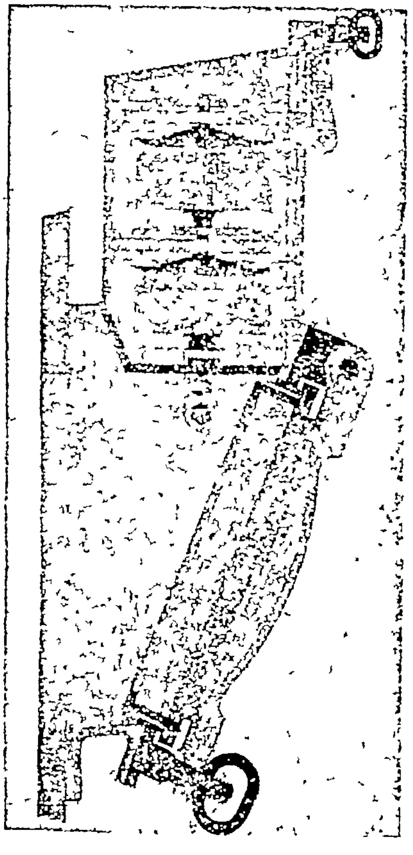
[1] Report of the Commission on Plague, vol. v., Appendix III., p. 477.

Cymrio, and I am told that every scuttle is so fitted in the *Lucania* and in the *Campania*—a sufficient proof that the system can withstand the heaviest weather. In case of fire the ventilating passages can be closed by plates analogous to deadlights.

I think that this system may be of great service to us in the navy, particularly as we are now giving up the ventilating of ships by cowls which will splinter in action if struck, but so far the Utley patent porthole ventilator has only been fitted in His Majesty's new yacht which had 146 built into her. Everyone will at once recognise that great benefits accrue to passengers in bad weather if such a ventilator is used, not only in preventing the ordinary results of overcrowding, sore-throats, boils, &c. (even typhus fever, that cousin german to plague, has broken out in crowded and ill-ventilated transports), but also in diminishing the evil effects commonly ascribed to sea-sickness, many of which, indeed, are due to bad weather only because it prevents any ventilation of the cabin to which the patient confines himself. And who is there, however good a sailor, who could live for two or three days, and, perhaps, with one or two companions, in a cubic space of 300 feet without much ventilation and not lose appetite or be otherwise "capsized"? We have all the apparently greater need for ventilation at sea as our standard of cubic space is 100 feet where that ashore is 1000 feet, even if we can do with less than 3000 cubic feet an hour of fine, fresh sea air with all its ozone



The illustration shows the Utley porthole ventilator in section. It is represented closed up as it would be in case of fire and, of course, not working. To the reader's left is the sea, the vertical line to the left is the ship's side; the inclined part to the right is the glass light covered by its protecting "dead light"; at the upper part the ventilating passages are seen arranged tandem, each with its large block of cork forming the valve. To allow the ventilator to act the handled screw shown at the top must be eased and turned up, when the iron plate covering the air passage can be dropped down.

There is an Utley cowl and deck ventilator, too, in which the double valves are fitted in cages (four, six, or eight) on the sides of the air-shafts. These cowls are made of steel and have a cap fitted like a deadlight that can be secured over the mouth. When this is closed in bad weather ventilation is not entirely stopped but some air can still pass safely either out or in—a great improvement on the old method which in bad weather replaced the cowl by an impermeable deck-plate.

The commercial value of these ventilators is shown in their use by the White Star, the Cunard, the Peninsular and Oriental, the Dominion, the Hamburg-American, the North German Lloyd, and other companies, and by our own and the German Governments.

Perhaps some medical officers of ships fitted with these ventilators will tell the readers of The Lancet if they have diminished sickness; particularly would it be of interest if anyone could give his experience of two voyages to South Africa in transports equally full of men, one with these ventilators and one without.

H.M.S. *Galatea*, Chatham.

DIFFICULTIES IN DIAGNOSIS: CHICKEN-POX OR SMALL-POX?

By W. M. YOUNG, M.D. R.U.I.

A waitress in a City restaurant, 22 years of age, felt so ill on April 26th that she left her employment about the middle of the day, returned to rooms occupied by her sister in a house in Paddington, and there took to bed. When I saw her in the course of the afternoon she presented all the characteristics of a rather severe bout of the "rheumatic" variety of influenza. During the febrile stage she was treated with salicylate of sodium combined with ammonia, paregoric, and extract of liquorice. On the 29th, defervescence having been accomplished, she was given a mixture consisting of half a drachm of sulphate of quinine, half a drachm of solution of strychnine, two drachms of dilute hydrobromic acid, and compound infusion of gentian to six ounces, one tablespoonful to be taken three times a day in water. My next visit took place on the afternoon of May 1st and she then informed me that, as the catamenia had appeared during the previous night and she had not felt quite so well, she had remained in bed during the day. I noticed a few papules on her face but I looked upon these as associated with the menstrual period and possibly intensified, if not actually brought out, by the administration of the hydrobromic acid in the mixture. I did not think it worth while to use the thermometer as there was nothing to suggest a rise in the temperature and all the indications seemed to point to a mere evanescent menstrual disturbance. On the morning of the 2nd, however, I received a message requesting me to call to see the patient during the day and I accordingly paid a visit early that afternoon. The papular eruption had then become so prominent on the face as to be actually disfiguring and it had also appeared rather profusely at the back of both wrists. The temperature was 102° F. There was considerable discomfort in the lumbar region. The patient looked exceedingly ill and evinced such a decided tendency to syncope that strychnine was administered hypodermically. On the morning of the 3rd a large crop of papules appeared on the back of the neck and shoulders. The temperature had fallen to 101°. The other symptoms, including the severe prostration, were much the same as before and the patches of eruption which had first appeared still remained in the papular stage. On the morning of the 4th things remained much the same with the exception that the eruption had taken on a vesicular form. During the day the vesicles matured so rapidly that I came to the comforting conclusion that, notwithstanding the course followed by the eruption and the severity of the general symptoms, the case was nevertheless one of chicken-pox. My self-congratulations at having steered clear of the dread Scylla of premature removal of the patient to the small-pox hospital were, however, chastened by finding myself involved immediately afterwards in the vortex of a veritable Charybdis. The pronouncement to which I had committed myself in favour of the existence of the minor disease brought upon me a visit at my own residence from the occupier of one-half of the house in which the patient was lying. My uninvited visitor was so minatory in his attitude and seemed so anxious to assume the airs of a sea-lawyer in his cross-examination of the evidence on which I had based my diagnosis that I deemed it advisable to obtain a second opinion in order to protect myself against eventualities As it was Sunday I did not care to bother the medical officer of health so I asked a friend in the neighbourhood to see the case.

with me. The latter, whilst admitting the perplexing character of some of the symptoms, concurred in the diagnosis of varicella. The reception of the certificate by the medical officer of health on the following morning led to a friendly call from Dr. R. Dudfield during the afternoon. He was so much impressed by the resemblance which my description of the onset and development of the eruption bore to a case of modified small-pox, and a day or two previously he had been rendered so suspicious of such cases by having had what proved to be the more serious disease notified as the milder complaint, that we agreed that it would be best to visit the patient together. Even at this late stage the case was not at all one for "lightning diagnosis" and it was only after some considerable examination and discussion that the necessary official confirmation was given, the correctness of which has since been completely verified.

The case had a twofold interest: It was a good object-lesson in the pitfalls ever liable to trip up the cocksure tyro who refuses to apply to himself the sententious maxim of the late Master of Trinity "We are none of us, not even the youngest, quite infallible." It also threw an interesting sidelight on what some people are pleased to call the frame of mind which is connoted by the fad of anti-vaccination. In the first instance the papular eruption bore a marked resemblance to a manifestation of bromism If some little rise of temperature had been detected at this stage it might have been attributed fairly enough to the onset of the menstrual period so soon after the subsidence of the attack of influenza. The same conjunction of causes doubtless did occasion the discomfort in the lumbar region, which although not amounting to actual pain in the back was sufficiently pronounced to be credited with a note of interrogation. The adult age of the patient, the appearance of the eruption first on the face and wrists, the prolonged papular stage of the earlier patches, the fall in the temperature at such an early stage of the development of the eruption, and the apparently profound constitutional disturbance all seemed to betoken varioloid. On the other hand there was never any vomiting or even nausea, there was very little headache, and later, when the papules had become vesicles, they matured so rapidly as to furnish the clue to a correct diagnosis.

The profound prostration which was a feature of the early stage and which lasted until the definite diagnosis had been established was a confusing but interesting incident, a fraction of it might properly be set down to the renewed febrile condition supervening on the debility which was the inevitable sequel of the influenza. By far the larger proportion of the disturbing influence was, however, not physical at all but psychic. The phenomenon was, in fact, "a sort of" death-bed repentance. A short time previously the girl, in common with the other members of the staff of the restaurant, had been given the opportunity of being vaccinated. Some propagandist of the anti-vaccination cult had, however, plied her with blood-curdling descriptions of the horrors attendant upon vaccination, with the result that she had declined to submit to the operation Still she had "had her doubts" about the soundness of the advice which had been given to her and when the eruption appeared copiously on her face on the morning of May 2nd her appeals as to whether it was small-pox and whether she would be much marked were quite piteous. The rather aggressive officiousness of the fellow-occupier of the house was to all intents and purposes a like exhibition of "the doubt of doubt." This gentleman first of all informed me in dogmatic fashion that he "did not believe in vaccination." Having thus duly paid obeisance to his fetish, he went on in more subdued tones to say how much he had been disturbed by the thought of his wife and children being possibly exposed to the contagion of small pox At last he confessed that his anxiety had become so great that he was contemplating, as a lesser evil, the handing over of them all to the cruel tender mercies of that modern personification of "the wicked," yclept ye public vaccinator

In a general way the revelation of the Falstaffian character of the courage of the anti vaccinationist has been one of the most salient features of the recent scare. During the years of immunity from the disease the Superior Person who (to quote the autobiographical notice of an orating anti vaccinationist in "Who's Who") "has not been educated at all academically" achieves a certain measure of cheap notoriety by the vulgar flippancy of his references to the opinions of men of education who have devoted their lives to the investigation of the prevention of disease. Notwithstanding his "brave words" under such circumstances the attitude of the anti-vaccinationist in the presence of epidemic danger is often that of the stock character of Goody-goody story who, having duly shocked his maiden aunts by the blatancy of his atheism, is unexpectedly brought to the very verge of the Stygian river and there awakens to the terrible conviction that there may be a particularly sultry climate on the other bank after all

Pembridge-road, W

PRIMARY GANGRENE OF THE TONSILS.

By ROBERT FULLERTON, M D EDIN,
SURGEON TO THE OUT-DOOR DEPARTMENT FOR DISEASES OF THE THROAT
AND NOSE OF THE ROYAL INFIRMARY, AND LECTURER IN
ST MUNGO'S COLLEGE, GLASGOW.

THE throat condition which forms the subject of the following notes occurred in the case of a medical friend, aged 37 years, who consulted me on June 13th, 1900 The history given stated that during the spring months he had become very much run down in health, was easily tired, and, indeed, felt so weak that he was scarcely able to carry on the duties of his practice. About the middle of May a severe cold in the head, which was accompanied by a considerable amount of nasal discharge with pain in both ears and in the pharyngeal region, confined him to the house for a week. The tonsils were not appreciably affected at this time, but about a week after resuming work they rapidly and without any apparent cause became acutely inflamed and the temperature rose to 103° F Four days after this onset the throat presented the appearance of an acute follicular tonsillitis. About a week later an ulcer was observed on the right side of the upper lip, not far from the angle of the mouth A few days afterwards a slough appeared on each tonsil. These sloughs spread rapidly and with this extension the parts became extremely painful

When seen by me the patient, although usually robust, looked pale, anxious, and very ill. The throat was so acutely painful that the act of swallowing was rendered almost impossible. He spoke with difficulty and the voice was muffled and markedly nasal. The tongue was thickly coated, shreds of secretion clung to the palate, and the odour from the mouth was heavy and fœtid. The lymphatic glands at the angle of the jaw on both sides, but more especially on the left, were enlarged and tender to touch. The faucial tissues generally were inflamed and swollen and the uvula was markedly œdematous. A shallow ulcerated patch of about the size of a small lentil was present on the right upper lip, the edges of which were irregular but clean-cut, whilst the base when not covered by a yellowish débris had a raw look. The swollen tonsils—elongated and sessile in type—were covered in front by an adherent portion of the anterior pillars of the fauces. A sinuous trench-shaped excavation was present in the left tonsil, extending downwards to almost its lower limit from immediately below the edge of the soft palate. A greenish-yellow slough occupied this cavity which at the upper part appeared to involve the whole depth of the tonsillar tissue but became more superficial at its lower extremity On removal of the slough the edges were found to be indurated and raw looking A small croupous patch, which was easily wiped off, was present on the surface of the tonsil. (See illustration.) The slough on the right tonsil, though not so extensive, closely resembled that just described. Neither the epiglottis nor the larynx was involved, and although a post rhinoscopic view could not be obtained the inflammation appeared to be confined to the tissues of the fauces

The appearance of the throat differed from anything that I had hitherto observed and conveyed the impression of a tertiary specific affection in a pharynx acutely inflamed. There were, however, no grounds for attributing it to syphilis and the history and subsequent course of the disease are against its having been due to that.

Prior to the patient being seen by me iron and quinine had been taken internally and antiseptic paints and gargles had been applied locally with little or no effect. I applied a 10 per cent. solution of cocaine to the parts and having removed as far as possible all the necrotic tissue and débris, swabbed the ulcerated surfaces with a strong solution of carbolic acid. In addition to having the mouth frequently washed out he was directed to take four times a day without dilution a teaspoonful of a mixture of tincture of the perchloride of iron and glycerine, one drachm to one ounce. When seen three days later the parts had much the same appearance as at the first examination, but the necrotic shreds having been then removed the cavities were now easily cleaned, and a solution of nitrate of silver (one drachm to one ounce) was applied to the raw surfaces. The treatment prescribed was the iron and glycerine mixture with a grain of opium at night and swabbing the ulcers twice daily with a 1 in 20 carbolic acid solution. The patient, who in the meantime had been living at a sheep farm in the country for a fortnight, called again on July 19th. He stated that upon removing from town the parts had gradually healed and had remained well for a week, when the upper part of the left scar broke down. To this I applied the electric cautery and it healed in a few days. For several months subsequently the general health was indifferent but the throat gave no further trouble. When seen quite recently the site of the sloughs was marked by a distinct loss of tissue but there was no trace of the ulceration which had been present on the lip.

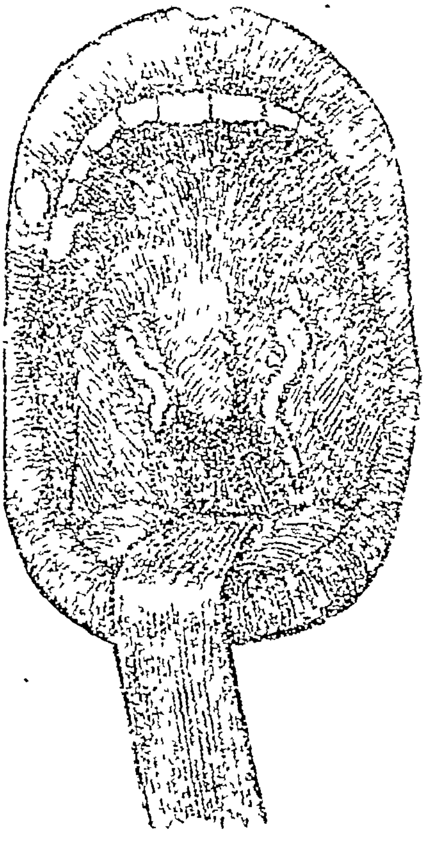


Figure to illustrate the fauces in Case 1. The gap in the outline of the upper lip is a fault in the drawing.

I felt a little uncertain as to the classification of this case and although it differed essentially from the acute ulcerating lacunar tonsillitis described by Moure, four examples of which I had seen, I was at first inclined to regard it as an unusually severe form of this affection.

About five months later—on Nov. 2nd, 1900—Dr. Alexander Robertson sent one of his servants to consult me in regard to a sore-throat from which she suffered. The girl, who was 23 years of age, stated that about four weeks previously she had caught cold when her tonsils became inflamed and had remained uncomfortable ever since. Three days before seeing me the right tonsil became very painful and the glands of the neck began to swell. The patient looked ill and complained of great pain on the right side of the throat. The lymphatic glands behind the angle of the jaw on the same side were considerably enlarged and very tender to touch. A slough in position, shape, and general characters identical with, although not so extensive as, that just described, was present on the right tonsil and the patient stated that it had appeared only that day. The left tonsil was inflamed but the surrounding tissues were not affected by the inflammatory action to any marked extent. The patient was sent back with directions as to treatment, but the condition becoming rapidly worse she was admitted into the Royal Infirmary under Dr. John Macintyre. From notes which Dr. Macintyre has kindly furnished I am enabled to indicate briefly the further course of the case.

On admission her fauces were much congested and a deep ulcer covered by a whitish exudation was present on each tonsil. The throat was painful and the glands of the neck were enlarged. The patient remained in the hospital on this occasion for four months. The treatment consisted at first in the administration of iron with antiseptic applications locally. After this a course of anti-specific remedies was carried out followed by tonics. Repeated bacteriological examinations of swabbings from its ulcerated surfaces were made. The first of these revealed the presence of staphylococcus and diplococcus and on examination a fortnight later the pneumococcus was found in an almost pure culture. These were the only forms of micro organisms noted as having been found and at no time during this period could either the diphtheritic or the tuberculous bacillus be found, although six weeks after admission slight consolidation was detected at the apex of the right lung. In spite of all that could be done the ulceration spread on both sides, affecting the soft palate and the uvula.

At the end of February, 1901, four months after admission, the ulcerative process was arrested and the patient left for her home. She was readmitted on Oct 21st, 1901, nearly a year after the first onset. It was now found that food regurgitated to some extent through the nose; the posterior pharyngeal wall, the back of the naso-pharynx, the tonsils, the posterior pillars, and part of the anterior pillars of the fauces were all involved and denuded of their mucous membrane and the soft palate had largely disappeared. The tubercle bacillus was now found in the sputum. The patient died on Nov. 29th and the post-mortem examination showed that the larynx and trachea were healthy, that the left lung was adherent from tuberculous pleurisy, and that both lungs had excavations of their upper lobes and that the other lobes showed a tuberculous pneumonic infiltration.

The occurrence of the second case, so closely resembling in its local characters the first but so different in its ultimate course, naturally led me to reconsider my diagnosis in the first, and I concluded that both were illustrations of a primary gangrenous process in the tonsils. In support of this view I would refer to the report of Brindel and Raoult on Ulcerations of the Tonsil.[1] Here, under the heading of *Grangrene of the Tonsil*, a case seen by Brindel is quoted, the course of which, up to the time of death from a severe hæmorrhage, seems to have closely resembled the second of those which I have just noted.

From a diagnostic point of view the picture which they presented might well have been confounded with that of a tertiary specific lesion. In both instances, although the causes and processes are somewhat different, the result is the same—viz, a localised gangrene of the tissues involved. In differentiating this affection from syphilis the history of a specific infection and the fact that tertiary ulcerations of the pharynx usually begin on the soft palate or the posterior pharyngeal wall would assist in forming a decision which would be confirmed or otherwise by the result of anti-specific treatment

When a diagnosis of primary gangrene is made the treatment adopted ought to be prompt and energetic. Iron and quinine should be administered and opium should be given freely. Locally, after cleansing the parts the electric cautery should be thoroughly applied to the ulcerated surfaces.

These cases are interesting, pointing as they do to the tonsils being a likely site for microbic infection which may set up lesions of a serious nature, and especially in those in in whom the powers of resistance are weakened. In regard to the study of such acute septic inflammations of the throat Sir Felix Semon did good service when he argued for their pathological identity.[2] There may be, and probably are, factors we know nothing of which determine the type of the pathological process, be it gangrene, erysipelas, œdema, &c.,

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[1] Des Ulcérations de l'Amygdale; Rapport par MM. les Drs Brindel et Raoult. Bulletins et Mémoires de la Société Française d'Otologie, de Laryngologie, et de Rhinologie, tome xvi, 1re partie.

[2] On the Probable Pathological Identity of the Various Forms of Acute Septic Inflammation of the Throat and Neck, by Sir Felix Semon, Transactions of the Royal Medical and Chirurgical Society, vol. lxxviii.

but as far as our knowledge takes us we have to regard this determination as depending more on some adherent peculiarity of the tissues than on the particular form of micro-organism that is present.

Glasgow

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF TABES MESENTERICA WITH INTENSE PIGMENTATION OF THE SKIN

By WALKER OVEREND, M.A., M.D. OXON.,

LATE SENIOR PHYSICIAN TO THE TOTTENHAM HOSPITAL.

THE patient was a girl, aged two and a half years, who began to suffer at the end of 1901 from a severe attack of pertussis. During the progress of the disease abdominal tuberculosis gradually developed. In the middle of January, 1902, the abdomen was thin, flaccid, and deeply pigmented. On palpation a lump was readily felt just inside the left external iliac spine and a smaller one a little higher up in the neighbourhood of the left kidney, close to the spine. There was neither liver dulness nor ascites and the lungs were normal. Pigmentation was distributed over a large part of the body but most deeply over the left side of the abdomen. Above it reached to the level of the nipples and then faded off towards the neck. This discolouration was almost symmetrical. It existed along the front and inner aspect of each thigh and leg as far down as the ankle. On the back the bronzing formed a zone reaching from the eighth dorsal spine to the level of the head of the femur. The axillæ were pigmented and an area of discolouration extended along the inner side of each arm as far as the elbow. The prognosis appeared exceedingly grave but now after an interval of four months the pigmentation has faded until it is almost imperceptible and the lumps have disappeared. There is still, however, a doughy feeling in the abdomen and the little girl continues exceedingly thin in spite of a ravenous appetite.

The bronzing was apparently due to the pressure of enlarged mesenteric glands on the left suprarenal body. A similar instance is recorded[1] where after death enlarged glands were found pressing upon the left suprarenal body without involving its structural integrity.

Clacton-on-Sea.

ACUTE DERMATITIS CAUSED BY COTONEASTER MICROPHYLLA.

By HARRY J. COOPER, M.A., M.B. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.,

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THE following cases seem to me to be worthy of publication as I can find none on record due to poisoning by *Cotoneaster microphylla*, in addition to which the plant is a common one in gardens, but probably not usually so extensively grown as in the grounds from which the cases in question emanated. In these grounds there is a pergola over a 100 yards in length covered by this plant, besides some low walls over which it is grown. This extensive growth of the plant necessitates care from time to time in the way of clipping. In two of the cases now under notice the patients came to me at the same time just after one of these clippings.

CASE 1.—On Dec. 17th, 1897, a gardener, aged 33 years came to me with a raised patch on his right wrist, rather larger than a five shilling piece, the edges having an urticarial appearance, the centre of the patch was covered with exuding points; in addition there was an erythematous condition of the forehead with papules on the hands and thighs accompanied with much irritation. On the 19th the original patch on the wrist was four inches across and was still raised with a white areola surrounded by a red one, some of the exuding points had by this time become scabbed over. The papules on the thighs were now more urticarial in appearance; the eyelids and forehead much swollen. The man's tongue was clean, his pulse rate was 72, and his temperature was normal. These symptoms gradually subsided and he was practically well in 10 days.

CASE 2.—I saw the second patient on Dec. 17th. His cheeks were red and inflamed-looking; his left arm was red and swollen, with some raised patches, as in Case 1. On the 19th his left forearm was much swollen, measuring two inches more in circumference than the right arm, and was bright red in colour. There were raised papules on his thighs, his eyelids and face were much swollen, and he complained of great irritation. His temperature and pulse rate were normal. This patient did not fully recover till Dec. 31st.

CASE 3.—On Dec. 19th I saw a third patient, a man who had been working with the other two sufferers, but he had only a few papules on the hands.

The head gardener tells me that there have been slight cases since these, after clipping this plant, in spite of the men wearing gloves and keeping their sleeves turned down, and that they quite dread the work. I have examined microscopically leaves of the plant and I find the under surface to be thickly covered with filiform white hairs, having a sharply pointed free extremity with a bulbous expansion where they spring from the leaf. On bruising the leaf in contact with litmus paper an acid reaction is obtained.

The treatment was chiefly local, as there was practically no constitutional disturbance and it consisted in the application of lotions to relieve the irritation which was the worst feature in the cases. It appears to me from the above that there can be no doubt that this plant was the cause of the eruption, especially as the condition had not the appearance of any common skin disease and was most intense on the hands and arms which would mostly come in contact with the plant. No doubt the face and thighs were principally inoculated by the hands, as suggested by Dr. H. R. Crocker in his account of poisoning by *Rhus venenata* and *Toxicodendron*. I imagine that the hairs of this plant, like those of the nettle, secrete an acrid juice and thus cause the inflammation.

Lyme Regis.

NOTE ON A CASE OF PRECOCIOUS CONCEPTION WITH SUBSEQUENT DELIVERY AT FULL TERM.

By JAMES MILNER, M.R.C.S. ENG., L.R.C.P. EDIN.

ON May 11th, at 5.40 A.M., I was called to attend a girl, aged 14 years, six weeks, and four days, who was said to be in labour. Upon my arrival I was told that the child (which was giving audible proof of an independent existence) had been born some 20 minutes. After ligaturing and dividing the cord the placenta was expressed without difficulty. Upon examining the child I found it to present the signs of maturity and to be quite up to the average size. I was unable at the time to weigh and to measure the infant, but I did so when it was three days old, the result being: weight 6¼ pounds; length, 18¼ inches (approximately); fronto-occipital circumference, 13¼ inches; and mento-occipital circumference, 14¼ inches. Probably the weight at birth would be somewhat greater than above stated, for in addition to the usual loss during the first few days there must be taken into account persistent vomiting of the condensed milk given by the nurse in preference to the abundant available maternal supply which early made its appearance.

The subsequent history was uneventful but the progress of the labour was remarkable when the tender age of the mother is considered. The girl said that slight pains which she mistook for stomach ache began about 10 P.M. on the previous day, but no one was disturbed until 4 A.M. on May 11th when the patient's mother thought that labour was setting in. She, however, thought the pains too slight to take much notice of until about 5.30 A.M., when she sent for me and the child was born before the messenger could leave the house.

The patient's height is 56¼ inches and from her general appearance and development she would not be thought to be older than she actually is. Menstruation began at about

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[1] Brit. Med. Jour., Sept. 30th, 1893, p. 741.

12½ years of age, but the pubes is still devoid of hair, and the only apparent sign of such an event as is here recorded having taken place is the fully-developed milk-laden distension-striated breasts which contrast very oddly with the general appearance of the child-mother.

The cases of full-term labour in mothers of an earlier age than here stated, quoted in works on forensic medicine, are not numerous, for although such premature assertion of their reproductive powers is not uncommon in females of other and warmer climes, such instances are not so common in this country but that they are worthy of being recorded when they do occur, and it would be of interest to know the (verified) age of the youngest mother in this country who has unaided effected the delivery of a full-term living child and without laceration of the perineum, conditions which obtained in this instance.

The case ought to have formed a subject for the criminal court, but upon investigation by the police an offence within the legal time-limit as required by the Criminal Law Amendment Act could not be proved.

Shipdham, Norfolk.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF CIRRHOSIS OF THE LIVER TREATED SURGICALLY BY THE ESTABLISHMENT OF A COLLATERAL CIRCULATION.

(Under the care of Dr. W. MURRELL.)

THE attempt to treat portal congestion by the establishment of a collateral circulation is based on reasonable *a priori* considerations, and as in a certain number of cases the operation has proved successful it now remains only to determine the most suitable cases for the operation and the best method of inducing the formation of collateral vessels. The copious bibliography which Dr. Murrell has appended should prove of value.

A married woman, aged 48 years, was admitted into Westminster Hospital on Oct. 7th, 1901, complaining of enlargement of the abdomen of four months' duration. She had suffered from morning vomiting for six months, the vomited matter often being streaked with blood. There was no definite alcoholic history and there was no peripheral neuritis. In all probability she had had syphilis. She had had 17 children, of whom 11 were living. She had had various miscarriages at two, three, and seven months, and there was the scar of an ulcer over the left tibia for which she had been treated in the hospital in 1897. On admission the abdomen measured 42 inches at the umbilicus and contained much fluid. The liver dulness could not be mapped out with certainty. She was given five grains of iodide of potassium three times a day for a week and then the dose was increased to 15 grains three times a day for a fortnight, but from this she derived no benefit. Two days after admission paracentesis was performed and six pints and 15 ounces of pale, straw-coloured fluid were drawn off. After the tapping the abdomen at the umbilicus measured 36 inches but the fluid speedily reaccumulated and on the 29th the abdomen measured 42½ inches. On that day under gas and ether an incision was made half-way between the umbilicus and the pubes, and a large glass tube having been introduced 14½ pints of serous fluid were syphoned off, much more, however, subsequently escaping. Mr. W. G. Spencer then made another incision two and a half inches in length in the median line above the umbilicus. The abdominal cavity was explored with the finger and the liver was found to be hypertrophic, hard, not very nodular, and covered with lymph. A portion of the omentum was drawn out and stitched with four kangaroo tendons to the abdominal wall. The stitches were removed on the twelfth day and the tube was withdrawn from the lower opening. The patient was able to get up on Nov. 22nd and on the 26th there was very little fluid in the abdomen which measured 36 inches. She was discharged on the 30th, a month and a day after the operation.

On Dec. 24th the patient was readmitted with some return of the ascites. She stated that she had been in fairly good health and had been able to perform her duties. Her temperature was 102° F. and she measured 46½ inches at the umbilicus. She was suffering from bronchitis, for which she was given a mixture of chloride of ammonium, carbonate of ammonium, and iodide of potassium flavoured with liquid extract of liquorice. The back was painted with equal parts of the tinctura and liquor iodi fortis and she had inhalations of pure terebene and pinol. At the expiration of 10 days the bronchitis had disappeared and an attempt was made to promote the development of the superficial blood-vessels in the wall of the abdomen—(1) by chloroform poultices made by sprinkling a couple of drachms of chloroform on several thicknesses of lint; (2) by rubbing in unguentum capsici; and (3) by the local application of oleum cajuputi. The cajuput in addition to acting as a counter-irritant was evidently absorbed and gave much relief to the accompanying flatulence. It was thought advisable to keep the bowels well opened by the administration of a drastic purgative. The compound jalap powder was given in drachm doses every morning but was found to be uncertain and unsatisfactory in its action. Turpeth, the *Ipomœa Turpethum* of the Indian and Colonial Addendum (1900) to the British Pharmacopœia, was then substituted and answered admirably. The official dose of the powder is from five to 20 grains but it was necessary to give the maximum quantity in order to obtain a satisfactory action; this usually produced five or six copious watery motions. On this treatment the patient very greatly improved and on March 18th, 1902, it was found that the superficial veins of the abdomen were much enlarged and the circumference at the umbilicus had fallen to 42 inches. The appetite was good; the urine was abundant in quantity and was free from albumin and sugar. The patient continued to make satisfactory progress, being able to get up for some hours every day until April 1st, when the temperature rose to 102·8°, evidently as the result of some localised peritonitis, and continued high for some days. The inflammation soon subsided and good progress was again made until the 27th, when there was another rise of temperature with a considerable increase in the amount of ascites. The patient was tapped on the 29th and 23 pints of straw-coloured fluid, having a specific gravity of 1015, were drawn off. The patient was relieved temporarily but she gradually became weaker and died on May 7th.

Necropsy.—At the post-mortem examination (which was performed by Mr. E Rock Carling) the body was found to be fairly well nourished. There was a scar of an old surgical wound in the mid-line three inches above the umbilicus. On opening the abdomen there was found recent peritonitis of a fibrinous character matting together the intestines and giving rise to easily separable adhesions of the viscera generally to the abdominal wall. The abdominal cavity contained some pints of turbid fluid, whilst along the course of the descending colon there was viscid, yellowish pus; there was also evidence about the diaphragmatic surfaces of the spleen and liver of old peritonitis with thickening of the capsules and there were a few close and tough adhesions. The liver was firmly attached to the abdominal wall in the epigastric region, the intervening tissue, as was also the falciform ligament, being unusually vascular. Stretching across the abdominal wall from side to side, three and a half inches above the umbilicus, was a band of tissue, apparently organised inflammatory material, vascular, chiefly separable by the fingers, but at the extremities consisting of vessels some of which were as large as a quill and were continued from vessels in the great omentum. The omentum had thus established close connexion with the wall laterally and was slightly adherent in the middle of its extent, but the recent peritonitis made it difficult to say how much of this was of old standing. The liver (weight two pounds and nine ounces) was small, densely fibrotic, and traversed by trabeculæ. There were indications of perihepatitis. The spleen had a thickened capsule and there were indications of recent perisplenitis; it weighed 16 ounces. The kidneys weighed 10 ounces; they were lobulated, the cortex was cloudy, and the capsules were adherent. The heart weighed 10 ounces; the left ventricle was slightly dilated and hypertrophied. The aortic valve held water; the cusps were normal. The mitral valve was somewhat

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sclerosed, the chordæ tendineæ were short and thick. The right ventricle and valves of the right side were normal.

—*Remarks by* Dr MURRELL.—The Drummond-Morison operation has been performed so frequently that it can no longer be regarded as a curiosity. The above case is of interest as an illustration of the subsequent treatment adopted. It was a fairly good case for operation but the conditions were not unexceptionable. For example, the patient was subject to bronchitis and for some days after admission her temperature was 102·6° in the evening. The urine had a specific gravity of 1030 and although usually free from albumin it sometimes contained a trace. She had a faint apex systolic murmur heard most plainly at the ensiform cartilage. Her arteries were not rigid and a strong point in her favour was that she was cheerful and good tempered. Her blood was examined on May 3rd and it was found that the red blood corpuscles numbered 5,670 000 and the white 10,200 per cubic millimetre, the hæmoglobin value being 95 per cent. The counter-irritation applied to the abdomen in the manner already described was distinctly useful and the turpeth answered so well that it is somewhat surprising that it is not more commonly prescribed. There is reason to think that the operation materially prolonged the patient's life and had it not been for the frequently recurring attacks of bronchitis the result might have been still more favourable.

S. Talma of Utrecht suggested the establishment of a collateral circulation in the treatment of cirrhosis of the liver in 1887 or 1888 but published nothing on the subject until some years later. Van der Meulen performed the operation in 1888 and the patient died in a few hours from shock. Schelky made an attempt in 1889 and the patient died on the fourteenth day from peritonitis. These cases were not published. Th. Lens[1] of Paramaribo operated on a negro, aged 61 years, on June 6th, 1891, and the patient lived for nearly six months. A necropsy was made and the paper is illustrated by two reproductions from photographs showing the post-mortem appearances of the organs. The article, although reprinted in pamphlet form, attracted but little attention. Dr David Drummond of Newcastle-on-Tyne independently conceived the idea of the operation and it is to him and to his colleague Mr J Rutherford Morison that we are indebted for the suggestion in a form to ensure its general adoption and for placing the procedure on a firm scientific basis. Mr Morison's first operation was on Sept 3rd, 1894,[2] his second was on Oct. 22nd 1895,[3] and the third was on Jan 12th, 1897.[4] Dr H Campbell Thomson in a paper read before the Royal Medical and Chirurgical Society[5] states that the operation was first introduced into this country by Morison and Rutherford, but the only Rutherford of whom I can find any mention in this connexion is Mr Rutherford Morison. Talma[6] has published two papers dealing with the operation, one in 1898 and the other in 1900. He appears not to have been the actual operator but to have delegated the duty to his colleagues, von Eiselsberg and Narath. Alfred Egon Neumann[7] of Berlin on Nov 2nd, 1898, operated on a woman, aged 45 years, with an alcoholic history, who presented an abdomen distended with fluid and a liver which was hypertrophied, hard, and smooth. In the following January she was gaining flesh, the liver was smaller, there was no ascites, and there were well-developed veins about the umbilicus. Neumann considers that we should always bear in mind Talma's requirement that the liver cells be not too greatly impaired in their functional capacities and that every precaution should be taken in selecting proper cases so that discredit may not fall on so valuable an operation. On Nov 4th, 1898, Robert F Weir[8] of New York operated on a man, aged 43 years, a wine-taster, with a much enlarged liver and spleen. The omentum was stitched on each side of the abdominal wound with catgut sutures and in addition the antero-superior surface of the right lobe of the liver, the corresponding diaphragmatic part of the peritoneum, and the parietal peritoneum adjoining the wound were freely scraped with the point of a steel hat-pin. The patient died on the fifth day and at the necropsy extensive peritonitis was found especially in the pelvis. Dr H. D Rolleston and Mr G R Turner[9] have recorded two cases operated on at St. George's Hospital, both in July, 1899. F. Tilden Brown[10] on Sept. 2nd, 1899, operated on a man, aged 43 years, who had been a habitual user of alcohol for many years, chiefly in the form of whisky. A five-inch incision was made between the ensiform cartilage and the umbilicus, and a two-inch incision above the symphysis pubis. Through the lower wound a glass tube one and a quarter inches in diameter was passed into the pelvis behind the bladder. Capillary drainage was provided for by sterile gauze led through the tube. Vomiting was troublesome for the first 48 hours but was controlled by champagne. The patient made a good recovery. In November, 1899, Grinon[11] operated on a woman, aged 47 years, with good results, there being a marked venous development on the abdominal wall, and in the following year Bosowski[12] performed the operation on a girl, nine years of age the subject of cirrhotic liver. On July 25th, 1900, Charles H Frazier[13] essayed the operation under a local anæsthetic, but after opening the peritoneal cavity the manipulation caused so much pain that ether had to be administered. Frederick A. Packard and Robert G Le Conte[14] of Philadelphia operated on two cases, both on Oct. 13th, 1900. Their paper is interesting and to it is appended a list of 22 collected cases. Mr C W Mansell Moullin[15] operated in five cases. Two of the patients died, one from pleurisy four weeks after the operation and the other one week after the operation from exhaustion. The other three patients were discharged relieved, one was lost sight of and the other two were alive and well two years after. Amongst the more recent contributions to the subject may be mentioned a valuable paper by Professor H. Ito and Dr K Omi[16] of Japan in which they record their own personal experiences in five cases and append a bibliography of no less than 75 references. George Emerson Brewer of New York[17] operated on four cases. In the first, that of a woman, aged 58 years, suffering from cirrhosis and ascites, the upper surface of the small nodular liver and the outer surface of the spleen, together with the opposing parietal peritoneal surfaces, were vigorously rubbed with sterile gauze until they bled freely. The peritoneum on each side of the abdominal wound was also rubbed in the same way and the omentum was drawn down and firmly held in contact with the denuded surface by means of sutures which closed the abdominal wound. She died two days later from uræmic coma. The second operation was on a woman, aged 48 years, with cirrhosis and ascites. The mode of procedure was practically the same as in the previous case, but there was a good deal of oozing of blood from the surface of the liver and spleen and the patient died in less than 24 hours. The third case was that of a man, aged 40 years, and he died at the end of five days from peritoneal sepsis. The fourth case was in a man, aged 30 years, with a small, hard, nodular liver and a much enlarged spleen. He died a week after the operation from peritonitis. The last case was in a man, aged 40 years, who had tuberculous consolidation at the left apex with cirrhosis of the liver and ascites. It was apparently a very unfavourable case but he made a good recovery. The author seems to have been unfortunate, there being four deaths out of five cases, but possibly the cases were not selected with sufficient care. To this paper is appended a list of 60 cases in which the operation was performed, but as the information was obtained for the most part from private sources and as references are not given it is difficult for them to arrive at any conclusion as to the value of the operation.

These are all cases of cirrhosis of the liver with a more or less definite history of alcoholism, but in addition Mr J Warrington Haward[18] of St. George's Hospital in August, 1897, operated on a woman, aged 49 years, the subject of calcification of an adherent pericardium with enlargement of the liver from chronic congestion. The relief was temporary and the patient died a year later. Dr. W Ewart showed the specimen at a meeting of the Harveian Society on April 6th, 1899. On Feb. 20th, 1900, Mr

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[1] Weekblad Nederlandsch Tijdsch. v. Geneeskunde, May, 1892.

[2] Brit. Med. Jour. Sept. 19th, 1896.

[3] THE LANCET, May 27th, 1899, p. 1427.

[4] THE LANCET, May 27th, 1899, p. 1428.

[5] Transactions of the Royal Medical and Chirurgical Society, 1901, p. 250.

[6] Berliner klinische Wochenschrift, Sept. 5th, 1898, and No. 31, 1900.

[7] Deutsche Medicinische Wochenschrift, June 29th, 1899.

[8] New York Medical Record, Feb. 4th, 1899, p. 149.

[9] Transactions of the Medical Society of London, vol. xxiii., 1900, p. 63.

[10] Medical and Surgical Report of the Presbyterian Hospital, New York, vol. iv., 1900.

[11] Société Médicale de Hambourg, Jan. 16th, 1900.

[12] Centralblatt für die Grenzgebiete der Medicin und Chirurgie, 1900, Band iii.

[13] American Journal of the Medical Sciences, December, 1900, p. 661, and Annals of Surgery, June, 1901, p. 715.

[14] American Journal of the Medical Sciences, March, 1901.

[15] THE LANCET, Oct. 19th, 1901, p. 1045.

[16] Deutsche Zeitschrift für Chirurgie, January, 1902.

[17] New York Medical News, Feb. 8th, 1902.

[18] Brit. Med. Jour. April 14th, 1900, p. 904.

Spencer operated on a patient of mine suffering from Banti's disease. The details of this case have already been published.[19] Pal of Vienna in March, 1902, exhibited at the Gesellschaft der Aerzte two patients operated on by "Talma's method," in which cocaine was employed as an anæsthetic. Both recovered although one had an epileptiform fit with hemiparesis and hæmatemesis. Frank at the same meeting stated that he had performed seven operations recently for cardiac trouble associated with cirrhosis, using in each case Schleich's anæsthesia. He frequently found the omentum greatly shrunken so that a wide area had to be brought into contact with the abdominal wall in order to obtain the necessary anastomosis. In one case he connected the appendices epiploicæ with the large intestine and the patient did well.

It is difficult to say how many cases have been operated on and what is the percentage of recovery. Brewer states that of 59 cases there were 22 deaths and 37 recoveries. M. L. Harris[20] as the result of a study of 48 cases including two of his own, arrives at the conclusion that there was a recovery in 13 per cent. of the "alcoholic cases" and in 15 per cent. of the "mixed cases." Much depends on careful selection and the best results would probably be obtained in the pre-ascitic stage when the diagnosis rests on the alcoholic history with hæmatemesis and enlargement of the liver and spleen.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

A CASE OF PNEUMOCOCCAL ARTHRITIS.

(Under the care of Dr. G. R. MURRAY.)

THE pneumococcus, though generally confining its activities to the lungs, is capable of affecting other parts of the body. An arthritis is probably the most frequent condition produced and may reasonably be looked upon as pyæmic in nature. The severity of the affection of the knee is undoubtedly associated with the antecedent lesion by which the resisting power of the joint has impaired. For the notes of the case we are indebted to Dr N. McCall Smith, late junior house physician

A male, aged 42 years, was admitted into the Royal Infirmary, Newcastle-on Tyne, under the care of Dr. Murray on Jan. 30th, 1901, complaining of pain in the chest and right leg of six days' duration. A fortnight previously he hurt his right knee but was able to work with only slight pain until seized with the present illness. On admission the pulse was 98 and somewhat irregular, the respirations were 44, and the temperature was 103° F He lay flat on his back in bed. His face was flushed and bloated, his eyes were bright and congested, and his expression was anxious. There was a slight restrained cough. The tongue was red and dry and he complained of thirst. The right leg, knee, and thigh were greatly swollen and red. The leg felt "boggy" and pitted deeply on pressure. There was some streaky hyperæmia of the skin of the thigh He also complained of pain in the right shoulder. There was no marked swelling of this joint but there were tenderness on pressure and great pain on movement On examination of the chest the following condition was found. The respirations were hurried and shallow, the left side of the chest being almost motionless. Increased tactile fremitus was present on palpation over the lower lobe of the left lung posteriorly. A friction rub was felt over parts of the same area. Over the left base posteriorly and as high as one inch above the angle of the scapula the percussion note was flat. This extended forwards as far as the anterior axillary line. The other parts of the chest were practically normal. On auscultation the breath-sounds were bronchial in character over the dull area There were some friction sounds and a few clicking râles towards the base. Over the other lung the breath sounds were somewhat coarse and exaggerated.

On Jan. 31st, there was, and had been, no sputum. The exploring needle was inserted into the knee-joint, but no pus was found. A little fluid, mostly blood, was withdrawn. A film prepared from this and stained with carbol-fuchsin showed numerous capsulated diplococci. On the previous night the patient, not having slept for two nights and being in great pain, was given a quarter of a grain of morphia hypodermically and he slept well. On Feb. 1st the respirations were laboured and the pulse was 114, of low tension, and approaching in character to the "water-hammer" pulse. Later in the day the first sound became inaudible On the 2nd, under the influence of repeated hypodermic injections of strychnine, his condition had improved. The consolidation was now limited to a small portion of the upper part of the lower lobe of the lung. The redness and swelling of the leg were extending up the thigh and the pain was very great in the knee. The condition was being treated with opium fomentations. On the 3rd there was blood-stained expectoration for the first time. On examination this was found to be crowded with capsulated diplococci. No consolidation was left except in the upper quarter of the left lower lobe. Redux crepitations were present over most of the lobe There was distinct fluctuation in the right knee-joint. The exploring needle was inserted and thick creamy pus was withdrawn. The pus on examination was found to contain many capsulated diplococci. The joint was opened and the drainage-tube was passed through, no anæsthetic being given. During the following week the patient was in a critical condition. On the 10th the knee-joint was still discharging pus copiously. There were signs of abscess formation on the outer surface of the middle of the right thigh, deep fluctuation being felt. The same could be made out on the outer surface of the middle third of the right leg. On incision into these regions large quantities of creamy pus escaped. On examination the pus in both instances contained swarms of capsulated diplococci. The lung condition had quite cleared up except for some moist sounds. On the 17th there were signs of the right ankle-joint being attacked. The patient was complaining of great pain and the joint was swollen and red. The general condition was still bad. The pulse was 102, irregular, and of low tension. He had muttering delirium at night. The temperature was of a septic type. On the 19th the ankle-joint was incised behind the internal malleolus. Creamy pus escaped and was found to contain numbers of capsulated diplococci. The other incisions were still discharging. The drainage-tube was entirely removed from the knee. On the 26th the patient's condition was practically unchanged. No new focus of suppuration could be found to account for his condition. On March 4th the temperature was still raised and the mental condition was fogged. The lung was quite clear and no new focus of suppuration could be found. On the 8th the right leg had been fomented with boric lint for the last two days. All incisions were doing well, except the one in the middle third of the leg which did not seem to drain properly. On the 15th there were signs of a deep abscess in the muscles of the right calf. There was no definite fluctuation. On the 17th deep fluctuation could be made out in the right calf. On incision about half a pint of pus escaped. A large drainage-tube was inserted. On examination the diplococci were found as before. From the 17th to the 26th the temperature was never above 99°. On the 26th the tube was still in the calf. The patient was quite clear in his mind, the appetite was good, and he was doing very well.

It may be added that subsequently the patient became tired of being in the hospital and insisted on going home. When last seen as an out-patient he was quite well except for some ankylosis of the joints

Remarks by Dr. MCCALL SMITH.—The above case presents many points of interest.

1. As to treatment. Opinions seem to be divided as to the advisability of giving morphia after the initial stages of the disease. I think that in this case it was necessary owing to the fact that the patient had had no sleep for 48 hours on account of the severity of the pain in the knee. If sleeplessness in a case of pneumonia is due simply to the effects of the fever, then I think some other hypnotic such as paraldehyde (from one drachm to two drachms) ought to be used. In other words, morphia should only be used in the later stages when there is a definite pain to be subdued.

2. As to the date of onset of the arthritis This cannot be absolutely fixed but the history of injury a fortnight before his illness gives some colouring to the idea that the arthritis was the primary lesion in this case. The analogy of tuberculous joint disease also favours this view. The condition of the patient's leg on admission shows that there must have been trouble there for some days at least. Against this is the fact that he was able to work till the onset of his illness with only slight pain and the onset was that of a typical pneumonia. Personally, I am inclined to think that the

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[19] THE LANCET, June 16th, 1900, p. 1725, and April 26th, 1902, p 1177.

[20] Journal of the American Medical Association, May 3rd, 1902.

patient was suffering from an acute general infection by the pneumococcus.

3. As to the difference of virulence in different lesions. This is striking and shows how little is required to alter the virulence of organisms. In the shoulder there was a simple arthritis, almost like a rheumatic infection, which passed off in a few days. In the knee, which had sustained a slight injury, there was purulent arthritis, the injury having so changed the tissues of the joint that they became a suitable soil for the pneumococci on which they were able to flourish and to reach their maximum virulence and whence they invaded the other tissues of the leg. In the lung we find an ordinary pneumonia which ran a normal course and would not have been dangerous to life *per se*.

4. As to the history of injury. This is definite and the injured part was the first to suppurate. It would be interesting to note in how many of these cases a definite history of injury could be obtained. Among the seven cases published by Dr. N. Raw[1] there is only one in which the previous history gives any clue. In that one there is a history of rheumatism.

5. As to multiplicity of lesions. The number and position of the abscesses are interesting. First the knee was affected; then the thigh was attacked, the organisms being conveyed by the lymphatics. The streaky hyperæmia noted points to this. Then the leg began to show signs of the formation of an abscess; later still the ankle was attacked and last of all another abscess was formed in the leg. I think that the spread of the disease downwards was due to infection spreading along thrombosed veins. The lymphatics are out of the question. Metastasis is unlikely, for if that had been the means, then there ought to have been purulent foci in other parts of the body.

6. As to bacteriology. The feature of interest here is the fact that the only organism that could be demonstrated both in the sputum and the pus was a capsulated diplococcus answering in all particulars to the pneumococcus of Fraenkel. A pure cultivation was obtained from one of the abscesses in the leg and inoculation of a rabbit with the cultures so obtained caused septicæmia. Numerous diplococci were found in the rabbit's blood. The characters of this septicæmia were identical with those of the septicæmia produced by Fraenkel and Weichselbaum by injecting the sputum of pneumonic patients into rabbits.

The case is published by kind permission of Dr. Murray whom I have also to thank for furnishing me with the results of the inoculation of the rabbit.

Medical Societies.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Report of the Committee appointed to Draw up Recommendations as to Compulsory Examination of Hearing-power of School-children.—Exhibition of Cases and Specimens.

A MEETING of this society was held in Dublin on May 31st. By the kind permission of the Rev. the Provost the meeting was held in the Anatomical Department of the Medical School of Trinity College and was also attended by Fellows of the Royal Academy of Medicine and other members of the medical profession. The chair was taken at 11 A.M. by the President, Dr. URBAN PRITCHARD.

A report of the committee appointed on April 14th to draw up recommendations with regard to the compulsory examination of the hearing-power of school-children was presented and unanimously adopted. The following is the text of the report:—

To the Otological Society of the United Kingdom.

GENTLEMEN,—Your committee appointed to consider the desirability of securing for the children of the poorer classes systematic detection and treatment of ear disease and to report at an early date to the society, having carefully considered the reports submitted and the experiences recorded at the special meeting held on April 14th, have arrived at the following conclusions: 1. That there exists amongst the children of the poorer classes a very large amount of ear disease which is preventable and curable. 2. That it is not sufficiently recognised that ear disease in childhood tends to a considerable loss of hearing, health, and life, that it militates against a child's education, and that later on the subjects of it are seriously hampered in their life's work and often incapacitated for the services of the State. 3. That ear disease in children is often not treated, partly owing to neglect, partly to ignorance and to belief in popular fallacies, but more especially to an inability on the part of parents and teachers to detect it. 4. That any scheme having for its object the security of children against the consequences of ear disease to be efficient must provide for thorough and systematic examination and treatment. 5. And, lastly, having regard to the national importance of the subject, we recommend that a memorial embodying this report be submitted to the President of the Committee of the Council on Education.—Signed by URBAN PRITCHARD (President), ARTHUR H. CHEATLE, H. MACNAUGHTON JONES, W. PERMEWAN, and WILLIAM MILLIGAN and W. JOBSON HORNE (honorary secretaries).

Clinical cases were exhibited by Professor STORY, Dr. DEMPSEY, and Mr. R. H. WOODS.

A communication was read from Dr. MACNAUGHTON JONES giving the notes of a case of Double Perforation of the Membrana Tympani by Lightning.

Professor CUNNINGHAM gave a lantern demonstration of the Central Connexions of the Cochlear Nerve in the Orang, Chimpanzee, Gibbon, and Man.

Professor COFFEY demonstrated the Nerve-endings in the Ventral Cochlear Nucleus, the Superior Olive, and the Trapezoid Body.

Dr. DEMPSEY showed microscopic slides of the Membranous Labyrinth.

The PRESIDENT showed lantern slides of Microscopic Sections of the Internal Ear.

Mr. A. H. CHEATLE exhibited specimens of Temporal Bones showing the Petro-squamosal Sinus.

Dr. W. JOBSON HORNE showed preparations demonstrating the Formation of an Abscess Sac at the Site of the Saccus Endolymphaticus.

The visiting members were entertained most hospitably by their Dublin *confrères* and the meeting from the scientific aspect, and in every respect, was an important and successful one.

Reviews and Notices of Books.

Lehrbuch der Nervenkrankheiten für Aerzte und Studirende. (*Text-book of Nerve Diseases for Practitioners and Students.*) By Professor Dr. H. OPPENHEIM. Third Edition. Berlin: S. Karger. 1902. Super roy. 8vo, pp. 1220, 369 Illustrations. Price 27s. net.

THE three years which have elapsed since the publication of the second edition of Dr. Oppenheim's book have seen no striking change in our conception of diseases of the nervous system as a whole; no great discovery has been made to alter our views of the nature of these affections, nor have we learned much as to their treatment; and yet this period has been far from unfruitful. A good deal of useful "spade work" in the shape of the accumulation of observations has considerably widened the details of our knowledge both of the physiology and pathology of the nervous system. Dr. Oppenheim's book has expanded *pari passu* with the increased supply of material. The 985 pages of the second edition have grown to 1220 pages in the volume before us, while the number of illustrations has increased from 287 to 369; it has at the same time been thoroughly revised and brought up to date. The general plan of the book remains unaltered. With a view to supply the needs of the practitioner and student special attention has been paid to symptomatology, diagnosis, prognosis, and treatment, only so much pathological anatomy having been introduced as is necessary to a clear understanding of the clinical features of the various morbid processes.

The book is divided into two parts, the first of which is devoted to the general symptomatology of nerve diseases and to the methods of examination which are commonly employed. Succinct but comprehensive directions are here given for examining muscular movements, reflexes, vaso-motor, trophic, and secretory disturbances, and the other channels through which morbid conditions of the nerves manifest themselves. The actions of the different muscles and groups of muscles are given in some detail with capital photographic illustrations of the attitudes which are assumed in paralysis of them. The investigation of the electrical reactions of muscles and nerves, a subject which the student often finds one of difficulty in practice, is fully described. The second part is subdivided into six sections. In the first of these are discussed diseases of the spinal cord, in the second those of peripheral nerves, in the third those of the brain, and in the remainder neuroses, affections of the sympathetic, and intoxications which particularly influence the nervous system. The consideration of each of these sections is prefaced by a short account of the normal physiology and histology of the parts concerned and the effects of different kinds of lesions are indicated briefly.

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[1] Brit. Med. Jour., Dec. 21st, 1901.

In his introduction to the diseases of the spinal cord the author alludes to the attack on the "neuron theory" recently made by Apáthy and Bethe. Dr. Oppenheim is of opinion that the commonly accepted view of the neuron as a histological entity may have to be enlarged but that there is no reason to doubt the general truth of the theory. In considering the symptoms produced by injuries of the cord Dr. Oppenheim discusses the cause of the hyperæsthesia of the paralysed limb in Brown-Séquard's paralysis and adds yet another theory to those which have been advanced to account for it. Peripheral sensory stimuli on reaching the cord divide into two components, one of which passes up on the same side to a subcortical centre (not giving rise to sensation), while the other is conducted through the opposite side to a sensory area. A one-sided lesion, barring the passage of the former, diverts it to the path pursued by the latter which, thus reinforced, produces an exaggerated sensation on reaching the cortex. It is an ingenious theory though it does not quite solve the whole problem.

The author's descriptions of the diseases of the nervous system are lucid and graphic. The commoner forms are adequately dealt with while the rarer varieties receive more attention than is usually paid to them in ordinary text-books, a feature of this work which adds greatly to its value for purposes of reference. There is, perhaps, a tendency to make the subject a little too easy. The maladies as described in the book do not display that reluctance to arrange themselves according to types which they are apt to exhibit when met with in real life. However, in a text-book this is to some extent unavoidable and we are bound to say that an unusually large number of anomalous and atypical cases are mentioned in the appendices to the various sections.

With regard to the view which has been advanced that locomotor ataxy is primarily an affection of the posterior roots the author offers no opinion one way or another. In the matter of treatment he has found Frenkel's system of exercises in coördination useful but he warns us not to expect too much from it. While Erb strongly recommended the exhibition of mercurials in tabes Dr. Oppenheim finds them useless in the majority of cases and, rightly as we think, only gives them when they are specially indicated. Galvanism should be tried in every case and its use persevered in for several months. In cases of incontinence of urine he has had striking results from internal faradisation of the sphincter vesicæ. In the treatment of the sequelæ of acute anterior poliomyelitis stress is laid on the value of transplantation of tendons in cases where the joints of the extremities are affected by localised paralyses. This operation might be performed with benefit much more frequently than is generally realised. A page in this section is devoted to the subject of periodical paralyses of the extremities. Some of these are associated with malaria and are relieved by quinine, others are not malarial. The author mentions the case of a boy, aged 13 years, who on recovering from scarlet fever began to suffer from attacks of paralysis which came on at first about once a fortnight. The patient is now grown up and married but still suffers from this curious complaint.

In the next two sections are discussed diseases of the peripheral nerves and those of the brain. In regard to bulbar paralyses, a satisfactory classification does not yet seem to be within sight. Besides the ordinary varieties the author mentions several very interesting forms. In one case he saw bulbar symptoms, the nature of which remained unexplained, in connexion with an attack of laryngismus stridulus. He also refers to three very suggestive instances of bulbar paralysis occurring during typhoid fever. Two of these patients recovered; in the case of the third no histological changes could be found but all parts of the central nervous system were overrun by streptococci. A similar case is reported by Seitz in which pneumococci were found. A fairly full account of myasthenia gravis pseudoparalytica or "myasthenic paralysis," as the author calls it (bulbar paralysis without anatomical lesions) is given. In the earlier cases which are described the bulbar symptoms were the ones which chiefly attracted attention; latterly the proneness to rapid muscular fatigue has been particularly noted. The danger to the patient from this liability to muscular exhaustion was strikingly illustrated in a case under the care of the author. Electrical examination of the thoracic muscles, for instance, at once induced alarming dyspnœa. Mastication and swallowing were performed under difficulties owing to the speedy exhaustion of the muscles of the jaw and the throat. In order to spare the patient this fatigue Dr. Oppenheim caused him to be fed by a tube; unfortunately the spasms set up by the passage of this instrument proved fatal. The author's opinion that infantile convulsions in a certain number of cases are early symptoms of hysteria or epilepsy has, we think, been shown to be correct. He does not, however, give us any guide to the diagnosis of the hysterical or epileptic convulsion in a young child. The majority of children who suffer from eclampsia infantum, we believe, grow up healthy.

The pathology of those attacks which occur in connexion with acute purulent otitis media in young infants and which sometimes resemble a purulent meningitis, sometimes abscess of the brain, but which tend to get well, is obscure. The author believes that they are usually cases of so-called meningitis serosa and recommends lumbar puncture if evacuation of the pus from the ear is not successful.

In the chapter on Neuroses the high standard reached throughout the book is maintained. The author has exercised great judgment in his selection from the vast mass of facts which lies at the disposal of a writer on diseases of the nervous system and has arranged his material very skilfully. While we think that he was wise in refraining from the compilation of a bibliography he would have added to the usefulness of his book by giving references to the authorities quoted in the text. The work is in any case one which every practitioner will find extremely valuable and interesting. We understand that translations of it into Italian, Russian, and Spanish are in preparation.

The Climates and Baths of Great Britain, being the Report of a Committee of the Royal Medical and Chirurgical Society of London. Vol. II. London: Macmillan and Co. 1902. Medium 8vo. Pp. 628–xvi., with seven maps. Price 12s. 6d. net.

WE congratulate the committee of the Royal Medical and Chirurgical Society that undertook this work on the completion of its report. This second and final volume deals with the climates of London and of the central and northern portions of England, together with those of Wales and Ireland. The climates of Scotland are omitted as the necessary local coöperation could not be obtained. The chairman of the committee, Dr. C. T. Williams, has himself contributed the able section on South Wales in which the various meteorological data of the district and their significance in medical climatology are thoroughly discussed. The article on the Midland Counties is by Dr. P. Horton-Smith, by whose energy and industry as honorary secretary to the committee the publication of the present volume has been much accelerated. In fact, he has done for the second volume what Dr. Archibald Garrod did for the first one. In comparison with the large number of seaside places visited by convalescents, overworked persons, and invalids for their tonic climates England is scantily supplied with places suitable as bracing inland resorts—and resorts of this class are much needed for patients who are troubled with biliousness, constipation, and headaches at coast resorts. Dr. Horton-Smith, however, has pointed out various places in the midland counties which can be used for the tonic effects of a visit, and favourable sites for future inland sanatoriums and health resorts have been suggested by other contributors—for instance, by the late Dr. D. J. Leech of Manchester in his article on North Wales. Sir J. W. Moore of Dublin has contributed the longest article in the volume; it would, indeed, constitute a fair-sized book by itself and it deals with the whole of Ireland, excepting Lisdoonvarna, which has been described by Dr Norman Moore. Besides purely medical and climatological considerations a vast amount of interesting information regarding the history, antiquities, and traditions of Irish towns is included, and this at least the medical tourist in Ireland will certainly appreciate. A most important section is that by Dr. W. Ewart on London and "Greater London." In the greatest city of the world the artificial local modifications of climate, resulting from drainage and covering over of the soil, can be admirably studied, and in this respect Dr Ewart's article has a special value of its own. The present volume is, indeed, a storehouse of information and as such should be available as a work of reference by every practitioner in the British Islands. To those in other countries seeking information on British resorts it should prove invaluable and will correct many erroneous notions.

The book is a pioneer one and much ground has been left marked out for future observers to study. It is to be hoped that local practitioners will be stimulated to fill up any gaps and shortcomings which they may detect with the results of their own observations and inquiries, and that such results may afterwards be embodied in a second edition.

Das Wirbeltierblut in Mikrokristallographischer Hinsicht. Von Dr. Med H. U. KOBERT. Mit einem Vorworte von Staatsrat Professor Dr. R. KOBERT, Direktor des Instituts für Pharmakologie und Physiologische Chemie zu Rostock. (*The Microscopical Characters of the Crystals obtained from the Blood of Vertebrates.* By Dr. H. U. KOBERT, honorary physician to the Freemasons' Hospital at Hamburg With 26 Illustrations in the text.) Stuttgart: Von Enke. 1901. Pp. 118.

DR. R. KOBERT remarks in his preface to Dr. H. U. Kobert's work that the micro-chemical characters of the crystals of blood, so important in legal investigations, are not well known to the physicians and apothecaries of Germany who are analysts by profession, and that this ignorance is especially noticeable in regard to hæmochromogen crystals. The present short treatise is designed to enlighten that ignorance. In the animal kingdom there are two kinds of blood which may be termed iron blood and copper blood. Copper blood is represented by hæmocyanin and is found in molluscs, arthropods, and some tunicates, as has been shown by Halliburton. It appears to give colourless crystals. Dr. Kobert's views in regard to the nature of hæmoglobin agree with those of Hoppe Seyler who held that the substance of the red corpuscles was made up of a chemical compound, hæmoglobin, and not of two separate substances, stroma and hæmoglobin. The hæmoglobin in the arteries rich in oxygen he terms arterin; that in the veins poor in oxygen he names phlebin; and various methods are given by which arterin and phlebin crystals can be obtained. Free hæmoglobin only occurs in the blood of living man in hæmoglobinuria or in certain forms of poisoning, but he thinks it to be very questionable whether blood crystals ever form during life, hæmoglobin crystals, supposed to exist in the urinary tubules by various observers, being really crystals of parhæmoglobin. Dr. Kobert passes lightly over the various forms of methæmoglobin, such as sulphmethæmoglobin, cyanmethæmoglobin, peroxide of hydrogen-methæmoglobin, nitrite-methæmoglobin, photo-methæmoglobin, and others. Parhæmoglobin is obtained by treating oxyhæmoglobin crystals with strong alcohol, which without changing their form renders these crystals insoluble in water Parhæmoglobin crystals can be obtained from the blood of animals such as cats poisoned with canadin from the hydrastis canadensis. For the recognition of blood in judicial inquiries hæmatin and hæmin are of great importance A case has been put on record in which the Teichmann crystals of hæmin obtained by the addition of common salt and glacial acetic acid to the stain or spot were recognised to be true hæmin crystals, 40 years having elapsed since the blood was shed. The various methods of obtaining hæmin crystals suggested by Teichmann. Cloetta, Strzyzowski, Wachholz, and Nencki are described very fully Several illustrations are given of hæmochromogen crystals from various animals, as the horse, hamster, guinea-pig, and owl. It seems to be not improbable that hæmochromogen and myohæmatin are identical. Dr. Kobert has collected the various statements that have been published by Nencki, Zaleski, McMunn, and others in regard to hæmatoporphyrin, and points out that if two atoms of oxygen are withdrawn from it phylloporphyrin is obtained which has close relations to the chlorophyl of plants. He considers that the hæmin molecule is composed of two hæmatoporphyrin molecules which are perhaps held together by the iron. A substance intermediate between hæmatoporphyrin and phylloporphyrin is mesoporphyrin, the composition of which is expressed by the formula $C_{16}H_{18}N_2O_2$, the hydrochlorate of which forms beautiful crystals. It is interesting to find that the colouring matter of the blood of animals and of the leaves of plants are nearly allied. There seems to be some difference of opinion amongst chemists in regard to the pigments of various shades that are grouped together under the name of "melanin," some thinking that they are entirely derived from hæmoglobin, whilst others, like R. Kobert, think that a part only has this origin. The last sections of the work are devoted to crystals from white corpuscles and the crystals obtained by Florence from the spermatic fluid which are of importance in medico-legal inquiries, to hæmosterin, blood-serum, fibrin, and formalin pigment crystals. The treatise gives concisely all that is known in regard to crystals obtained from blood and is valuable as a work of reference to all who are engaged in examining such crystals.

Diseases of the Digestive Organs in Infancy and Childhood. By LOUIS STARR, M.D. Third edition, rewritten and enlarged. London Rebman, Limited. 1901. Pp. 448, with illustrations. Price 12s. 6d.

THE volume under review represents a third and revised edition of a work which was originally published by Dr. Louis Starr in the year 1891. Although much old matter which appeared in former editions has been deleted from the pages of the present volume nevertheless the inclusion of many new chapters, notably on Simple Atrophy, Infantile Scurvy, Rickets, and Lithæmia, more than makes good the loss as far as actual size is concerned. One of the special features which marks the revision of Dr. Starr's work is that conformably with the tendency of modern pediatrics the treatment of infantile diseases by drugs and pharmacological preparations is relegated to an entirely subordinate position, while the value of hygienic and dietetic measures in prophylaxis and therapeusis is acknowledged and emphasised in every section of the work. The methods of artificial feeding occupy no inconsiderable portion of the introduction which discusses the general management of children and includes separate chapters on Bathing, Clothing, Sleep, Exercise, and Massage. As regards the general principles of artificial feeding the author insists strongly on the necessity of cleanliness and accuracy in the carrying out of whatever method is employed. The infant is not to be regarded as a mechanical machine constituted on one particular type. Allowances must be made for idiosyncrasies and individual peculiarities. We may, however, point out that an infant is guided in his actions by instincts and emotions and not by intelligence, and hence the suggestion that his own inclination as regards food should be humoured does not strike us as altogether sound. It is generally admitted that one of the first principles of infant feeding is to feed the child and not to allow him to feed himself.

Although the author highly approves of the "percentage feeding" his experience of the results of laboratory milk—that is to say, milk which is prepared according to prescription in the Walker Gordon laboratories—appears to have been most unfortunate According to his view the home modification of milk carried out in accordance with accurate percentage formulæ possesses great advantages over the methods employed in properly constituted laboratories inasmuch as the process entails less manipulative interference with the physical and chemical properties of the natural secretion and consequently with its nutritive value as a food.

In speaking of the rearing of infants on condensed milks, the large quantity of sugar contained in the majority of these preparations is mentioned as possessing unquestionable advantages, inasmuch as an excess of this element tends to "make large babies" and to counteract the tendency to constipation. Most authorities, however, find little to admire in "largeness" of this kind, and although we are aware that Dr. Jacobi among others recommends the exhibition of sugar as a useful laxative it is altogether questionable whether the laxative action is due to anything else than fermentative processes occurring in the bowel. Feeding, however, on condensed milk is not recommended by Dr. Starr as a general practice, since prolonged adherence to this method is likely to lead to the appearance of symptoms of scurvy, a result which is also to be anticipated with any kind of artificial feeding in which the food is not "live." In a series of 25 cases of infantile scurvy which have come under the notice of the author it is interesting to notice that recovery has ensued in the majority of cases by the simple addition of a few teaspoonfuls of orange juice to the ordinary dietary of percentage milk (modified at home). The chapter on Lithæmia—which, by the bye, is not Americanised into "lithemia"—is full of instructive and useful illustration ; although in practice this condition is frequently recognised under various guises it is not usually described as an independent pathological entity in works which treat of the diseases of children. The train of symptoms which are associated with this incomplete metabolism of proteid matter is attributed by the author to defective hepatic function due to hereditary causes or to a diet which is too abundant in nitrogenous elements. "It is quite common," continues Dr. Starr, "for healthy children after a surfeit of food to void urine laden with uric acid, but the patient cannot be classed as lithæmic unless the condition be persistent."

The second part of the volume contains chapters on Affections of the Throat, Mouth, Stomach, and Intestines, Liver, and Peritoneum. Each of them consists of a straightforward account of the etiology, symptoms, and treatment. Although, taken as a whole, the little book presents no striking or original features, it is full of common-sense advice and the rational methods advocated will certainly be appreciated by the patients who are treated on this plan.

LIBRARY TABLE.

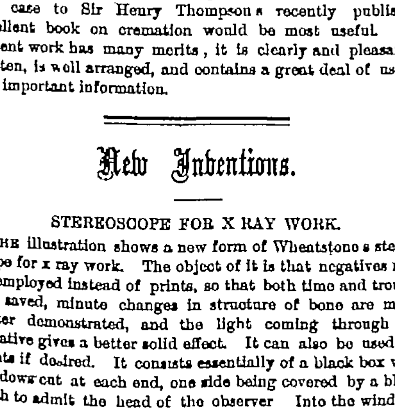
Guide to the Microscopical Examination of the Eye. By Professor R. GREEF, Surgeon to the Ophthalmic Department of the Royal Charité Hospital, Berlin. Translated from the Second German edition by HUGH WALKER, M.A. Glasg., M.B. Edin., Assistant Surgeon to the Ophthalmic Department of the Glasgow Royal Infirmary. London: Rebman, Limited. 1901. Pp. 171. Price 5s. net.—This is a practical and most useful little book and should be in the pathologist's room of every ophthalmic hospital. Opportunity, says the Father of Medicine, is fleeting, and many a valuable specimen is lost by the neglect of the surgeon to place the specimen in some preservative fluid immediately after its removal. A very few minutes' delay proves fatal to histological research where the tissue is very delicate, as in the case of the retina. At the same time the author is quite right in stating that the examination of tissues in the fresh state is less practised than it deserves to be. "Many advantages are lost by hardening. A glioma of the retina presents in the hardened and stained preparation a picture quite different from that which it affords in the fresh condition. Every intraocular tumour should be examined in its natural state." With regard to the various methods of fixing and hardening the globe, the directions are very clear and explicit. The book is divided into two parts. The first or general, part gives, besides the methods of fixing and hardening, the imbedding and paraffin processes and the mode of mounting in glycerine. The methods of staining, double and triple staining, and the demonstration of definite substances and tissue elements are fully described. The second or special part is occupied with the modes of demonstrating the structure of the several tissues of the eye, such as those of the cornea, the iris and choroid, the lens, the retina, and the optic nerve We venture to give one example of the plan of the work by quoting the section on that method of triple staining (p. 61) known as Van Gieson's stain. "1. Hardening in Müller's fluid or otherwise. 2. Imbedding in celloidin. Section-cutting. 3 Preliminary staining in Delafield's or Boehmer's hæmatoxylin. It is better to overstain the sections (half an hour) and not, as was originally recommended, to keep them in the hæmatoxylin for only three to five minutes. 4. Thorough washing in water. 5. Staining for a minute or two in a mixture consisting of a saturated aqueous solution of picric acid to which a few drops of a saturated aqueous solution of acid-fuchsin are added before use. The depth of the fuchsin stain may, if necessary, be lessened by immersing the sections in a solution of picric acid. 6. Washing for a minute or two. 7. Alcohol 80 per cent. and 90 per cent. 8. Oil, Canada balsam" In this stain the nuclei are coloured violet, the axis cylinders red, and the medullary sheaths yellow.

Handbook of Public Health. By JOHN ORR, M.D., F.R.C.P.Edin., M.R.C.S. Eng. Edinburgh: E. & S. Livingston. 1901. 8vo, pp. 236. Illustrated. Price 4s. net.—There are already so many volumes which are said to be "hand-books" of public health that we cannot but regret that this author has chosen the word as part of the title of his little book, for it is certainly not a "handbook" in the sense in which many of our large text-books are. It is more elementary in its teaching, suited to the ordinary need of the medical student for general knowledge, not suitable for the requirements of the Public Health diploma student, and therefore would be more aptly termed a "Note-book," or "Outlines," of the art and science of hygiene. It is quite usual to read in a preface that the author considers that "in spite of the already large existing literature of this subject there is a distinct need" for yet another book, wherein old opinions and the views of authorities are too often served up again, embedded in a mass of fresh verbiage with scarcely one new idea throughout." The expression, "need" for another book, occurs in this work and this time we are inclined to agree with the author Text-books on public health which contain full details and which are excellent for examination purposes exist in plenty, but for the ordinary student of medicine who has no time or inclination to devote to the study of a large work on public health and who yet is desirous of becoming familiar with the methods of ventilation, water supply, the disposition of refuse, drainage, and school hygiene there has been, so far as we are aware, no really satisfactory book In this little work students will find just what they really ought not to be ignorant of—rough and ready methods of softening water and of estimating the degree of impurity in respired air and in drinking water There are clear explanations of such ordinary meteorological instruments as the anemometer, the rain gauge, and the barometer We suggest that in the next edition there should be a *short* list of bibliographical references at the end of each chapter At the end of the brief notice of cremation, for example, the reader will doubtless feel that the subject has been quitted too soon and that the author's presentation of it is too sketchy The busy man can seldom attend at the medical library and wishes to waste no time in finding out what book he ought to read. A reference in this case to Sir Henry Thompson's recently published excellent book on cremation would be most useful. The present work has many merits, it is clearly and pleasantly written, is well arranged, and contains a great deal of useful and important information.

New Inventions.

STEREOSCOPE FOR X RAY WORK.

THE illustration shows a new form of Wheatstone's stereoscope for x ray work. The object of it is that negatives may be employed instead of prints, so that both time and trouble are saved, minute changes in structure of bone are much better demonstrated, and the light coming through the negative gives a better solid effect. It can also be used for prints if desired. It consists essentially of a black box with windows cut at each end, one side being covered by a black cloth to admit the head of the observer Into the windows are fitted the various sized frames for the different plates used and these are adjustable if the negatives do not quite correspond. Opal glass screens at each end reflect the light. The stereoscope negatives are placed in the frames at each end and examined in the mirrors in the ordinary way The makers of this instrument are Messrs. Cox and Co



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Looking Back.

FROM

THE LANCET, *SATURDAY, JUNE 5*, 1824.

Foreign Department.

ON THE CURE OF HYDROPHOBIA.

[From Hufeland's Journal der practischen Heilkunde.—March]

Blisters under the tongue in hydrophobia long known in Greece under the name of Lyssais By Dr XANTHOS, *of Siphnus, in Greece.*

At the end of January 1823, as many of my countrymen, compelled by the events which occurred in our country, were travelling from Russia through Germany to Marseilles I saw one of them who came from Trapezunt, who had been bitten by a dog in Hanover.

He had a considerable wound in the middle of the right thigh, which pained him in walking Notwithstanding my advice, that he should stop on his journey till the wound was healed he insisted on setting out the same day with his countrymen and took nothing with him but a little mild salve. Early in the month of May, I met this man again with 27 of my countrymen in Zurich, and was happy to find the wound in a short time completely healed. The man said it was a lucky circumstance that the dog was not mad upon which a Greek, from the Peloponnesus, considerably advanced in years, and well acquainted with the customs of our country observed, that if the dog had been mad it would not have been of much consequence, all that would have been necessary was to cut out the *Lyssais* as soon as possible I immediately put the question to him, 'What do you mean by the *Lyssais?*' He replied, 'In persons who have been bitten by mad dogs, there appear on the ninth day, little blisters under the tongue, which we call *Lyssais;* these must be cut off with a sharp knife, and the bleeding suffered to continue till the poison is discharged.'

Acquainted with the information, which Dr MAROCHETTI had communicated on this subject I considered the testimony of this old Greek extremely important. I inquired of my other countrymen who had lived in various provinces of Greece, whether they were acquainted with this practice, most of them answered in the affirmative, some assured me that they had often witnessed it

As my countrymen were too much dispersed in different places to enable me personally to obtain particular information on this subject from each of them, I sent certain questions from Heidelburg, and obtained from Arau, the following answer from Polychronis, a Thessalian

"If a man is bitten by a mad dog on the ninth day small blisters called *Lyssais* appear under the tongue, they are about the size of a pea, some of them smaller! they are rather dark coloured and look like flesh.—They are situated on the under side of the tongue, near the membranous band, particularly on the side of the veins If you observe the tongue of a sound man and then examine that of a man who has been bitten by a mad dog, you will immediately see the difference.

'As soon as these *Lyssais* are observed, they must be cut out with a sharp knife and the bleeding continued, till the poison is discharged If this is neglected, or deferred too long as for instance till the twentieth day the brain becomes affected, and the patient will die in deplorable convulsions"

ROYAL INSTITUTION OF CORNWALL.—At the meeting of the Royal Institution of Cornwall held at Truro on May 27th an interesting paper by Dr John Beddoe on the history of the human bones recently found at Harlyn Bay, Cornwall was read. Dr Beddoe estimated that the stature of the people whose bones had been discovered was 64 5 inches and 61·2 inches for the male and female respectively Dr Beddoe added that the observations on the discoveries at Harlyn Bay went to swell the mass of evidence that the general population of Britain before the Christian era was not of tall stature.

THE LANCET.

LONDON: SATURDAY, JUNE 7, 1902.

Peace.

ON the evening of Sunday, June 1st, it became known in London that terms of peace had been signed at Pretoria and that the struggle which had weighed so heavily upon England, while it threatened not merely the conquest but the extinction of her adversary, had been brought to a formal conclusion. The news has afforded to all a feeling of sincere relief and thankfulness, for in whatever manner many Englishmen regarded their enemy at an early period of the contest they had learnt to respect him later as a foe full of resource and fighting desperately in a hopeless cause, while the views held with regard to him by those who had returned from the seat of war had done much to temper those held by others who had had no such experience. The Boers had been beaten; as far as their fighting capacity was concerned they had been almost annihilated; none, least of all those who had fought against them, wished to see them exterminated. All now hope that the pacification, the settlement, and the rehabilitation of the late republics as British dependencies will proceed tranquilly, rapidly, and effectively, and that south as well as north of the Orange river the signature of the terms of surrender will be followed by lasting peace and revived prosperity.

The task before the representatives of British rule is not light. To a territory the vastness of which it is difficult for us to appreciate at home, but to which they are fully alive, they have to restore its inhabitants and to restore them in such a manner that they will renew their domicile under equal laws obeyed by all and in circumstances that will enable them to become useful citizens under new constitutional conditions. In the Cape Colony as well as in the Boer States the restoration of constitutional government is still a matter for future deliberation and care. No light part of the work of renewing the civil and social life of the tracts laid desolate by war will consist in the difficulty of so restoring the population to their homes that they may be able to support life. Starvation will for some time be one of the dangers that will beset them, while many of them will be living in localities which during the war have proved hotbeds of disease. The burial of the dead has necessarily been hurried in many instances —and this in places which have been, or may become, dwelling-places for the living, while thousands of animals have died and have not been buried at all. Experience in the concentration camps has shown that the humbler classes of the Boer population are entirely ignorant of the rudiments of sanitation and the treatment of the simplest forms of disease, and that they are by no means ready to be instructed or to follow the example set by those whose habits are more in accordance with modern views upon such subjects. Still, no doubt the concentration camps and those in which prisoners of war have been confined will prove to have been educational centres of no mean value, and the lessons learnt in them will be found to bear fruit to some extent as time goes on.

The lessons of the war, however, that should most carefully be laid to heart in the years of peace that all now hope to enjoy, are those which have been taught to the victors. Already the military organisation of our army has been remodelled and the military instruction administered to its members has been completely changed in accordance with the teaching of bitter experience. The fighting force of Great Britain stands now in possession of actual experience of warfare that will meet with respectful regard among other nations. The authorities responsible for the Army Medical Service have also learnt much in the same stern but unrivalled school. They have learnt, or have had the opportunity of learning, its defects of organisation, they have learnt the limits of its resources, and the nature of the resources with which civilian aid, voluntary or otherwise, can reinforce it. They have also been enabled to form opinions as to the best mode of providing for the obtaining and making full use of such extraneous aid in future time of stress. The Royal Army Medical Corps has learnt to the fullest extent the nature of the wounds inflicted by modern artillery and modern small-arm fire, as well as how to adapt the latest discoveries and resources of modern surgical science to the necessarily limited apparatus and equipment of the field hospital. It has had experience of epidemic disease attacking large bodies of troops, and of all the ills that arise from over-fatigue, over-exposure, and a defective food-supply, upon a scale without parallel since the adoption of modern methods of dealing with these difficulties. The authorities have now the opportunity of reviewing in time of peace its successes and its failures, of insuring the repetition of the former should any future occasion arise, and of guarding against the recurrence of any shortcoming where it is possible for human prudence and ingenuity to guard against it. It is easy beforehand to make resolutions that this shall be done, but history contains instances which show that the lessons learnt in war are not always sufficiently remembered when peace gives the opportunity of studying them with effect. The new warrant is a step in advance; it should secure valuable men for the Royal Army Medical Corps. But many directions yet remain in which the welfare of the corps requires watching. The war so recently ended has proved this; the peace now commencing must not lead to forgetfulness.

There is one thing that we can confidently affirm will now be learnt by all those who during the war have worked to save life and to mitigate suffering, and who during the coming months will be returning to their country, and that is, that we at home are grateful for what they have done. If there have been shortcomings here or there, if some have cavilled at this or at that, the fault has been found in some defect of a system which did not adapt itself to exceptional and trying circumstances. For the *personnel* of the surgical and nursing staffs which have done their duty so nobly in South Africa there have been, and will be, nothing but unstinted praise and high honour. They have toiled without rest or remission through the weary months and years. They have endured hardship and courted danger and some have laid down their lives. Some have won the recognition of their heroism in the medals and decorations that are claimed by conspicuous gallantry, but for the most part their battles have been fought unseen, their courage and their endurance have been shown where few were aware of these qualities, or where all were displaying them in an equal degree. Let us not forget those who will never return to receive the meed of praise and let us accord it ungrudgingly to those who now come back to seek rest among their grateful countrymen.

Metropolitan Hospital Sunday Fund.

JUNE 15TH will be Hospital Sunday We publish to-day our annual supplement in which we urge the claims of the London hospitals upon the generosity of the public, and we add the hope that in the year and month of the coronation of King EDWARD VII. the pressing needs of the maimed and sick poor in the great metropolis of his kingdom may not be forgotten. Their claim to consideration may well inspire the eloquence of the preachers in our places of worship at any time, but during such a period as the present one there is need to be more than usually insistent. Many will, no doubt, during the current month exceed their normal rate of expenditure owing to their natural eagerness to exhibit their loyalty and to witness the many interesting spectacles which an occasion unparalleled in their memory will provide. If, however, the Hospital Sunday Fund suffers from the circumstances in which it is thus collected in 1902 it will be clear that, by some, at all events, loyalty will have been displayed and enjoyment sought at the expense of the hospitals of London and of those for whose benefit those hospitals exist. Let us hope, however, that no such reproach will rest on any, but that rather all will give with a generosity exceeding that of previous years, not so much in order that the Hospital Sunday Fund may not suffer by the coronation as in order that in the year of the crowning of their King it may eclipse all its previous records. Let those who give also remember that if their generosity is exceptional in the present year it will bear an exceptional result, for a wealthy friend of the hospitals of London has promised that should the total of the Fund reach £80,000 he will increase it by 25 per cent. Those who realise that through this generous promise every sovereign they give may be worth 25s. to the Fund will, we hope, find an additional incentive in the determination that the imposed condition shall be fulfilled. It will be remembered that the sum realised on Hospital Sunday last year was £51,893, and in the year before £53,504, while the highest sum contributed hitherto has been £60,361, so that there is some need for unusual liberality at the present time

Another circumstance should not be forgotten which may well stimulate generosity On the last two occasions upon which we have pleaded the cause of the Metropolitan Hospital Sunday Fund we have done so with the knowledge that the country was engaged in a desperate struggle with a determined enemy—a struggle which not only was absorbing valuable lives but which was pre eminently a costly struggle, entailing the expenditure of sums of money that probably no other country in the world could have afforded to pay. Meanwhile, every market in the metropolis was feeling the depression in trade consequent on the prolongation of the strife, and almost every man who was called upon to contribute to the Hospital Sunday Fund might fairly have buttoned up his pockets and replied that he was poorer than in other years and so could not afford to give. This, we are thankful to say, is no longer the case to-day The close of the war in South Africa has long seemed imminent, it is now an established fact. Peace has brought promise of prosperity to many, rest from bitter anxiety to others, with, presently, the return of relatives who have for years past faced death and danger and endured wounds or disease. Let those whose relatives have lain in the hospitals of South Africa and those who have been in those hospitals not forget that the surgeons, military or civil, who attended them, as well as the nurses who ministered to their needs, acquired their skill and learnt their duties in hospitals such as they are now called upon to assist, while a large proportion of them were trained in the very hospitals for the sake of which the Hospital Sunday Fund is organised.

In order that lay readers, many of whom have not had the opportunity of judging for themselves, may be able to get a glimpse at the work which is done in the hospitals, as seen by the eyes of those on whose behalf it is performed, we have framed our annual Hospital Sunday Fund Supplement in an unusual form. Those who peruse it will find the testimony of inmates of hospitals, or of persons who have been inmates or of the parents of children who have been inmates of hospitals, taken from their own lips. They will find recorded the gratitude of those whose injuries range from the crushed pelvis and ruptured bladder of the navvy who, in his own words, was "squeedged" against a stanchion by a bale of wool, to the broken leg of the small boy who fell when playing "over-backs" in the street. They will find patients ranging from the young clerk with tumour of the brain or the cable engineer of the *Grappler*—patients who for any ordinary purposes or in the case of any minor ailment would not have applied to hospitals for aid at all—to the children of the humbler classes of working men and the "bargee" who makes his mark because he cannot write his name If they are not satisfied that these are the *ipsissima verba* of the patient, expressing his or her unprompted gratitude, they will find in our columns letters written direct by patients to their nurses after leaving the hospital or by their relatives—letters which we print without alteration of spelling or construction believing them to be most eloquent as they were written (page 1559) We regret that space did not permit of their inclusion in our Abstract supplied to the places of worship The medical man in the exercise of his profession has to meet ingratitude as well as gratitude, whether he works in return for a fee or as a work of charity He will find in the columns of our Supplement that his efforts in the London hospitals, whether he be one of the senior members of the staff or a house surgeon or house physician, are not altogether in vain, but our Supplement is addressed primarily to the public and not to him, and the gratitude sought for was primarily gratitude to the hospital—gratitude, that is, towards the institution, not towards the individual who carries out his garded as essential to a successful vaccination is not duty in it. This gratitude, we need hardly say, extends itself to those whose generosity aids and supports the hospitals and it is to them that we commend our Supplement in order that once more their generosity may be aroused.

The hospitals are not without their enemies. The anti-vaccinationist does not regard the medical profession with favour; probably he is not a liberal contributor to the Hospital Sunday Fund and he may be capable of attempting to dissuade others from supporting it. We recommend our Supplement to his careful consideration. The anti-vivisectionist is a more active foe; he carries out his campaign without shame or scruple and he openly urges the subscriber to hospital funds not to contribute to institutions which are connected in any way with experiments on live animals. Let us ask those who may be prone to listen to the denunciations and assertions of the anti-vivisectionist to consider the cases that we have laid before them, to examine the statement accompanying each of them as to the clinical aspects of each case and the steps taken to remedy it, and to ask themselves what the position would have been in surgery and medicine had no experiments upon live animals ever been made in the world, either formerly or during recent years.

The advocacy of the claims of the Hospital Sunday Fund does not, however, rest with us. The cause of the institutions which exist for the healing of the sick and maimed poor of all creeds and nationalities in this great metropolis is rightly pleaded on this occasion by the ministers of all sections of religious opinion, of all churches and creeds, in places of worship in which they occupy the pulpit. We only venture to supply them with a few facts, should they care to make use of them, in a cause which in itself is enough to stimulate their eloquence to the highest pitch, and we venture also to remind their hearers that there are others who do not invariably attend places of worship who may be willing to give if they are reminded of the call to do so. The golf-links and the motor-car, the bicycle and the river, have their adherents whose first argument, if they were asked why they did not attend Divine worship, would be that they on their day of rest sought the free air in the pursuit of health. These of all others should remember that the hospitals exist to restore health and strength to those whose enjoyment of these blessings is as great as theirs and to whom health and strength are necessary if they are to hold their own again in the struggle for existence. No better opportunity of affording practical help to such as these could be found than is offered by the Hospital Sunday Fund. It has during its existence done incalculable good to the hospitals of London; it has bestowed the sums entrusted to it with impartiality; it has insured that in the institutions to which it contributes all funds disposed of by those institutions shall be administered in a business-like manner and with proper economy. Thus it has afforded a guarantee to its contributors that money given for the benefit of the London hospitals shall benefit those hospitals to the fullest possible extent, without any possibility of its being diverted into any channel not contemplated by the giver. Truly, we may say that the Londoner, in the enthusiasm of his loyalty, in his joy at the knowledge that when his King is crowned his country will be at peace, can devote his thank-offering, be it great or small, to no worthier object than the increase of the efficiency of the Hospital Sunday Fund.

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The Lancet Commission on Glycerinated Calf Vaccine Lymphs.

IN a former Report of THE LANCET Special Commission on Glycinerated Calf Vaccine Lymphs, published April 28th, 1900 (page 1227), attention was drawn to the fact that although the lymphs then on the market differed very greatly as regards their bacterial purity they were, taking them as a whole, eminently satisfactory. These results were important, not only because of the general high average of the bacterial purity of the samples examined, but also from the fact that the lymphs placed at the top of the Table[1] retained their vaccinal activity. From a consideration of the present report (see p. 1621 of this issue) it is evident that the general results are in many ways even more satisfactory than were those obtained in the first series of examinations. It must be pointed out, however, that the anaerobic organisms are much more numerous than they were on the first occasion. This, apparently, is to be explained by the fact that the cultures in glucose formate agar were kept under observation for a much longer period than they were in the first instance; the anaerobic columns in the two sets of experiments can therefore scarcely be compared, and these organisms have for the present been practically ignored, though in future it may be necessary to take them into account. As regards the special statements made and the conclusions arrived at in the first report the Commissioners have now little to retract. In fact, satisfactory as the general results of this second inquiry are "there is," to repeat our exact words of two years ago, "still room for improvement since there is yet much diversity in respect to the degree to which extraneous bacteria are present." The results of the investigation carried on by the Commission appear to indicate still more clearly that the efficacy of the vaccine is not necessarily impaired in those cases in which the glycerination has been carried to such a point that practically all the bacteria have been got rid of. It cannot, however, be insisted too strongly that agents for the sale of vaccine lymphs should be careful not to send out lymph of which they do not know the exact date and must avoid sending it out after the date given by the manufacturer as limiting its due period of action. In the case of one lymph there appears to have been a want of uniformity as regards the activity of different batches, and on one occasion at least such lymph was received after the date given by the manufacturer as that defining the trustworthiness of the lymph. The Commissioners have had placed at their disposal the results of a large number of cases in which various vaccines have been used and they are more firmly convinced even than they were by the results of the earlier investigation that the freer the lymph is from extraneous pyogenic and other organisms the less marked will be those inflammatory concomitants which are so familiar to all vaccinators. Much of the irritation that has often been re-

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[1] THE LANCET, April 28th, 1900, p. 1234.

A Lecture

ON

ABIOTROPHY.

Delivered at the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, on Feb. 21st, 1902,

BY SIR W. R. GOWERS, M.D. LOND., F.R.S.,
PHYSICIAN TO THE HOSPITAL; CONSULTING PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

GENTLEMEN,—Life presents to us a double aspect and so therefore does death. One is its somatic character, the life of the organism as a whole, to which the words "life" and "death" are chiefly applied. Somatic life depends essentially upon the blood, as the familiar words assert, words uttered and written long centuries ago—"the blood which is the life thereof" It depends on the proper constitution of the blood, deficiency or perversion of which will end life speedily or slowly. It depends on the due reception of oxygen by the blood through the lungs. And it depends also, and most of all, on the due movement of the blood by the heart; if the heart is stilled, life ends almost instantly But besides this general life, the termination of which involves that of every part of the body, many of these parts have their own vitality. Some of them may slowly die, while the life of all the rest goes on without impairment. They may die from many causes, *some early, inevitably, from a grave defect of vital* endurance; some much later, the failure being only slightly *premature; and some at various times, apparently from various* causes. When the failure is early it is often due only to a defect in vitality, a defect which seems to be inherent, the tendency thereto inborn. We do not, indeed, apply the word "death" to this slow decay of the elements; we speak of it as "degeneration," but the process is in many cases, perhaps in most, an essential failure of vitality and I think it is instructive to consider the degenerations in this aspect. But in doing so I am met by the difficulty that we have no word by which to designate this conception—a degeneration or *decay in consequence of a defect of vital endurance.*[1] *I do* not like new words—indeed, I dislike them—but if we have a conception for which no name exists which we need frequently to speak of it is not wise, I think, to shrink from an attempt to give it a name. Here the simplest mode of obtaining what we need is to insert the root of *βιος* after the negative particle in "atrophy" which gives us "abiotrophy" *But it is generally better, if you can,* to appropriate what you need than to make it afresh, and we find the word *βιοτροφος* used in the sense of "vital nutrition."[2] If we prefix the negative particle we have the same word, "abiotrophy" If a more general term is desired the adjective "biotic" has been occasionally used in English[3] in the sense of vital, and from this we may form "abiotic" to designate that which depends on defective vitality. A corresponding substantive would be "abiosis," and this also has some warrant. The word *βιωσις* was employed once or twice in old Greek, meaning "mode of life." It is given us by the physician who is more widely known and esteemed on account of the character and precision of his writings and the devotion of his life than any other medical man who has lived—St. Luke. It is pleasant, I think, to take a word from him.[4] So I give you a choice of words by which to designate this unnamed conception.

In most gatherings of men we may see an illustration of abiotrophy. We may perceive an illustration of the failure *of the life of the hair follicles of the scalp which must be the* essential cause of early baldness. We are so familiar with the condition that we do not always perceive the lessons it may teach us. In many men most of the hair follicles die soon after adult life is reached—die beyond the power of restoration. Some, however, persist; around the circumference is a zone in which vitality is retained; elsewhere the failure is absolute and uniform. It is certainly often hereditary, father and son—indeed, also grandfather and grandson—may become bald between the ages of 20 and 30 years. The decay is *practically limited to* the male sex. In other persons and families failure of vitality in the follicles occurs later and is less extensive. In others, again, a luxuriant growth of hair is retained throughout life. I know that baldness has lately been ascribed to seborrhœa, due to organisms, but such a cause, accidental and acquired, fails entirely to account for the more general features of the condition, and, if true, can be only an exciting cause, effective by reason of the failure in vitality.[5]

Without complete degeneration of the follicles they may fail to produce the normal pigment of the hair and early greyness is hardly less common than early baldness. It is not less instructive. It is a qualitative failure, an enduring defect of one function of the follicles. It shows that without the total failure of life part of the work of life may come to an end. That it must be by a chemical process that the pigment is produced I think none can doubt, and that *hair may be blanched by a change in the follicular secretion* is conclusively shown by the case of one-sided greyness of the beard from meningeal hæmorrhage which I mentioned recently in a lecture on Metallic Poisoning[6] Regarding the association of greyness and baldness, not only may the imperfection to which greyness is due be extreme without any tendency to loss of hair, but it is said that baldness in early manhood is never preceded by greyness, and seldom in later life. The persistent luxuriance of growth of the hair when the formation of pigment has ceased is a *familiar fact. It is* also *worthy of note* that even early greyness is met with in each sex and does not present the tendency to affect males only, which is so conspicuous in premature loss of the hair.

I must not be tempted to delay too long at the surface of the body. But we must not pass at once to the nervous system. Between the surface and the nerve centres we *meet with tissues which present* very *striking and* instructive forms of true abiotrophy—the muscles. In the various forms of idiopathic muscular atrophy, in which there is a primary atrophy of the muscular fibres, we have examples of a true abiosis. To all these primary myopathies it has become customary to apply the term "muscular dystrophy," and the custom is convenient, if not quite accurate. The term thus includes both simple muscular atrophy and its well-known congener, pseudo-hypertrophic paralysis. In these the muscular fibres, after full development, cease to maintain their nutrition. They slowly waste and ultimately a large number, most of them in many parts, ultimately perish. The connective tissues between them overgrow by a process we can discuss better in connexion with the nervous system. Its increase may fail to maintain the normal bulk of the muscles, so that these waste conspicuously, sometimes extremely. In other cases this tissue-weed, *as we may regard it,* presents a more luxuriant development and produces fat-bearing cells which so much increase the bulk of the muscle as to cause the enlargement of "pseudo-hypertrophy"

These great variations in the interstitial process compel us to regard the failure of life in the muscular fibres as the essential element of the disease; it is a defect of vital *endurance, truly congenital* in so far as the tendency is concerned. Two other facts indicate the same conclusion. The defect in the muscular system may not only be, as it were, qualitative, it may be also quantitative. Certain muscles may be absent, however early the sufferer is examined, especially the lower part of the pectoralis major and the latissimus dorsi, the two muscles which depress the raised arm and are, *curiously, the least needed muscles of the body,* since gravitation will accomplish in most circumstances that for which they are needed. We have further proof of its so much due to the action of the vaccinal organism itself as to organisms acting as irritants upon the cutaneous tissues The Commissioners have been informed that the best results were invariably obtained with those lymphs which produced late vesiculation, and they repeat the words that they previously employed "that if a lymph be free from bacteria, especially streptococci and staphylococci and if typical vesicles, slow of development, with little inflammatory areolæ and late in coming to maturity, be obtained the patient is properly vaccinated." In the first report they had not obtained sufficient information to be able to give a definite opinion, but, with the information now placed at their disposal they have no hesitation in speaking most definitely on this point. Our readers will notice the practical nature of the hints given in the summarising paragraph of the report dealing with the causes of "bad" vaccination, from which we have freely quoted.

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[1] This conception of the degenerations of the nervous system was *admirably stated by Dr. F W Mott in his Croonian Lectures for 1900.* But it formed the subject of an unpublished lecture which I gave in 1897 or 1898 and is epitomised, in its essential features, in some remarks which I made at a discussion on tabes at a meeting of the Pathological Society of London on Dec. 5th, 1899, reported in THE LANCET of Dec. 9th, 1899, p. 1591

[2] *Not indeed in classical Greek; it is quoted by Stephanus from* Gorgias Pisides a Byzantine writer of the seventh century (620 A D)

[3] First in 1860. Dr. W B Carpenter added a second adjectival termination and made it "biotical." It exists in French as *biotique*, from the Latin *bioticus* and the Greek *βιοτικος*, from *βιοτος*, and *αβιωτος* had the sense of "lifeless." Thus, "abiotic" is clearly legitimate.

[4] The word, previously used in the Septuagint, comes to us through the author of the Acts of the Apostles, but may have been used by St. Paul since it occurs in his speech before Agrippa.

[5] In curious contrast to the seborrhœal theory is the conclusion of one German writer that early baldness is the result of the habit of daily washing the head

[6] THE LANCET, Nov. 2nd, 1901, p. 1173.

Annotations.

"Ne quid nimis."

SOME POINTS ABOUT THE NAVAL AND ARMY MEDICAL SERVICES

IT may be well to call attention to a letter from the warden of the London Hospital Medical College on "The Royal Navy Medical Service," which appeared in THE LANCET of May 3rd (page 1281), and to the communication of "Parent" in the correspondence columns of this issue because the two letters seem to us to invite comment at the present time. With regard to the first letter, there appears to us to be a good deal that is pertinent and forcible in what the warden of the London Hospital Medical College has to say about the regulations for the Royal Navy Medical Service recently issued by the Admiralty We agree with the warden in thinking that it would be better for a naval surgeon to hold a house surgeoncy at a hospital after, instead of before, his entry into the service and for him to be allowed to count the time whilst so employed as service towards promotion and pension, but we imagine that there might be some difficulty in getting the financial authorities to continue to pay him during that time as if he were in the actual performance of his naval duties. With regard to the communication signed "Parent," we may say that (again speaking generally) naval medical officers express themselves as satisfied on the whole with the new regulations So far as the navy is concerned when apparently disparaging points are selected and no attention is paid to those in which the Naval Medical Service has an advantage over the Army Medical Service the result is likely—as are all partial and incomplete views—to be misleading Take, for example, the question of allowances. In the army officers have to obtain lodgings, board, and servant, while in the navy an officer has a furnished cabin, a servant, and a capital mess—for the latter of which he pays 2*s* a day only An army officer could not live like this on his allowances. From a merely pecuniary point of view, if a man is careful and desirous of saving money, the navy is the better service. But we may deal a little more directly with some of the points raised by our correspondent, and in doing so we have for facility of reference followed them as numbered in his letter 1. In our opinion the words "if" and "may" in the first paragraph of "Parent's" letter can be safely ignored, for we feel confident that if an officer conducts himself properly after entering the service he is sure of promotion, and it would be a bad thing for the service if he had any vested right to this and could claim promotion when he had not so conducted himself as to deserve it. 2. In the Naval Medical Service promotion is given for "distinguished service or conspicuous professional merit" and such promotions are maintained up to the full number allowed. Officers are on the list of staff surgeons—i.e., officially ranking with major—at the present time who have not more than four or five years' service as surgeons 3. Our correspondent's third point is correct and calls for no comment 4 Although all the officers in charge of small hospitals or marine infirmaries belonging to the navy do not get money as "charge-pay" they get it as "hospital allowance," ranging from £39 to £112 per annum. 5. It is correctly stated that full-pay sick leave is limited to three months, but this applies to *all* naval officers and not to medical officers only 6. If there is no additional grant of daily pay accorded to naval medical officers who may qualify as "specialists" it has to be borne in mind that medical officers in charge of flagships where special knowledge of sanitary matters is required receive from 2*s* 6*d* to 5*s* a day extra.

A CITY WITHOUT MEDICAL MEN

THE Americans still have their Dowie, the prophet who was received with such distinct disfavour in this country Recent copies of a curious sheet called *Leaves of Healing* describe the founding, building, and civic incorporation of Zion, a city of several thousands of inhabitants, ruled over by the Rev John Alexander Dowie as a sort of High Priest No medical men are admitted within the walls of Zion which fair city is under the governance of a recently elected mayor and corporation who in their turn are subordinated to the all pervading Dowie and a body suggestively named the "Theocratic Committee." "The exclamation Wonderful! Wonderful!! is not merely upon our lips but upon the lips of all who see—men of the world," exclaims Mr Dowie's paper. "Railwaymen, business men of all kinds, even newspaper men, are amazed at the Fact that Zion City is already a great Reality The newspapers told them it was only 'a scheme,' or 'a dream' or 'a city on paper'" Medical men are not admitted because they are superfluous in Zion. They might be so wanting in a knowledge of etiquette as to interfere with the roaring practice of Dowie and his myrmidons who have apparently worked wonders of late There is a T A Beatty, for instance, a nice old man to judge by his portrait, who has suffered all his life from sick headaches and latterly from a lump upon his chest. He describes his case, *à la* Walt Whitman, thus —

> "About four years ago I had a little lump on my breast.
> It proved to be a cancer
> I did not say much about it to anybody, until I felt sure that it was a cancer
> Those who had seen cancers said it looked like one"

To come to the point, however, when the growth was larger than half a hen's egg Overseer Piper prayed for its disappearance. This was on August 27th, 1900, and, strange to relate, the growth did what we only wish cancers would do—"it ran out, and in four weeks it was gone." "About a week or two after the cancer was killed," Elder Reed exorcised the bad headaches of the same patient. There's evidence for you on the futility of medical men. And if corroborative testimony be needed consider the case of Mrs. Nellie Crain who was "delivered from boils and an abscess in answer to prayer" "I was terribly afflicted with boils,' she writes and what seemed to be an abscess in my side." But the lady wrote to Zion and "after a hard fought battle with the enemy the victory was finally won and I am completely restored." Even more remarkable is the case of the "young lady seriously ill of appendicitis" who wrote to announce her recovery as lately as April 19th last. "She was suffering from what seemed to be appendicitis," but after the usual invocation by a Zionist she "fell asleep" and quickly recovered. Space forbids us to discuss the cases of those who were healed of "measles and polypus in the nose," "measles in the eyes," and a "head and lungs filled up with dirt and dust." Our readers may thirst to learn more about "Miss Ottilia Wilker's testimony of a short limb lengthened," but we cannot find adequate space to deal with this and similar pathological phenomena. We have, however, quoted sufficient to show that Dowie, though an egregious quack, is no fool. He appeals to the more thoughtful among artisans and mechanics who earn good wages and are anxious to show mental activity by revolting against all ancient knowledge. Dowie has quite got rid of the ancient prejudice in favour of poverty, which perhaps militated against some of the teachings of the older saints. The material money-getting element in Zionism and other new American heresies is a strong pillar of support to the new teachers. Some of them promise boundless wealth to those who will merely set their minds on it and Dowie's followers not being students of sociology appear to be multiplying. They present a curious sight to the student of manners in the twentieth century.

THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

WE understand that the Lord Mayor has kindly consented to allow a public meeting to be held in the Mansion House on July 14th, at 4 o'clock, with the object of appealing for the funds which are absolutely necessary in order to carry out many urgent requirements in this hospital. The need for alterations was pointed out by the commission of inquiry which, it will be remembered, was held last year at the request of the governors. Isolation wards, a laundry, a new operating theatre, and the utilisation or reconstruction of two houses adjoining the hospital with a view to the provision of further accommodation for nurses and out-patients, are amongst the most needed of those requirements, and are all of paramount importance if the institution is to carry on its work under conditions conforming with modern ideas of hygiene and scientific cleanliness. The hospital owes its inception to a Mansion House meeting which was called by the Lord Mayor of London in November of the year 1859 and has, from small beginnings, gradually attained its present position as one of the chief special hospitals of the world. In addition to a large proportion of patients whose condition requires prompt and active medical or surgical treatment many of the cases received at this institution are essentially chronic in their course and often only open to palliative measures of relief, and this fact renders its work very largely supplementary to that of the general hospitals of the kingdom in which acute and curable complaints must necessarily, and do properly, occupy the most important place. The aggregation and investigation of large numbers of cases of nervous disease have led to important advances in classification and diagnosis which are impossible where the numbers are fewer and the opportunities for study are less prolonged. The results accruing from the facilities thus provided have been freely given to the medical world and have promoted in no small degree the science of neurology. The manner in which paralytic and epileptic patients are sent to Queen-square, not only from all over London and the provinces but from distant parts of the empire, testifies to the appreciation on the part of the medical profession of the benefits conferred on these sufferers, and affords ample grounds for hoping that the support of the profession will not be lacking at the present juncture. Members of the philanthropic public who are anxious that their generosity should serve the double purpose of relieving the peculiarly poignant sufferings incident upon diseases of the nervous system and at the same time of aiding such advance of knowledge as may tend to their prevention as well as remedy, must often turn for counsel in regard to appropriate channels to their medical advisers. An opportunity is thus afforded of promoting the welfare of an institution like the National Hospital for the Paralysed and Epileptic. We venture to hope that such opportunities will not be neglected and that the public will respond generously to an appeal which has as its ultimate object the relief of a class of patients whose needs are not at present adequately provided for.

THE PINE-APPLE AS A DIGESTIVE AID.

THE partaking of a slice of pine apple after a meal is quite in accordance with physiological indications, since, though it may not be generally known, fresh pine-apple juice contains a remarkably active digestive principle similar to pepsin. This principle has been termed "bromelin" and so powerful is its action upon proteids that it will digest as much as 1000 times its weight within a few hours. Its digestive activity varies in accordance with the kind of proteid to which it is subjected. Fibrin disappears entirely after a time. With the coagulated albumin of eggs the digestive process is slow, while with the albumin of meat its action seems first to produce a pulpy gelatinous mass which, however, completely dissolves after a short time. When a slice of fresh pine-apple is placed upon a raw beef-steak the surface of the steak becomes gradually gelatinous owing to the digestive action of the enzyme of the juice. Of course, it is well known that digestive agents exist also in other fruits, but when it is considered that an average-sized pine-apple will yield nearly two pints of juice it will be seen that the digestive action of the whole fruit must be enormous. The activity of this peculiar digestive agent is destroyed in the cooked pine-apple, but unless the pine-apple is preserved by heat there is no reason why the tinned fruit should not retain the digestive power. The active digestive principle may be obtained from the juice by dissolving a large quantity of common salt in it when a precipitate is obtained possessing the remarkable digestive powers just described. Unlike pepsin, the digestive principle of the pine-apple will operate in an acid, neutral, or even alkaline medium, according to the kind of proteid to which it is presented. It may therefore be assumed that the pine-apple enzyme would not only aid the work of digestion in the stomach but would continue that action in the intestinal tract. Pine-apple, it may be added, contains much indigestible matter of the nature of woody fibre, but it is quite possible that the decidedly digestive properties of the juice compensate for this fact.

INSANITY IN TWINS.

INSANITY in twins is a rare and interesting condition and one which serves to throw light on the difficult and obscure problem of the constitutional predisposition to mental disease. Instances of insanity in twins are uncommon in the records of medical literature, the few cases known to have occurred in the United Kingdom having been reported by Clouston, Wigglesworth, Mickle, and Turnbull in the *Journal of Mental Science* during the past 25 years. In the *Archives de Neurologie* for May Dr. P. Keraval, the medical superintendent of the asylum at Armentières, and Dr. G. Raviart, assistant medical officer, have reported a case of insanity occurring in twin brothers who had for many years lived quite apart from one another. One of the patients was a man, aged 39 years when admitted to the asylum in

September, 1888. He was married and was the father of two children. The patient's mother was living and well. He was a man of temperate habits and free from syphilis. On admission to the asylum he was suffering from symptoms of general paralysis of the depressed type with delusions that he was dead and had no bodily organs (*délire des négations*) He refused to take food and the disease progressed rapidly and proved fatal in four months from the time of his admission. The twin brother was admitted to the same asylum in November, 1896. He was a temperate man, free from syphilis, married, and the father of five children. There were symptoms of incipient general paralysis on admission, together with failure of memory, great depression, weeping, and delusions that he was ruined and dead—the same type of delusions as his brother had. He suffered from congestive or apoplectiform seizures and gradually grew worse and died in May, 1899 It was a curious fact that his wife, who predeceased him in January, 1899, was a general paralytic. Dr Keraval and Dr Raviart state that the special interest of these two cases lay first, in their twinship, secondly, in the absence of hereditary antecedents of insanity, thirdly, in their freedom from syphilis and alcoholism, fourthly, in the fact that both were married and developed the same form of insanity in adult life, and, lastly, in the fact that where the general paralysis appeared earlier, as in one of the brothers, it ran a more rapid course and resulted in death more speedily

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DEFECTS OF VISION DUE TO THE USE OF DRUGS.

PROFESSOR G E. DE SCHWEINITZ of Philadelphia has published in the *New York Medical Record* of May 17th a paper on the Deleterious Results of Certain Common Drugs and Narcotics on the Organs of Sight, as observed in a large number of cases under his care in the ophthalmological department of the Philadelphia Hospital during recent years By far the most important of the forms of functional visual defect (amblyopia) met with was that produced by quinine. It appeared in several forms; varying with the dose and with the idiosyncrasy of the patient. Thus temporary dimness of sight, lasting for some hours, might result from the taking of moderate doses of quinine, especially in the case of women of nervous temperament. If the daily dose was large—e g, from 60 to 80 grains of quinine per diem—a second and more serious form of visual trouble followed. Blindness of sudden onset and almost complete in degree resulted, and this condition lasted for some days Ophthalmoscopic examination showed great pallor of the optic discs and blanching of the retina, due probably to a condition of intense ischæmia Quinine in large doses had a toxic action on the ganglion cells of the retina. Treatment consisted in withdrawal of the drug and the administration of digitalis, amyl nitrite, and strychnine. Quinine blindness was very similar to that caused by the salicylates or by antifebrin and the retinal changes observed were very similar Iodoform occasionally, when absorbed from the dressings of wounds and burns or after administration by the mouth, produced amblyopia Alcoholic amblyopia was produced by ordinary alcohol and in a more intense degree by methyl alcohol. Two drachms of the latter had been known to cause blindness. In about 90 per cent of cases of amblyopia from methyl alcohol vision was found to be permanently damaged Essence of Jamaica ginger, bay rum, and essence of peppermint all produced the same results because methyl alcohol was their main ingredient. Treatment in early cases should be directed to the production of sweating by the administration of pilocarpine and to the hypodermic injection of strychnine About 10 per cent of the patients recovered some degree of sight after treatment. As regards tobacco Professor de Schweinitz states that "certain strong forms of tobacco, particularly if smoked in a pipe or on an empty stomach, were specially liable to give rise to amblyopia." Usually some years elapsed before vision was thus affected, the patient passing through a prodromal period during which an indescribable haze or fog seemed to obscure vision Ophthalmoscopic examination at this stage disclosed pallor of the optic disc and the field of vision showed a central scotoma for red and green. If the patient was addicted to alcoholic intemperance a more rapid and marked degree of blindness followed. Histological investigation showed that the retinal ganglion cells in the macula lutea underwent degeneration and that the same change could be traced in the macular fibres of the optic nerve. The actual agent which caused this has not yet been isolated owing to the many active principles present in tobacco besides nicotine, for the latter was not the sole cause of the symptom. In diagnosis it was necessary to look for the possible presence of disseminated sclerosis and Bright's disease, as both amblyopia and central scotoma, as referred to above, might be due to either of these diseases Among forms of amblyopia due to occupation were those occurring among lead and rubber workers, the poison in the latter class of cases being the carbon disulphide used as a solvent for rubber Amblyopia in lead or rubber workers developed gradually after a few months' exposure to the lead or to the carbon disulphide Workers in hat factories and manufacturers of varnish sometimes developed amblyopia from inhaling the fumes of methyl alcohol used as a solvent for shellac and varnish. Amblyopia was also met with as the result of being exposed to, or inhaling, the fumes of nitro or dinitro-benzene a substance prepared in chemical factories and commonly known as essence of almonds

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THE SANITARY INSTITUTE

THE Sanitary Institute is doing good work and making satisfactory progress and amongst its members are some of the foremost representatives not only of medicine but of the collateral sciences also During late years the membership has substantially increased and branches it is hoped will soon be instituted in India and in New Zealand and other colonies. The institute has the advantage of having the support of the medical, chemical, and engineering professions, so that the subjects discussed at its meetings are approached from several points of view Essentially its object is to promote the advancement of all that pertains to public health matters. That the Sanitary Institute possesses an influential patronage was obvious from the presence of several distinguished persons on the occasion of the coronation dinner which took place on June 2nd at the Midland Grand Hotel, when the Duke of Northumberland—vice-president of the institute—occupied the chair Amongst those on the right and left of his Grace were Sir Joseph Fayrer, Sir Henry Norbury, Surgeon General W Taylor, Sir Francis S. Powell, and Mr A. Wynter Blyth. The speeches related to many interesting questions of sanitary and social science. In proposing the toast of "The Sanitary Institute" the Duke of Northumberland described how he had paid a morning visit to the Parkes Museum in Margaret-street. He compared it to a well stuffed carpet bag and declared that he was distressed to notice that the interesting collection was set out to so little advantage. That defect was, however, to be remedied, and £8000 had been subscribed towards securing a suitable building His Grace particularly warned the members of the Sanitary Institute not to rely too much upon Parliament. The public, he said, were always imagining that new legislation was going to do what they wanted and in the matter of the housing of the working classes that tendency was especially noticeable. He advised local authorities to use to the full the powers they already possessed before seeking to secure new legislation. He then discussed the question of water-supply and pointed out the danger of thinking that legislation which might undoubtedly be good for one part of the country was necessarily good for another part. He took as an example of this the well-known fact that the temperance question would never be solved until it was recognised that one kind of action was necessary in the country and another in the towns. The very varying requirements in different parts of the country had to be taken into consideration and he urged his hearers not to depend too much upon county councils placing themselves in the position of water companies. Mr. Wynter Blyth, in replying to the toast, congratulated the members on the fact that in a few months they would number 3000. The work of the institute had spread to the colonies and when branches were established in India and New Zealand the institution would become imperial and he would propose to alter the title to the Imperial Sanitary Institute. Special interest was attached to the speeches by the Director-General of the Royal Navy Medical Service and the Director-General of the Army Medical Service, both of whom referred to the enormous difficulty of enforcing sanitary principles during a big campaign such as that through which we had just passed. The education of the soldier and the blue-jacket was the only method which would effectually protect them. The dinner was well attended.

A BOROUGH COUNCIL COME TO JUDGMENT.

THE Poplar Borough Council appears to be a body that not only enjoys strong opinions but also does not scruple overmuch in expressing them on occasion. We hasten to add that the particular opinions to which we refer are in the main sound and just, though in venting them too slight a consideration was shown for the difficulties and for the reputation of medical men whose actions had not been in accord with the views of the borough council. The Poplar Borough Council very laudably provides means for testing the diagnosis of, among other diseases, diphtheria. A practitioner, however, within the jurisdiction of the council notified a particular case as diphtheria without having availed himself of the tests supplied by that body. As it turned out, the patient, who was removed as infectious, was not suffering from diphtheria or from any notifiable disorder. In its perhaps righteous indignation the council, it seems to us, "doth protest too much." To begin with, although everyone will admit the value of bacteriological aid in diagnosing diphtheria yet no one would be wise to maintain that there are not plenty of instances in which the diagnosis can be perfectly justifiably made upon clinical evidence alone. Such may have been the case on the occasion to which we refer. Moreover, feeling thus secure of his diagnosis without further help the practitioner may have thought it of great importance that no time should be lost in removing the patient. He may well have considered that it would be a greater advantage to gain time in isolating the case, supposing it to be infectious, than to establish the innocence of the complaint if it was not. Many circumstances may combine to determine a correct line of conduct in cases like these, and while one set of effects of action appeals most strongly to the borough council another set may assume a more prominent position in the mind of a medical man. It is often hard for the layman to realise the difficulty that there may be in distinguishing between diseases that are essentially different in nature and vastly different in the gravity of their results. To the uninstructed it very likely seems strange that there are many cases in which an "ordinary sore-throat" may be almost indistinguishable from so formidable and familiar a malady as diphtheria. Yet every medical man is aware that to make the distinction decisively and at a first examination may be difficult, if not impossible. Nevertheless, it is, of course, all-important to arrive at such a decision at once when there is involved the question of removing a patient who is in a position to infect a large number of other persons. Such a consideration may conceivably excuse even the neglect of precautions admirably provided by a well-advised and energetic borough council.

ALBUMINOUS EXPECTORATION AFTER PARACENTESIS THORACIS.

IN the *American Journal of the Medical Sciences* for April Dr. David Riesman has recorded a case of a very rare complication of paracentesis thoracis—profuse albuminous expectoration. The first case was published by Pinault in 1853. Subsequently cases have from time to time been recorded by continental, British, and American writers. In Pinault's case the patient was a man, aged 34 years, who had had for three months left pleural effusion. Three litres of fluid were removed and the dyspnœa was at once relieved. In the evening the dyspnœa recurred and about a pint of albuminous fluid was expectorated. In 1873 Terillon in his *Thèse de Paris* reviewed the whole subject and collected 21 cases, of which two were fatal. In the case now described by Dr. Riesman the patient was a woman, aged 48 years, who had suffered from cough and occasional attacks of dyspnœa for six months. For some time there had been slight dysphagia. On examination signs of right pleural effusion were found. The neck was enlarged and the natural depressions were obliterated. Above the inner end of the right clavicle was a hard gland. Paracentesis was performed in the seventh intercostal space and posterior axillary line. Three pints of somewhat turbid yellowish fluid were withdrawn. When a little less than a quart had been removed the patient began to cough. At first the cough was dry but towards the end of the paracentesis a little frothy fluid was brought up. As the face became blue and the cough more intense the paracentesis was stopped. During the following six hours about five ounces of turbid amber-coloured fluid covered with a layer of froth half as thick as the fluid and containing a few streaks of blood were expectorated. The patient then was much more comfortable than before the paracentesis. The expectoration, but not the cough, had diminished. Moist râles were heard over the whole of the right lung. On the following day there was a little cough, the dysphagia had ceased, and the right chest was resonant. A fortnight later paracentesis was again necessary and about a quart of fluid was removed. Severe cough again occurred but it was accompanied by only a little tenacious serum. A large hard gland was found above the left clavicle. Over the sternum there was dulness which extended about two inches beyond the left border. Tumour of the anterior mediastinum, probably sarcoma, which was obstructing the veins returning blood from the right pleura, was diagnosed. 12 days later paracentesis yielded more than three pints of fluid. It was followed by severe spasmodic cough but there was no albuminous expectoration. A fortnight later the patient died. At the necropsy sarcoma of the anterior mediastinum was found. The albuminous fluid expectorated was of specific gravity 1018 and coagulated on boiling into a solid mass. In the recorded cases the albuminous expectoration seldom occurred during the paracentesis but generally after an interval varying from a few minutes to half an hour. In rare instances the interval was two hours; in one case it was 18 hours. The symptoms are as follows. The feeling of relief following the paracentesis is terminated by cough and dyspnœa. The cough quickly becomes severe, expectoration increases, and there is a terrible sense of oppression and orthopnœa. Respiration is laboured, the face is cyanosed, the skin is clammy, and the pulse is weak and rapid. The coarse and fine râles of pulmonary œdema are heard. In mild cases the symptoms gradually diminish, sometimes, however, not for 24 hours. In extreme cases the fluid gushes from the nose and mouth in a constant stream and not infrequently death from asphyxia occurs. The amount expectorated varies; not rarely a pint, or even a quart, of fluid is brought up in two hours. The duration of the attack usually is from one to two hours, but six, 12, 24, and even 48 hours have been recorded. The fluid on standing generally separates into three layers—frothy, opalescent and yellowish, and viscid. In the cases recorded the effusions were usually acute. The amount withdrawn was usually large—from 2000 to 5500 cubic centimetres Œdema of the lung on the affected side, sometimes of both lungs, was the principal condition found on necropsy. The albuminous expectoration is probably due to pulmonary œdema. The compressed lung is suddenly released from pressure. Dr Riesman suggests that there is a great afflux of blood, a sort of "congestion by recoil," and that the vessels which have been altered by prolonged pressure are more permeable and allow exudation into the alveoli which is expectorated. Heart disease and morbid conditions of the opposite lung hindering expansion are predisposing causes In all cases, but particularly when these complications are present, aspiration should be performed slowly. If the effusion is large the amount withdrawn at one time should be moderate.

THE OPERATIONS IN CHINA, 1900-1901

IN the second, and concluding, part of the report to which we alluded recently[1] Dr Jacquemin has little to say in favour of the British medical arrangements in China during the recent operations. "It would be unjust," he says in his exordium, "to judge the sanitary department of the English army by the specimens which we have before our eyes here in China. That nation is almost entirely represented by the Indian army, and, as everyone knows, the whole of the old, obsolete *matériel* is sent to India to be used up." Dr. Jacquemin, having sounded his pitch, goes on to make some more remarkable and equally well-founded observations! The medical *personnel* of the British force was drawn from two sources—the Indian Medical Service and the Royal Army Medical Corps. The officers last mentioned, few in number, were exclusively attached to the European troops, and took, moreover, every precaution to avoid being confounded with their comrades of the Indian army. The British sanitary "formations," continues Dr. Jacquemin, "are sufficiently analogous to old French models," but he feels bound to add that with regard to *entretien* "they leave much to be desired" The instruments had wooden handles and the cases apparently dated from a period anterior to Lister. The stretchers used by the British were identical with those long since abandoned in the French army on account of their weight and lack of solidity. For long distances a species of closed litter was employed which, in the critic's opinion, was none other than the French naval *hamac*, only twice as heavy. From the detailed description, however, we seem to recognise a much older appliance—the common or Indian dooly. It was a member of our own Parliament who once upon a time evolved the "ferocious dooly" which pounced down upon a wounded soldier and carried him off to its den, so perhaps we ought not to smile beyond measure. A little further on Dr. Jacquemin draws a pathetic picture of a Sikh soldier in hospital wrapped up in blankets and lying on a haphazard framework supported by four feet with nothing to protect him from a network of stretched cords save a meagre *paillasse* The description is perfect, but that the critic's pity is quite wasted anyone who has been in India will know. A charpoy in the eyes of a native of Hindostan forms a most luxurious bed. It is only fair to Dr. Jacquemin, however, to admit that his criticism does not invariably damn with faint praise. Speaking of drugs and appliances he says: "The supply of medicaments seems abundant and obviously approaches ours from the point of view of its composition." In addition to our own, the medical arrangements of the German, American, Italian, Japanese, and Russian armies are described at considerable length, and for the most part favourably. Dr. Jacquemin finds himself unable, however, to endorse the view of his subordinate, Dr Machenaud, which we recently mentioned,[2] regarding the good quality of the compressed drugs employed in American military hospitals. The question has been for a long time under consideration in the Central Pharmacy of Paris, and, according to Dr. Jacquemin, compression is incontestably the cause of molecular changes which impair the exact composition of the medicaments. So far the number of drugs susceptible of being used in a compressed form is very small Dr Jacquemin's remarks on the English and Russian medical departments in China are supplemented by Surgeon-Major Visbecq, whose short addendum, in the opinion of his chief, was so full of interest that it deserved publication *in extenso* Surgeon-Major Visbecq limits his remarks to matters of detail, selected apparently at random As he himself observes, some of them are the result of a "coup d'œil rapide," while in his Russian section he says: "It was only given me to see the material of a temporary hospital of the second line" Under the heading "Field s hospital" he, in his turn, describes a dooly which he qualifies as well adapted for a hot, pluvial country, only rather heavy and quite unsuitable for difficult roads. In Afghanistan, Chitral, Burmah, and elsewhere the roads cannot be called easy and yet the doolies manage to surmount them.

EXPERIMENTS ON LIVING ANIMALS.

THE recently issued Parliamentary paper dealing with experiments performed on living animals during the year 1901 should calm the agitation, were it possible, of hysterical foes to scientific progress. To begin with, out of 257 licensees 56 performed no experiments at all. That licences and certificates have been granted and allowed only upon the recommendation of persons of high scientific standing and that the licensees are persons who by their training and education are fitted to undertake and to profit by experimental work would probably give little comfort to the confirmed anti-vivisectionist who sees—

"In every hand a knife,
In every knife a villainous intent"

Yet even the "anti-" fanatic should be appeased by the sober and satisfactory statements of the Inspectors, Mr. G D Thane and Sir Thornley Stoker, which show that in no case has a cutting operation more severe than a superficial venesection been allowed to be performed without anæsthetics. As a matter of fact a very large proportion of the 11,645 experiments reported upon were mere inoculation experiments, associated with no immediate pain at all. When painful consequences ensue a condition attached to the licence requires that the animal shall be killed under anæsthetics as soon as the main result of the experiment has been attained In a very large number of inoculation experiments the results are negative and, as the inspectors state, the animals suffer no inconvenience whatever from the operation. A large proportion of these inoculation experiments are necessitated by the requirements of the authorities responsible for the care of the public health. Inoculations are frequently essential for diagnosis, especially of tuberculosis, anthrax, glanders, rabies, and bubonic plague. Five licensees, it is interesting to read, performed 2636 inoculation experiments for testing antitoxins. Everywhere, the inspectors state, the animals were "suitably lodged and well cared for," and the report throughout makes it obvious to any fair-minded individual that not only is great care taken in the admission of investigators to the privilege of a licence but also that no step is missed to insure the experiment being performed with the greatest possible consideration and humaneness.

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[1] THE LANCET, May 24th, 1902, p. 1455

[2] THE LANCET, Feb. 22nd, 1902, p. 543

THE DISTRIBUTION OF PLAGUE.

THE report of the medical officer of health on the state of plague in Cape Colony for the week which ended on May 10th states that during the period under notice 2 cases were admitted to hospital, 2 persons were found dead, 3 persons died (including persons found dead), 1 patient was discharged cured, and 6 cases remained under treatment on May 10th. For the week which ended on May 31st 52 cases of bubonic plague and 50 deaths were reported at Hong-Kong.

A GAELIC MEDICAL MANUSCRIPT OF THE SIXTEENTH CENTURY.

MEDICAL readers of Gaelic, and perhaps students of the Celtic language in general, will find something to interest them in the April number of the *Caledonian Medical Journal*. In the Manuscripts Department of the British Museum there is an old Gaelic MS. written upon vellum and catalogued as "Additional 15,582," which came into the possession of the Museum by purchase in the year 1845. Dr. H. Cameron Gillies of London, a well-known Gaelic scholar, has examined this work and made extracts from it, together with annotations, a commentary, and translation which fill about 50 pages of the above-mentioned journal. The bulk of the extracts are printed in letter-press with Gaelic or Celtic characters, but there are also five pages of extremely clear and distinct photographic reproductions of portions of the original. Dr. Gillies states that the manuscript bears the date 1563 and belonged to a remarkable family of Highland physicians who were named Beatons or Macbeths and were famous in the medical tradition of the west and north of Scotland. The language of the manuscript is pure Scottish Gaelic and is similar to the language of Argyllshire and the west of Scotland at the present day. Dr. Gillies discusses the question of Irish linguistic forms and affinities at some length.

THE MIDDLESEX HOSPITAL.

AT a meeting of the court of governors of the above hospital held on May 29th an interesting account was presented by the Weekly Board. The "Précis of Transactions" contained many important items. The existence of a clinical laboratory is now a necessity in every large hospital and consequently the establishment of one at Middlesex Hospital supplies a want that has been severely felt. The court at once sanctioned the arrangements that had been suggested by the medical staff. Amongst other improvements that have been undertaken is the conversion of the old "Laffan" ward into a special operating theatre for gynæcological cases. A new laundry is in course of erection and is approaching completion at Hendon and an extension is being made to the nursing home. It thus will be seen that the authorities of the Middlesex Hospital are energetically maintaining the hospital in the state of efficiency of which they have always been proud and that they do not hesitate to undertake any alterations which are likely to prove of advantage in the treatment and care of the patients. The first volume of "Reports from the Cancer Research Laboratories" is now in the press and will shortly be issued. The staff of the laboratories is now engaged on a second volume of the reports which the director hopes to have ready for the press before the end of the year. The board has at present under its consideration recommendations from the Cancer Investigation Committee as to the provision of additional laboratory accommodation and an increase in the present staff of the laboratories. As is well known, there are exceptional facilities for the study of cancer in all its aspects at this hospital and the present arrangements will not allow full use to be made of the large quantity of material available for investigation. We sincerely echo the wish of the board that this work will not be kept back for want of funds. The work which has already been accomplished has received recognition by the committee appointed by the Royal College of Physicians of London and the Royal College of Surgeons of England, and doubtless the department will benefit by the fund which is now being collected to further a systematic investigation of cancer—a work in which His Majesty the King takes the greatest interest.

RARE AND UNUSUAL FORMS OF LEAD POISONING.

WORKERS in lead and lead ores and those who have to handle or to mix paints containing lead are well known to be liable to suffer from lead poisoning. It is stated that no case is recorded of a child having had symptoms of lead poisoning from playing with "tin" soldiers, though children are in the habit of putting them in their mouths. In the *Progrès Médical* of May 10th Dr. Variot, however, records the case of a child who developed paresis of the lower extremities and other symptoms pointing to lead poisoning. It was found that a toy trumpet with a metal mouthpiece in which there was lead to the extent of 88 per cent. was used by the child and was the source of the poisoning in question. In a recent "Thèse de Paris" Dr. Mabit states that he has observed cases of lead poisoning from bullets which had lodged in the body and had not been extracted. Usually in such cases, says Dr. Mabit, no symptoms of saturnism arise because the bullet becomes encapsuled in a firm and dense coating of fibrous tissue and thus remains "isolated." Occasionally, however, portions or fragments of it undergo solution and absorption into the blood and thus bring about symptoms of lead poisoning. Among the cases recorded by Dr. Mabit is one of a young French soldier who was wounded by a bullet received in the war of 1870 during the siege of Paris. The bullet lodged itself deeply in the nape of the neck and was not extracted. Two years later he began to suffer from anæmia, and later, in 1874, violent abdominal pains and colic followed. These symptoms continued from time to time until 1880, when attacks of gout and of eczema supervened. These troubles were all traceable to lead poisoning from the bullet embedded in the patient's neck. The cases above recorded are of interest as illustrating some of the rarer forms of lead poisoning.

DURHAM UNIVERSITY MEDICAL GRADUATES' ASSOCIATION.

THIS association gave a most successful dinner at the Café Royal on May 29th at which some 70 members and guests were present. The President of the association (Dr. Frederick S. Palmer) occupied the chair and was supported by Sir William Selby Church, Bart., President of the Royal College of Physicians of London; Sir George Hare Philipson, President of the University of Durham College of Medicine; Dr. James Little, ex-President of the Royal Academy of Medicine, Ireland; Surgeon-General W. Taylor, C.B., Director-General, Army Medical Service; Mr. A. Wynter Blyth, President of the Incorporated Society of Medical Officers of Health; Sir James Crichton Browne; Dr. W. H. Allchin, President of the Medical Society of London; Dr.

Burton Brown, Master of the Apothecaries' Society; Dr. F. G Penrose, Dr. Ernest White, Dr. G Danford Thomas, Dr. H. D Rolleston, Mr. P. J. Freyer, Mr. Thomas Wakley, jun., and others. The President gave the toasts of "The King," "The Queen, and other Members of the Royal Family," and "The Navy, Army, and Reserve Forces." To the latter Surgeon-General Taylor replied. Sir James Crichton Browne proposed "The University of Durham" in eloquent terms and Sir George Hare Philipson, who received quite an ovation, replied. The toast of "The Durham University Medical Graduates' Association" was given by Dr. William Travers and Dr. T. Outterson Wood, honorary secretary for the south, in reply, congratulated the association upon its rapidly increasing numbers, now reaching nearly 500 members, and also upon the highly satisfactory condition of its finances. Dr. A. H Robinson proposed the toast of "The Guests" and Sir William Church, replied. Dr Allchin proposed the health of "The President" in felicitous terms and congratulated him upon the dignity, eloquence, and urbanity with which he had presided over the evening's proceedings. The musical arrangements, under the management of Mr. Arthur E Godfrey, were admirably carried out and added greatly to the enjoyment of the evening. The next annual meeting will be held at Durham University and the annual dinner will be given in the fine old hall of University College, Durham, in September next.

THE PREVALENCE OF SMALL-POX.

THE following figures show the number of patients admitted to the various small pox hospitals of the Metropolitan Asylums Board for the dates mentioned —On Saturday, May 31st, 30 cases; on Sunday, June 1st, 16 cases, on Monday, June 2nd, 33 cases; on Tuesday, June 3rd, 26 cases, and on Wednesday, June 4th, 30 cases. At a meeting of the Metropolitan Asylums Board held at the offices on the Embankment on May 31st it was stated that during the fortnight which ended on Thursday, May 29th, 580 small-pox patients had been admitted to the Board's institutions, as compared with 478 in the preceding two weeks; 78 had died, as compared with 91; and 577 had been discharged recovered, as compared with 467, the total number remaining under treatment being 1319, as compared with 1394 a fortnight before. For the week ending May 31st 25 cases of small-pox were notified in the county of Essex.

THE DISCUSSION ON LEPROSY AT THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE discussion on leprosy at the Royal Medical and Chirurgical Society next Tuesday is likely to be of exceptional interest. Dr Hansen of Bergen is expected to be present and will probably take part in the debate. Two important papers were read at the last meeting when time did not allow of any discussion. Mr. T. J. Tonkin, who deals with the Soudan district, upholds the opinion that a poor diet, chiefly of vegetables, is a very important predisponent, whilst Mr J Hutchinson contends that no predisposition is necessary and that the bacillus is introduced into the system by means of badly cured fish. Both admit that the disease is communicable from person to person but both regard diet as of primary importance and place contagion in a second position. Mr Hutchinson believes that the transference is effected solely through the stomach and never by touch or inhalation.

THE late Mr Gassiot has by his will, after many pecuniary and specific bequests, left the residue of his estate to St Thomas's Hospital; the sum in question will probably eventually prove to be a very large one but the hospital will only benefit partially at present. We congratulate the hospital authorities as we understand that money is very much needed in order to keep pace with the demands of the time.

AT a meeting of the Society of Apothecaries of London, held on May 13th, the Court of Assistants passed the following resolution—"That as from 1st July next every candidate for the examination in medicine shall be required to produce a certificate or evidence of having received instruction in the administration of anæsthetics to the satisfaction of his teachers at a recognised medical school and hospital."

THE President and Council of the Ophthalmological Society of the United Kingdom are issuing invitations to a dinner which will take place at the Trocadéro Restaurant, Piccadilly-circus, London, W, on Friday, June 13th, at 7 30 P M. Communications concerning the dinner should be addressed to the headquarters of the Society, 11, Chandos-street, Cavendish square, W.

THE annual banquet of the Association of British Postal Medical Officers "to meet the Most Honourable the Marquis of Londonderry, K.G, His Majesty's Postmaster-General," will take place on Thursday, July 17th, at 7 30 P M., at the Whitehall Rooms, Hôtel Métropole. The honorary secretary is Dr Ritchie Giddings, Mansfield-road, Nottingham.

THE President, Council, and professors of University College, London, are issuing invitations to a conversazione which will be held on Thursday, June 19th, at 8.30 P M. Communications regarding it should be addressed to the Secretary, University College, London.

THE summer session of the General Medical Council came to an end on Tuesday afternoon. The pressure on our space caused by the issue of the Hospital Sunday Fund Supplement has prevented us from completing our report this week.

THE METROPOLITAN WATER-SUPPLY. THE LONDON WATER BILL

ON May 27th the Joint Committee of the two Houses of Parliament resumed its consideration of the London Water Bill. All the members of the Committee were present and Lord BALFOUR of BURLEIGH presided. Clause 18 came under consideration. This clause, it may be remembered, deals with provisions as to arbitration. It provides that under the Act—

> A Court of Arbitration shall be constituted consisting of three Commissioners; and the Right Honourable Sir Edward Fry, Sir Hugh Owen, G C B, and Sir John Wolfe Barry K C.B shall as from the appointed day be the Commissioners.

Sub-section 2 makes provision for filling a vacancy in the Court of Arbitration should one arise from "death or incapacity or otherwise." The power of appointment is vested in the Local Government Board.

The first amendment to Clause 18 was moved by Mr. PEMBER, K.C. on behalf of the metropolitan water companies. It was proposed that certain words should be added to Sub-section 1 and be an instruction to the effect that "the Commissioners shall sit together but the decision of the majority shall be binding"

In support of this amendment Mr. PEMBER called attention to Sub-section 8 of the clause which provides that "the Court of Arbitration may act by two of their number and notwithstanding any vacancy"

Mr FITZGERALD, K.C., on behalf of the Local Government Board, declined to accept the amendment on the ground that such a provision would make it necessary that the three arbitrators should sit in every case. *From this it followed* that the illness of one arbitrator would cause a suspension of the proceedings and the resignation or death of one would necessitate the re-hearing of the case.

The Committee declined to accept the amendment.

Sub-section 5 of the clause was omitted on the motion of Mr. FITZGERALD. This sub-section dealt with inquiries held for the purposes of the Act, and it was stated that the Local Government Board proposed to insert "more suitable provisions" at a later period.

Sub-section 7 was the cause of prolonged argument. It provides that—

> Every award, order, and other instrument made by or proceeding from the Court of Arbitration shall be binding and conclusive to and for all intents and purposes, and shall have the like effect as if it had been made by a judge of the High Court, and shall be acted on, obeyed, executed, and enforced accordingly. No such award, order, or other instrument shall be removeable by any writ or process into any of His Majesty's Courts, and the proceedings or acts of the Court of Arbitration shall not (except as hereinafter expressly provided) be liable to be interfered with or questioned by or in any court, or elsewhere, by way of mandamus, prohibition, injunction, or otherwise:
>
> Provided that the Court of Arbitration may at any stage of the proceedings at an arbitration, and shall, if so directed by the Court of Appeal, state, in the form of a special case for the opinion of the Court of Appeal, any question of law arising in the course of the arbitration

On behalf of the metropolitan water companies it was contended that in this sub-section the words "under the Act" should be introduced, and that without the modification of these limiting words there would be no means of questioning any award of the Court of Arbitration, however wrong such an award might be. Under this sub-section it was proposed that an absolutely arbitratory power should be given to the court.

Mr. CLAUDE BAGGALLAY, K.C., contended that the sub-section under consideration made provision for three things: (1) that every award of the court should be binding; (2) that no such award could be removed into His Majesty's courts; and (3) there was a limited proviso concerning appeal in cases of questions of law. He contended that there should be a right of appeal to the House of Lords.

Mr. FREEMAN, K.C., who represented the London County Council, supported Mr. Baggalay's contention. In this Bill it was proposed to do away with the ordinary rights which every litigant would have in any case, however small, although in this case the property dealt with probably involved the largest pecuniary transaction which had ever been referred to arbitration. Lord Balfour of Burleigh had suggested that an appeal might cost the loss of much time. He (Mr. Freeman), however, thought that as soon as it was decided that the water companies must part with their undertakings it would be to their interest to settle the whole matter up and to hand over their stock. It was no less to the interest of the purchasing authority to take over their duties with as little friction as possible. There would, therefore, he contended, be no unreasonable delay, and it was desirable that the ordinary privileges given to litigants should be preserved. He pointed out that the Court of Arbitration was composed of human beings but would make no further reflection on the court.

On behalf of the Local Government Board Mr. FITZGERALD observed that counsel for the water companies and for the London County Council appeared to have forgotten the position of arbitrators in an ordinary case of arbitration. An arbitrator was absolute judge of the facts and there was no appeal from his decision as to the facts; he was also absolute judge of the law unless he stated a case for the opinion of the court, and he might be ordered by the court to state a case should the court come to the conclusion that a question of law had arisen before them. In the present Bill similar provisions had been made. The arbitrators might state their award in the form of a special case; they might state any points arising for the opinion of the courts and they were compelled so to state a case should the Court of Appeal so direct them. An amendment to the sub-section would also be introduced by the Local Government Board that there might be an appeal to the House of Lords should leave to do so be granted by the Court of Appeal. The jurisdiction of the arbitrators ought not to be unduly curtailed and the amendments proposed by the water companies, supported by the London County Council, might indefinitely delay the settlement.

After a deliberation on the question raised, Lord BALFOUR of BURLEIGH announced that the Committee was very evenly divided in opinion concerning it. The powers which it was proposed should be given to the Court of Arbitration were very wide; no exact precedent had been brought forward in favour of the bestowal of such powers and possibly no precedent for such a course could be found. The Committee, however, was of opinion in regard to the proposed amendments that they would be likely if adopted to lead to undue delay in the settlement of the matter. The Committee declined to insert the words "under the Act" and suggested that the representatives of the Local Government Board, of the water companies, and of the London County Council should confer and should try to come to an agreement as to the amendment of the clause.

Sub section 8 then came under consideration. It provides that—

> The Court of Arbitration may act by two of their number and notwithstanding any vacancy in their number. Subject as aforesaid, the court may regulate their own procedure and the procedure at an inquiry held by a commissioner or officer of the court.

On behalf of the metropolitan water companies Mr. CLAUDE BAGGALLAY proposed that these words should be added at the end of the sub-clause: "No metropolitan water company shall be prejudiced by the decision of any question in any arbitration to which it is not a party."

In the course of his speech Lord BALFOUR of BURLEIGH asked the learned counsel if he were not assuming an entire want of intellect on the part of the arbitrators. Finally, the Committee declined to accept the amendment.

Sub-section 9 was next taken into consideration. In the Bill this sub-section was as follows:—

> In determining the amount of water stock to be issued to any metropolitan water company the Court of Arbitration shall not make any allowance in respect of compulsory sale, and shall not take into account any enhancement or depreciation of the market value of any stock or shares of the company which in the opinion of the court was caused by or resulted from the passing or the anticipation of the passing of this Act, but the court may make such allowance as they think just for covering any expenses which have been or are likely to be incurred in consequence of the passing of this Act, and which ought in the opinion of the court to be borne by the Water Board.

On behalf of the metropolitan water companies Mr. PEMBER proposed the following amendment:—

> That the Court of Arbitration shall award to each company compensation for the transfer of its undertaking as if, with the necessary modifications, the law of compensation for the purposes of the Lands Clauses Acts were applicable to the case.

The Committee sat on May 28th when the question of recoupment to the water companies' shareholders came under discussion.

At the sitting on May 29th the chief matters which came under consideration were connected with the property in, and custody of, the books and documents of the water companies.

THE NEW GOVERNOR OF WEI-HAI-WEI.—The Hon. J. Haldane Stewart Lockhart, C.M.G., Colonial Secretary of the Colony of Hong-Kong and Rector of Hong-Kong College of Medicine for Chinese, was presented, by the Members of the Court, the Senate, and the General Council, and the past and present students of the college resident in the colony, with an extensively signed address bound in a handsome cover faced with silver, in the Legislative Council Chamber at Hong-Kong, on April 18th, 1902, on the occasion of his impending departure from Hong-Kong to take up the Governorship of Wei-Hai-Wei. His Excellency Major-General W. J. Gascoigne, the officer administering the government of the colony of Hong-Kong, presided at the meeting and was supported by Dr. Francis W. Clark (dean of the college) and other well-known local men. The Hong-Kong College of Medicine for Chinese was founded in 1887 by Dr. Patrick Manson, C.M.G., when Mr. Stewart Lockhart accepted the office of treasurer which he held until 1895, when he was elected to succeed his Honour Sir Fielding Clarke, Chief Justice, as rector of the college. Mr. Stewart Lockhart said in the course of his acknowledgment of the address that the Government had at last recognised the value of the work of the college and that in this year's estimates was inserted a sum which would allow of a slight honorarium being given to the prosecutors of the work. The Government had also undertaken to establish a dispensary in the western part of Hong-Kong. He added that graduates of the college would be useful in helping the Government to instruct the natives in sanitary matters, although at present students who had qualified in the college were immediately employed by the Government of the Straits Settlements, to whom Mr. Lockhart had written asking them to join the *Hong-Kong* Government in the establishment and maintenance of a medical college.

THE LANCET

SPECIAL SUPPLEMENT

IN SUPPORT OF THE

METROPOLITAN HOSPITAL SUNDAY FUND

Published in aid of the Appeal to be made on Sunday, June 15th, 1902.

INTRODUCTORY NOTE

IN making our annual appeal to the public on behalf of the Metropolitan Hospital Sunday Fund, we propose this year to make known the views of a few of those for whose benefit hospitals are built, organised, and supported The advertisement columns of the lay press teem with laudatory letters proclaiming the virtues of quack pill and potion, the infallibility of ointment and embrocation which their manufacturers sell for profit, why should not there be testimonials for those healing institutions which do their work for love? Why should not the hospitals have a good word said for them, which when they balance their books at the year's end, find that their work is carried on at a loss? Why should not those who support them those by whose benevolence alone they exist, see that the work done is good, that it is done well and lovingly, and that there is a warm response of gratitude in the hearts of those for whose sake their money is outpoured?

In collecting the statements that appear below a uniform course has been pursued. A representative of THE LANCET, after communication with the hospital authorities explaining the object of his visit, has gone to the twelve larger general hospitals in the metropolitan area There he has been taken into the wards by members of the staff of the hospital, and has either been conducted to the bed side of patients suitable for his purpose, or has selected at random for himself patients obviously well enough to talk to him In some instances our representative has visited patients who have been in the hospital recently and have returned to their homes. From the lips of these patients he has taken the story of the accident or illness which brought them to the hospital, of the circumstances of their lives when well, and an expression of opinion as to their treatment in the hospital To these statements he has asked each patient to append his or her signature

Those statements we only print in full where the permission to do so was either given voluntarily and unasked, or where on the suggestion being made it was given with eagerness and unmistakeable willingness. Where there was any doubt or hesitation, any shyness lest employers or neighbours might see it, or that it might in some way prejudice the person named, initials only are used and other traces of identity are suppressed But in all such cases we vouch for the absolute accuracy of every tittle of the story In the case of children initials have been used, as their personal consent might not be thought sufficient where their parents could not be consulted To all of these statements is appended a brief exposition of the clinical aspects of the case in question furnished by the house-surgeon or house physician, or by some other member of the staff of the hospital who has had the case in charge, or who has had access to the notes of the surgeon or physician upon the staff of the hospital who had the case in charge.

We ought perhaps to explain the sense in which we have used above the term 'suitable for his purpose" in speaking of the process of selection employed by our Special Commissioner His object in detailing certain cases for consideration has been to give the readers of our Supplement some insight into those positions where but for *immediate* treatment, accompanied by the *best obtainable conditions* for that treatment, the loss of a life would have followed upon the injury within a few hours as surely as night follows day

The treatment in many cases in the accidents wards must be immediate, and it must be carried on in conditions of freedom from possibility of septic contamination, and with a perfection of nursing and attention that cannot be obtained except in a hospital The rich man taken to his own home after being crushed or wounded in the manner described in some of the cases which follow might die while waiting for suitable surgeons, anæsthetists, and nurses to be brought to his bed side, and their skill might be rendered useless by the want of proper conditions for what we might call respectfully the exaggerated asepticism" necessary to save his life These conditions are to be found in the hospital only, and we will *point again*, as we have pointed before in our annual appeal to the benevolent on Hospital Sunday, to the fact *that it is in our hospitals, and in them only* that our surgeons can acquire that skill which when acquired is at the service of rich and poor alike

Our Special Commissioner has prefixed to the patients' statements a few comments, and has also explained the course which he pursued in eliciting the information

STATEMENT BY THE LANCET SPECIAL COMMISSIONER.

I went to the hospitals in quest of material for the Hospital Sunday Supplement of the LANCET without any prejudice or preconception of what I should be told, except possibly a certain misgiving as to whether the gratitude of the patient as a rule would be commensurate with the physical benefit which I knew it was the object of the hospitals to confer Poverty and suffering combined I expected to find, and the exercise of skill to soothe pain, to remedy injury, and to heal disease The result has allayed my misgivings, and exceeded any expectations that, in more sanguine moments, I ventured to form Patients differed in their modes of expression, some were warmer than others, but warmth of expression is a matter of temperament, and illness and pain are not always conducive to enthusiasm even when convalescence has supervened Some too, had more cause of gratitude than others, for they had been saved from worse fates But I found gratitude in all, gratitude fully appreciating that not only kindness, but unremitting care and skill had been bestowed 'I had everything that I wanted night and day" seems to me the most constant form of expression that I remember to have heard used.

It has, of course not been possible to prevent a little monotony in the form of the statements which follow, particularly as it was desirable to adopt a uniform method, asking first the nature of the patient's occupation if any, then as to the injury, and then saying, "Well, what about the hospital?" or otherwise putting the question in a form as little as possible suggestive of the answer.

Naturally, some patients were better adapted to my purpose than others. I heard of one who had made a wonderful recovery after an accident which might have been expected to cripple her for life, and she was said to be proportionately grateful. She had left the hospital cured some time before, and someone suggested that she could be sent for to see me. She was written to, but she did not come; and only then did the sister who had spoken of her as quite an example among patients let out, with a deprecating smile, that on the last occasion when her grateful patient had paid a friendly visit to the hospital, she had been—well, she had treated herself with a little more alcohol than was perhaps prudent, and there had been a difficulty about her admission to the wards. So this one would not do; no more would a patient in another hospital who certainly ought to have been warm in expressions of gratitude for his treatment had it been fair to ask him for a statement which might have been "used against him at his trial." He was lying comfortably in bed with a fractured leg. In front of him was a policeman in plain clothes, who was playing the handy man and putting coals on the fire, while coals of fire were being liberally heaped on the patient's head by kindly sister and nurse, who viewed him with amused and kindly interest. It may be mentioned that accused persons under apprehension, if ill or injured, are treated in hospitals, a constable being left on duty over them, but the peculiar feature of this man's case lay in the irony of the suggested crime through which he had met his injury. He had broken his leg (so it is alleged against him) escaping from pursuit after breaking into one of the collecting-boxes of the very hospital in which he lay! His views of hospital charity ought to have been edifying. Perhaps they were.

I now give the result of my visits as representative of THE LANCET to the twelve great general hospitals of the metropolis:

Charing Cross Hospital.

J—— S——[1] (Diabetes with Mortification of the Toe) says:

"I have been suffering from diabetes and a bad toe. I "am 68 years old and I was employed as porter at the "—— Stores. Since I have been in the hospital I have "been well treated. I don't wish for better treatment "from both doctors and nurses, and I am a great deal "better. I don't think I could have got well if I hadn't "come in. I was an out-patient at another hospital about "15 months ago for the same thing.

"(Signed) J—— S——."

Statement from the Hospital.—J—— S——, age 68, was admitted suffering from mortification of the big toe. In investigating the case, he was found to be diabetic, a condition which was evidently the cause of his complaint. The utmost effort was made to arrest the progress of his constitutional malady, both by dietetic treatment directed to reduce his consumption of sugar and starch, and by the exhibition of morphia in increasing doses, whilst the local lesion was carefully attended to, with the happy result that the spread of the gangrene has been checked, and the toe is now rapidly approaching complete recovery. Needless to say, if this condition had remained untreated, the gangrene would have extended until it had so undermined his general health that recovery would have been impossible, and he would have died from blood-poisoning and exhaustion.

JAMES READ (A Broken Leg) says:

"I live at 35, Muriel-street, Barnsbury. I do not mind "my address being given. I was brought into the "hospital with a broken leg, after having had a fall when "painting a staircase near Charing Cross. I have been "twice in hospitals with accidents before. I have been in "the Royal Free Hospital and St. Mary's, and now I am "in Charing Cross, and I can say that I have always been "treated with the greatest kindness. I am seventy-three "and have been a painter and paper-hanger all my life, "and I could never have got on without the hospitals. I "cannot sign, my hand is too shaky."

Statement from the Hospital.—J. W. Read, aged 73, a painter by trade, was admitted from the casualty department of the hospital, with a bad fracture of both bones of the right leg. Great care had to be taken to prevent the fracture becoming compound. The case was also complicated by the age of the patient, by his having bronchitis and a considerable amount of arterial and kidney degeneration, the result of lead poisoning acquired in the pursuit of his occupation. He had also broken the same leg in the same place some five years previously. After the swelling (which was considerable) had subsided, the leg was taken from the temporary fixation apparatus in which it had been placed, and the fracture set and put up in a swinging splint. After three weeks the fracture has united, and the man has never had the slightest trouble from his accident beyond his enforced absence from work.

S—— K—— (Cyst in Abdomen) says:

"I am eleven years old. I live at Greenwich. I go to "school there. My father is a stoker, and I have one "brother. I came to the hospital two months ago. I had "a great deal of pain and swelling in my stomach. I was "operated on, and I am getting quite well, I hope. I have "been quite happy and comfortable in the hospital.

"(Signed) S—— K——."

Statement from the Hospital.—Patient, a boy aged 11, admitted on March 3rd, 1902, for pain and swelling of the abdomen of three months' duration starting insidiously and accompanied by loss of appetite, some vomiting, and inability to walk about. There was also considerable loss of flesh. The abdomen was found enormously distended, and this was evidently due to an encysted collection of fluid. An operation was performed on May 7, and the abdomen found to contain a large cyst growing between the layers of the great omentum beneath the stomach. The cyst, which contained eleven and a half pints of fluid, was dissected out with some difficulty and removed, and the patient is now making an uninterrupted recovery.

Guy's Hospital.

MEYER SCHMIDT (Strangulated Hernia) says:

"I can speak conscientiously that death was staring in "my face, and that the operation performed on me in the "hospital saved my life. I have the greatest pleasure in "stating anything that I can to help the hospital. Every"thing in my power I shall do when I get out to influence "everyone I can to support the hospital. I have been "treated in every way whatever as kindly and well as "possible. I know that payment such as I could give "would not get me the treatment I have had. The "very first thing in this country that ought to be supported "is the hospitals. "(Signed) MEYER SCHMIDT."

Statement from the Hospital—MEYER SCHMIDT. The patient was brought to the hospital with a very feeble pulse, very collapsed, with a very large hernia, strangulated. It was got back with a good deal of difficulty in an operation which lasted over an hour. He is now going on well.

J—— F—— (Scalp Wound and Immersion) *says:*

"I can only say for the hospital that I have never been "treated kinder anywhere in my life. Everyone has "taken an interest in me. I am 64. I am a lighterman. "I was knocked off a wharf by a truck, and fell into a "barge on my head. I bounced into the water, and was "picked up and brought here. I was attended to instantly "and am getting better. There is no question that "hospitals ought to be supported. If I had money, it "would be the first thing I should think of."

The above statement was read over to the patient, but he was not able to sign it, being still in considerable suffering.

Statement from the Hospital.—J—— F—— was brought to the hospital wet and cold from having fallen into the dependence on a congenital tendency in its occurrence in several members of the same family and chiefly in the males, the girls, who do not suffer, conveying the morbid tendency to their own sons. Girls, indeed, may suffer, but less frequently in affected families than in the isolated cases which we sometimes meet with. Remember that all hereditary and family diseases sometimes arise *de novo*. I shall have to return to the point again, for it is important.

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[1] omitted at the desire of the patient.

We saw the special tendency of males to suffer from baldness, we shall see the tendency also in the affections of the nervous system; its manifestation in pseudo-hypertrophic paralysis is striking, even more so, I think, than in simple idiopathic atrophy. You may have heard of the group of cases through which Dr. Meryon first made the disease known in this country. Four boys, all the sons in one family, died from it; the girls were unaffected. But I know that one of these has two sons, and both are affected in an extreme degree. Her daughters are quite well. I could give you other examples which have come under my own observation which are equally marked, but the fact is too well known to need further illustration. I will only remind you, before passing from these muscular maladies, of the unequal way in which the muscles suffer. The distribution of the affection is strikingly different from that of those atrophies which depend upon the nervous system, but its localisation should be remembered, and especially that the muscles of the extremities, the hands and feet, suffer least.

Let us pass to the degenerations of the nervous system. In all those with which we are concerned to-day there is a slow decay of the nerve elements which have a common function—a decay limited to these but extending through their entire extent. Our modern conceptions lead us to regard these functional tracts as nutritional entities and to term them neurons. Each depends for vitality on the cell from which the fibres proceed—a chief process ending in a long fibre and short processes quickly branching in the spongy grey matter. We have long recognised this relation to the cell but the change in our conception has come, as you know, from the perception of discontinuity. The division of the fibres (which is really the separation of their constituent fibrillæ) terminates in ultimate branches which seem to end but end in contiguity to others from which they are stimulated. The groups of neurons which are differentiated in function differ also in their tendency to decay—in their vitality. When this occurs slowly it seems to be the result of a slow failure of the influence of the cell on which their vitality depends and the indications of the decay are first seen in the parts which are furthest from the cell—in the extremities of the fibres. But these neurons differ not only in the duration of life but also in its beginning. Not only do they often die at different times but they differ in the time of their development. Some are structurally complete sooner than others and thus are distinguishable in the beginning of life as well as in its ending.

Before we consider the special forms of the slow failure of these neurons, the forms of neuronic abiotrophy, there is another feature of the process of decay which it is important to discern. Whenever the nerve elements waste there is always an overgrowth of the interstitial neuroglia, the connecting and supporting tissue which lies between them. This overgrowth may be, indeed, on first inspection, the most conspicuous element, and its aspect has led the process to be termed "sclerosis." I say "its aspect," because there is generally no increase of consistence in the part so changed. This is generally diminished; the interstitial tissue, which looks so fibrous and firm under the microscope, is really softer than the nerve elements which have perished. This overgrowth has certain features which it is important to recognise. They have special significance in connexion with conditions which we shall presently consider. The neuroglia is a residue of the embryonal tissue from which the nerve elements also develop. When there is local arrest of development of the latter, as in cases of congenital fissures and cavities in the spinal cord, the embryonal tissue remains in tracts adjacent. The two elements, the neural and interstitial, seem to have a common inverse vitality and it is in consequence of this that the interstitial tissue overgrows when the nerve elements decay. When the overgrowth is thus started it often proceeds with an independent energy, in consequence of which it may overstep the strict limits of the degeneration and pass a little into adjacent tracts. It is especially luxuriant where this tissue is naturally most abundant, about the vessels and at the surface of the spinal cord, e g., beneath the pia mater which may thus be thickened. On account of this the nature of the process was for a long time misunderstood. The significance of the long extent of the degeneration, throughout the whole of a single tract of nerve fibres, did not receive its due weight, at any rate from many workers, as an indication that the degeneration of the nerve elements was the primary process. Attention was fixed upon the conspicuous interstitial tissue, and the characters of this were thought to be evidence that it was the primary change and that it started from the vessels or from the membrane. The word "sclerosis" itself made the mistake easier, because there are some morbid processes in which this element *is* the primary one, as in disseminated sclerosis, and a similar change may result from local inflammation. For these reasons the degeneration of the motor tract in the lateral columns of the cord was, and still is, spoken of as "lateral sclerosis" and degeneration of the fibres in the posterior columns is called "posterior sclerosis." I may add that we have another illustration of the tendency to independent growth of this tissue in the fact that the residual tracts which persist when the development of the cord is arrested may take on a new process of growth at some period, usually in early adult life, so as to give rise to that which seems a definite new formation, the condition termed "gliomatosis."

Not only is the secondary overgrowth thus excessive in degree but it sometimes assumes an energy which entails some vascular disturbance, as active tissue-growth is always apt to do. This may even be such as to constitute a process of an inflammatory character and it may even, in rare cases, be attended by hæmorrhage. There may result from this a rapid or even sudden increase in the symptoms not otherwise to be explained. Let me give you an instance. The optic nerve is a structure in which the amount of interstitial tissue which is formed in primary degeneration is exceptionally large. It is so in the simple atrophy of tabes. In this we sometimes have evidence that the interference with function is especially great at the optic commissure, so as to cause temporal hemianopia—an indication that focal damage is added to the primary atrophy. We can understand this if the secondary change assumes at the commissure an inflammatory degree. This is also indicated by the fact that such temporal hemianopia may develop rapidly. Moreover, I have seen one case of the kind, and another has been recorded, in which, when such hemianopia had developed, it progressed to complete loss in one eye and then the remaining half field was suddenly lost, causing sudden complete blindness, as if the vascular disturbance of the secondary process had led to a hæmorrhage at its chief seat. We shall presently see the importance of these considerations.

Let us pass to the special forms of degeneration of the nervous system which seem to be abiotic. We may distinguish certain groups, to which I referred at the outset. The first consists of those in which the failure of vitality occurs before or soon after adult life is attained, and it may be even earlier, soon after structural development is complete. In most cases of this group the relation to an innate tendency is shown by their frequent occurrence in several members of the same family, in several brothers or sisters, and sometimes by their occurrence in more than one generation. But each form, even those in which a family grouping is most marked, may occur in isolation.

The natural transition from the muscular to the nervous system is by the fibres which end upon the muscles, the spinal motor neurons, whose vital centre is the cell of the anterior grey matter of the spinal cord. Note this: different as they are in aspect, of all structures the muscular fibres are nearest to the nerves. The muscular fibre is excited to instant contraction by the stimulus that reaches the extremity of the nerve fibre, which ends in contiguity to the muscle protoplasm, although the two are not continuous. So also the nerve impulse which stimulates the muscle arises, we now conceive, in the extremities of the branching processes of the cell, as the result of an impulse that reaches the ends of other fibres which are contiguous but not continuous. Remember, also, that the life of the muscle depends upon that of the nerve. Slow atrophy of the muscle follows the slow degeneration of the nerve. Perhaps I should rather say the "gentle atrophy" of the nerve, for a reason you will see in a moment. The atrophy might be thought to be due only to disuse, were it not for the change in electrical excitability which so soon presents itself and which you know quite well—the "reaction of degeneration." But if

Thames. He was also bleeding profusely from a large scalp wound which crossed his head almost from ear to ear, and about a quarter of the area of his scalp was torn up from the skull. His immediate danger was death from hæmorrhage aided by the cold and shock of his ducking in the river. The hæmorrhage was stopped by tying a bandage tightly round his forehead, and he was put to bed with hot blankets, etc., for an hour. As soon as he was warm, his head was shaved and the wound washed thoroughly with antiseptic lotions, the hæmorrhage was arrested locally, and the wound sewn up. Thirty years ago this man would almost certainly have had erysipelas from contamination of his wound by the Thames water and his own hair. Owing to the free use of antiseptic lotions he has not developed erysipelas, and it is not likely that he will do so now.

G—— H—— (Broken Leg) says:

"I am the son of a builder's foreman. I was playing "'over-backs' (leap-frog) when I fell and broke my leg. "I have been quite happy in the hospital. I have every-"thing I want. The nurses, they are very kind to me. I "tried to walk on crutches Tuesday night. I have got "three sisters and three brothers, and we all live in three "rooms. "(Signed) G—— H——."

Statement from the Hospital.—G—— H—— had a fractured thigh bone, and through the intervention of the hospital will have a straight leg, less than a quarter of an inch shorter than the leg which is not broken.

ALFRED ROGERS (Cancer) says:

"I am a labourer, a general labourer in London, and I "had been feeling what I came in for for about two months. "I have been in the hospital a month, and I have been "attended in the best possible way, night and day. If I "go out cured, I shall owe it to the hospital I could not "have had the treatment, or anything like it, at home. I "have got a wife and four little ones at home to keep.

"(Signed) ALFRED ROGERS."

Statement from the Hospital.—A case of cancer of the tongue and anterior pillar of the fauces (the front part of the throat). Patient had half his tongue and the part of the fauces where the cancer was removed. If the cancer had spread further back it would have been impossible to take it out. He is going out in a few days.

King's College Hospital.

MRS. LOUISA PIPER (Cerebral Tumour)—this patient had left the hospital for some time[1]—says:

"54, Cochrane-street, St. John's Wood.—I am a married "woman with a family, and I am perfectly willing to have "my name used and to say all I can. After seven years "suffering from epileptic fits and paralysis, I have been "cured at the King's College Hospital. I could not walk. "I had lost the use of my left leg and also the use of my "left arm. I used to have fits every seven minutes, some "worse than others. I have lain unconscious for three "days and known nothing. I have been in six hospitals. "I was passed on to King's College Hospital from another "hospital. My husband is a tailor. We have four little "children and we certainly could not have afforded all the "treatment I have received if there had been no hospitals "I was treated with every kindness in King's College "Hospital I had everything I wished for and the best "of attention. "(Signed) LOUISA PIPER"

Statement from the Hospital.—LOUISA PIPER was admitted to King's College Hospital complaining of fits She began to have twitchings of the left side of her face in 1894, which increased in severity and frequency in 1895, when she had two fits which affected the left arm and leg as well as the face. In 1898 the fits were frequent. In March, 1900, paralysis of left arm and leg made its appearance In the following January she was unable to read on account of her eyes being affected. On admission, the patient had an imbecile look and was unable to feed herself. A tumour of the brain was diagnosed and an operation performed in which part of the skull was opened and the tumour removed. Three weeks after the operation she had regained power in the affected limbs, and ten weeks after the operation she was able to read fairly well with the right eye, and her left eye was much better. She is now able to look after her family and does her own sewing, etc., without glasses. Since the operation she has had no recurrence of the fits.

WALTER BARBER (Cerebral Tumour)—this patient had left the hospital for some time[1]—says:

"I am fourteen. I had been complaining of my head for "two or three years, and been bad for six months I went "into the hospital two years ago and was in ten weeks, "and I have been perfectly well ever since. I was quite "happy and comfortable in the hospital.

"(Signed) W. J. BARBER."

Walter Barber's Mother says:

"I am the mother of Walter Barber, and I cannot speak "too highly of the hospital and the kindness he received "there, and I wish to express the hope that the Hospital "Sunday Fund may do well and the hospitals prosper.— "(Signed) MRS. BARBER."

Statement from the Hospital.—WALTER BARBER, aged 12, was admitted to King's College Hospital in May, 1900. He had been suffering for some months with headache and vomiting—symptoms which had been increasing for two months before admission He had a cerebellar gait, and there was well-marked double optic neuritis. The right side of his head, behind, was slightly more prominent than the left, and pressure over this region caused some tenderness. The swelling was supposed to have originated from a fall downstairs. A tumour in the brain was diagnosed and an operation performed. The skull was opened over the bulging area and a tumour found in the cerebellum and removed. Although very collapsed after the operation he made a good recovery. The optic neuritis gradually got well. In November he was back at school and joining in all the games with the other boys.

S—— C—— W—— (Appendicitic Abscess) says:

"I had 'appendicitis abscess' in my right side, and I've "been in the hospital for 22 weeks. This is the first day "I have been up I have been very happy in the hospital. "I shall be very glad to see my brother and sisters again. "I have three sisters and one brother I came to this "hospital because one of my sisters had been here I now "make myself useful to the sister and nurses when I can. "I can roll bandages. I rolled sixty last night

"(Signed) S—— C—— W——"

Statement from the Hospital.—S—— W——, age 13 (appendicitic abscess), was admitted to King's College Hospital complaining of pain in his abdomen. Patient was very ill Operation was decided on, as an abscess in the abdomen was suspected. An operation was performed and a large abscess found, the pus was let out, and patient gradually recovered.

The London Hospital.

WILLIAM UNDERWOOD (Crushed, Fractured Pelvis and Ruptured Bladder) says:

"I am a married man with five children. I am a B man "in the docks, the first to go on of the extra labourers. I "was working on board a ship in London Dock. I was "down a ship's hold hooking on two bales of wool, when "the crane worked up unknown to me so quick I could "not get away. The two bales struck me in the stomach, "knocking me up against an iron stanchion. They "squedged me till assistance came. They lowered down "the crane by the men holloaing who were down with me, "and with that I fell on my back. I could not move—I "could not move either of my legs. I was brought to the "hospital, and they have treated me grand. Not the

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[1] The particular value of recording cases of patients who have left the hospital for some time lies in the assumption that the benefits received are permanent.

"King of the country could have better care than I have had. I am very willing to have my name published. I have been to the hospital twice before as an out-patient with dock accidents.

"(Signed) WILLIAM UNDERWOOD."

Statement from the Hospital.—WILLIAM UNDERWOOD, a dock labourer, aged 48, was admitted to the London Hospital after being crushed between a bale of wool and an iron stanchion while working in the hold of a ship in the London Dock. He was extremely bad on admission and was found to be suffering from a fractured pelvis and a ruptured bladder. He was operated on a few hours after admission and is now progressing very satisfactorily, his life undoubtedly having been saved by the operation.

ALEXANDER HUNTER (Concussion, Scalp-wounds, Bruises) says:

"I am a boatswain in the merchant service. I arrived in London at Euston Station a fortnight ago, and, proceeding on my way to the Sailors' Home in Wells Street at midnight, I was set on by four men. I was knocked *unconscious and robbed of everything I had. I tried to* get on down to the Sailors' Home. The last thing I remember was sitting on a doorstep, and I next remember arriving at the hospital. Directly I arrived my head was dressed and I was sent up to bed. I don't remember much about it. The next day I had three fits and was very near dead. I honestly believe I should have been dead if I had not been taken to the hospital. Since then I have had every attention paid to me. Everyone has seemed to do everything they could for me. As for the sisters and nurses, they could not be more thoughful, or clever, or kind. "(Signed) A. W. HUNTER."

Statement from the Hospital. — ALEXANDER HUNTER, a sailor, aged 32, was admitted into the London Hospital unconscious. He had been knocked down while walking along the street, kicked and generally maltreated, and then robbed. When he came into the hospital he was unconscious, and had several lacerated wounds on the scalp, and many bruises about the body. He remained unconscious for some hours, but regained consciousness, and after his wounds had healed was able to be discharged fit for work.

This is a good example of a very important type of case, many of which would die, and many also would, after recovery, be subject to fits and other cerebral disturbances, but for the existence of hospitals where they can be taken in and watched, so that operation can be resorted to as soon as necessary.

J—— C—— (Tuberculous Disease of Thigh and Knee joint) says:

"I have been in the hospital now for 8 weeks. I have been in it many times before. I get better each time, and my leg gets bad again. I came in this time to have it taken off, but the surgeon said it was much too good a leg to be taken off. My father works for the Borough Council of Stepney, as a scavenger. I have been treated very well at the hospital, both in and out. I am sure I I don't know what I should do without it.

"(Signed) J—— C——."

Statement from the Hospital.—J—— C——, aged 19, has been suffering from tuberculous disease of the femur and knee-joint since she was twelve years old. She has been in the hospital five times before, and has had six operations for removal of diseased bone. At the last operation the whole of the part of the bone that was diseased was removed, and she is now on a fair way to recovery with a very useful leg.

H—— C—— (Varicose Veins) says:

"I am a temporary porter in the Post Office, and I had the offer of the appointment permanently, provided that I was medically fit. I failed in this through having varicose veins. I have been operated on in the hospital, and my operation has proved successful, so that if I get appointed I shall owe it to there being a hospital to go to, as I could not have had it done in my own home

"(Signed) H—— C——."

Statement from the Hospital.—H—— C——, a porter, aged 23, was admitted into the hospital with varicose veins of the leg. These were removed by operation, and he is now quite fit to return to his old employment.

Middlesex Hospital.

HENRY DOLLY (Stab in the Abdomen) says:

"I am a coach painter by trade. I was walking along the street in which I live, when I unintentionally came up against a foreigner, an Italian bootmaker, who lived in the same house. There was no quarrel between us before, but he raised a stick, and when he was prevented from striking he drew a knife on me, and stabbed me in the abdomen. I did not know I was wounded when I fell, and became unconscious, coming to just as I was being taken into the hospital. A very short time after I got the wound I was under chloroform. I cannot tell about what was done to me, no one was allowed to speak to me for a fortnight, not even the police; I was in the hospital and convalescent home about two months altogether, and I know that the hospital saved my life. The judge at the sessions, when he sentenced the man who stabbed me, told him that but for the hospital he would have been standing charged with murder, so that the hospital saved two lives! He got fifteen months. As for my treatment at the hospital and at the convalescent home they treated me splendid. I could not wish for better. I also must thank the hospital for its care of my little daughter. She has just returned home for the third time quite well, thanks to the hospital. She suffers from fits. "(Signed) H. DOLLY,

"120, Cleveland-street."

Statement from the Hospital.—HENRY DOLLY was brought to the hospital after receiving a stab in the abdomen. A wound was found in the abdominal wall about an inch and a half long, situated to the left of the middle line about an inch below the umbilicus; a piece of omentum about two inches long was protruding from the wound. An operation was performed immediately. The abdomen was opened, and the protruding piece of omentum ligatured. A wound was found in the stomach, about three quarters of an inch long. This was closed by two rows of sutures. The abdominal cavity was sponged out, and the wound in the abdominal wall closed in layers. The patient has since been at the convalescent home at Clacton, and has now returned to his home and his work.

REBECCA PEACOCK (both Legs cut off in the "Tube") says:

"I was standing on the platform at a station of the 'twopenny tube' with my little boy. I think I fainted; anyhow, I fell down on the line, falling into the hole between the lines. I remember my little boy, who fell in too, catching hold of me and saying 'Mother.' I came to, but I remember very little about it. I was brought to the hospital and everything done for me that could be done. I am now getting better. As for my treatment in the hospital I could not ask for any better. Everybody is kindness itself; most considerate they are; as gentle as anything. I must have died if they had not brought me in here. My husband is a postman, and I have three children I need hardly say that had there been no hospital I don't know what would have happened.

"(Signed) REBECCA PEACOCK."

Statement from the Hospital.—REBECCA PEACOCK was brought into the hospital with both legs cut off below the knee and attached by tendons only. She was in a state of collapse and in great pain, which was immediately relieved by the injection of morphia. She was then placed under anæsthetics. The ragged pieces were removed, and the ends of the stumps trimmed up. She is now going on well.

Royal Free Hospital.

E—— K—— (*Cancer of the Breast*) *says:*

"When I am at work I am a counter-assistant in a refreshment bar, at 14s. a week, and was at work right up to the day I came here. I came to the hospital in

"March, having noticed that there was something wrong
"with me. I was told that it was cancer, and was
"operated on three or four days afterwards, so that I have
"been in seven weeks, and shall be glad to be up and out.
"I certainly could not have afforded surgeons and nurses,
"if there had been no hospital to go to, and I suppose
"I should have had to have gone on getting worse with
"cancer. Of my treatment in the hospital I willingly say
"that everyone has been very kind, and I have been very
"comfortable. (Signed) E—— K——."

Statement from the Hospital.—E—— K—— manageress of a tea shop, aged 37, was admitted to the Royal Free Hospital suffering from cancer of the left breast. She had noticed her trouble for six months, but had not taken advice about it. A very extensive operation had to be done, as glands in the armpit were also affected. This operation required two surgeons, an anæsthetist, and a nurse, and could not possibly be done in a patient's home except at great expense.

MRS. CLAMPITT (Cancer of the Tongue) says:

"I am a widow, and have been for many years, but I
"have always been able to keep myself, though very poor.
"I do needlework and work in gentlemen's houses. I used
"to do a good deal of that kind of work. When my mouth
"got bad I had to come into the hospital, and I had part
"of my tongue cut out. That was two years ago. Since
"then I have been able to work, and when I couldn't I
"had to go into the workhouse. Now I am in again and
"have had another operation. I haven't seen myself, but
"I have been very much cut about. It's a wonderful
"operation from what I hear the doctors say, and when
"you are old these operations tell upon you. I am, as you
"see, getting on. As for the hospital, everything is good.
"Nothing is too good to say about it. Everybody is kind
"here to you, and as for the sister, she is an excellent
"angel. Of course they have their rules, and you have to
"abide by them, but if you are not comfortable it's your
"own fault, so I say. They are going to send me to a
"home on Monday. I am only too happy for my name to
"appear. "(Signed) MARY CLAMPITT."

Statement from the Hospital—MARY CLAMPITT, aged 54, was admitted to the Royal Free Hospital in Jan., 1900, suffering from cancer of the tongue. This was removed, and the patient was able to go out in a few weeks talking very well. In April, 1902, she was again taken in, as recurrence had taken place in the glands in the neck. A very extensive operation had to be done, including the removal of the common carotid and internal jugular vessels. Notwithstanding this, she was able to go out quite well on May 12. But for the powers of antiseptic surgery, such an operation could only be fatal.

PRIVATE J. TWITCHETT (Cancer of the Jaw) says:

"I am a private in the Essex Regiment, and this is the
"second time I have been in this hospital. I was operated
"on on the 19th of March, and am nearly well now I
"was able to go back to the army before after being in
"the hospital, and if my jaw gets well enough for me to
"be able to shave I shall be able to go back to the army
"again, entirely thanks to the hospital. I was sent to
"the London Free Hospital from Warley. As to my
"treatment in the hospital, you have everything you wish
"for night and day. "(Signed) PT. J. TWITCHETT."

Statement from the Hospital.—JAMES TWITCHETT, soldier, was admitted to the Royal Free Hospital suffering from an extensive growth of cancer on the left lower jaw. The whole of the growth was removed, including the half of the lower jaw. The operation was extensive and difficult, but the patient was up and in the square at the end of a week. His disfigurement, now that his beard has grown, is comparatively trifling.

St. Bartholomew's Hospital.

WILLIAM TAYLOR (Ruptured Spleen) says:

"I am William Taylor, and am eight years old. I goes
"to school at All Saints' School, Muriel-street. My father
"cuts glass. I was running across the road to get to the
"other pavement and I was knocked down by a cart and
"the cart went over me, over my stomach. It hurt me
"very much. A man, he was a soldier, picked me up and
"a policeman brought me to the hospital on the cart that
"ran over me. It was a four wheel van with one horse, a
"lady was driving it and a boy was in it. I lay on a bed
"in the surgery, I remember, when I got to the hospital,
"and then I had an operation. After the operation they
"brought me to this ward. I know what the name of the
"ward is—Pitcairn I now feel I am better. I am going
"to Swanley on next Friday to the convalescent home for
"nineteen days. Then I shall go home. I have five
"brothers and two sisters. I shall be glad to be with
"them again. They come and see me on Sunday from two
"to three. I am very glad I was brought to the hospital.
"We have only three rooms at home so I could not have
"been so comfortable. I have been very comfortable and
"happy in the hospital. I like the nurses.
"(Signed) WILLIAM TAYLOR."

William Taylor's Father says:

"I am the father of William Taylor. I saw my son
"at the hospital the evening he was brought in, and I
"went to see him after the operation I was allowed to
"come and see him as often as I liked; he was on the
"dangerous list—on the slate—for a fortnight, and I think
"they have done a wonderful cure for him. He has
"everything he wants, so he says, whenever he wants it
"and seems thoroughly happy, in fact he seems as if
"he'd like to stay. You can use the name and address as
"much as you like.—R. TAYLOR, 31, Rodney-street, N."

Statement from the Hospital—WILLIAM TAYLOR, aged 8, was run over on March 27 by a van. He was brought to the hospital in a very collapsed condition, and had obviously received some severe internal injury. He was taken to the theatre and given chloroform. The abdomen was opened and found to be full of blood. A large rent was found in the spleen, and this was carefully sewn up, so as to stop all the bleeding. The boy made an uninterrupted recovery, and is now waiting for a vacancy in our convalescent home at Swanley. Had not the operation been done so expeditiously, he would undoubtedly have died in an hour or so.

R—— T—— (Perforated Gastric Ulcer) says:

"I am nineteen next August. I was a general servant;
"I was taken bad while I was out in service. I was
"washing up the dinner things, when I was suddenly
"taken with the pain, and sat down and screamed. I had
"felt as if I had indigestion for nine months My mistress
"gave me some cold brandy and water, and told me to go
"and lie down I tried to go to bed but couldn't, I was
"in such pain. My mistress undressed me. I lay in bed all
"that night and next day. It was the next evening that my
"mother came and fetched a doctor. He gave me a medicine,
"and ordered boiling water and turps on flannel to be
"put on my stomach He asked mother to stay all night,
"but she had left the children at home, and could not stay.
"Next day my mother took me home in a cab. When I
"got home. I was put on a bed till another doctor came.
"He examined me and said I must come to the hospital at
"once I started at eight in a cab We live at Enfield High-
"way and it took three hours to come as we could not come
"fast. I was operated on at five minutes past twelve.
"That was when they took me out of the ward. I don't
"remember much about the first two or three days. I am
"beginning to feel quite well now and I shall be able to
"go into service again. I have been quite happy here,
"and shall be sorry to go away. Of course I did not like
"it when I could not have anything to drink—only two
"teaspoonfuls of hot water every hour—and nothing to eat
"for three weeks, but I see now it was for my good. I
"can eat a little now My father works on the land, and
"we live in a small cottage, so I could not have had
"anything there that I had here—I mean the nursing. I
"have not had medicine here, but nursing. I believe that
"I should have died by next morning if I had not come
"up that night. I am sure I owe my life to the hospital.
"I am going next Wednesday to the convalescent home at
(Signed) R—— T——."
"Swanley.

Statement from the Hospital.—R—— T—— was brought up on March 28 complaining of severe abdominal pain. She was very much distended and the muscles were rigid. It was at first supposed that her trouble began in the appendix. She was taken to the theatre and anæsthetised. The abdomen was opened and the appendix was found to be normal. An ulcer was found in the stomach, and in the centre of this was an opening, through which food and gastric juice were coming out. The opening into the stomach was then carefully sewn up, and the abdominal wall closed except at the upper part of the incision, through which some gauze was put in to drain. The patient made an uninterrupted recovery, and leaves on May 14 for Swanley.

St. George's Hospital.

MRS. B—— (Cæsarean Section) says :

"I am the wife of a "dealer" and live in a flat at "Stockwell. I came into hospital on March 12. I went "to a lying-in hospital first, and the surgeon who "examined me there sent me on to St. George's "Hospital. I was operated on on the following day, "the small operation, and again on March 27, the "big operation. I was certainly very glad to have my "little baby alive, and I can't say enough about the "hospital. Everyone has been very kind, doctors and "nurses alike. You can put it in better words than I can. "Of course, I should not have had anything of the kind "in my own home, doctors and nurses night and day. My "husband comes to see me ; he thinks there is only one "baby, and that is ours. I think she is a big baby ; she "weighs 8¼lbs. at five weeks.

"(Signed) J—— B——."

Statement from the Hospital.—The patient, a woman aged 32, came to the hospital when 8½ months pregnant. It was found that she had a bony tumour of the pelvis which would prevent delivery of the child in the natural way, either alive or dead. There had been five "miscarriages" previously, and she was now very anxious to have a living child. Cæsarean section was therefore performed on the Thursday before Easter (last), and a healthy female child born. Both mother and child have done very well.

H—— L—— (Ruptured Spleen) says :

"I am in the employment of a business firm in South "Kensington. On the evening on which I was injured I "was going down the steps at an Underground Railway "station, when I slipped and fell forward across the "hand-rail of the staircase. The wind was knocked "out of me, and I slid down the rail on my stomach like a "child slides down banisters. The gate at the bottom was "open. It was standing open against the stair-rail, so "that I came across the edge of the gate with a crash. I "went back to my lodgings in a cab, and sent for a "*doctor, who examined me and sent me straight to* "St. George's Hospital, where I was operated on that "night. My pay is very little over £1 a week, and in my "lodgings I certainly could not have been operated on and "nursed. I am sincerely grateful for all that has been "done for me in St. George's Hospital.

"(Signed) H—— L——."

Statement from the Hospital.—H—— L——, a man aged 35, fell down stairs and injured his abdomen. Brought to hospital in an extreme condition of collapse. Immediate operation. Ruptured spleen found ; blood and blood clots washed out and hæmorrhage stopped by means of gauze packing. Transfusion performed. Recovering.

A—— B—— (Aneurysm for 16 years).—In this case there is no testimonial from the patient. The best evidence that can be supplied of what the hospital did for him will be found in the statement below, from which it will be seen that for 16 years he was enabled to return to his work after the intervals which he spent under treatment, and that the care he received mitigated to the utmost

STATISTICS OF HOSPITAL WORK IN LONDON DURING THE YEAR 1901.

TABLE I. — GENERAL HOSPITALS.*

N.B.—The figures referring to out-patients in these Tables represent the number of VISITS *paid by out-patients—*NOT *the* NUMBER *of out-patients.*

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
Charing-cross	1,050	1,681	717	778	158	156	101	36,144	6,811
French	267	820	240	605	110	42	83	11,807	881
German	442	1,846	463	717	423	108	140	47,512	8,184
Great Northern Central	717	1,811	1,471		141	138	202	65,244	12,041
Guy's	2,250	7,772	6,814		998	485	612	216,936	69,001
Hampstead	200	379	82	247	17	27	23	3,965	77
Italian	50	520	101	380	22	23	16	24,309	140
King's College	1,250	2,581	1,029	1,033	176	176	215	45,058	9,102
London	4,600	12,723	5,950	4,963	1,613	636	1,884	856,938	26,640
London Homœopathic	458	1,092	257	600	250	64	65	39,871	997
Phillips Memorial Homœopathic	29	128	17	96	5	6	4	2,685	—
London Temperance	667	1,200	237	877	20	—	107	25,684	12,816
Metropolitan	917	1,131	809	595	131	83	144	111,962	16,625
Mildmay	225	515	118	309	106	80	82	81,051	4,422
Miller Hospital and Royal Kent Dispensary	250	362	94	193	—	18	34	33,848	7,089
North-West London	342	639	156	376	22	48	88	44,216	6,120
Poplar	438	1,235	50	1,054	54	68	79	20,959	830
Queen's Jubilee	63	135	17	104	15	7	7	18,800	1,368
Royal Free	875	2,140	1,774		156	143	197	103,725	21,301
St. George's	1,933	4,696	4,194		709	282	397	115,109	16,771
SS. John and Elizabeth	68	95	—	—	—	—	—	—	—
St. Mary's	2,000	4,036	1,151	2,058	334	247	334	109,257	18,829
St. Thomas's	967	6,605	6,974		729	408	596	69,463	—
Seamen's	1,041	2,634	559	1,849	50	235	182	90,168	—
The Middlesex	1,783	3,777	2,698		683	278	401	105,859	—
Tottenham	258	7·8	85	442	—	62	90	47,947	—
University College	1,133	2,035	740	1,303	305	163	298	148,092	81,221
Walthamstow	71	421	67	275	8	24	24	—	1,207
West Ham	375	961	413	393	10	45	75	52,358	9,151
West London	600	2,243	2,049		—	124	104	97,693	17,082
Westminster	1,292	2,760	1,870		426	189	254	70,000	—
	£26,221	70,347	12,917	19,152	7,671	4,334	6,260	2,209,480	293,656
Estimated to supply omissions	—	—	10,741	15,691	19	43	—	3,000	35,614
Total	£26,221	70,347	23,658	34,843	7,690	4,377	6,260	2,212,480	329,300

* We reproduce the term "General Hospitals" as employed by the Council of the Metropolitan Hospital Sunday Fund.

possible extent, if it could not cure, the ill from which he suffered.

Statement from the Hospital.—A—— B——, a builder's foreman, at the age of 40 began to suffer from incessant cough and indefinite thoracic pains which subsequently became severe. He was first seen and admitted into St. George's Hospital in 1886 with a large aneurysm which projected through the upper part of the chest. His condition was described as "weak, ill, and hopeless." Rest, dieting, and appropriate treatment, however, caused the enlargement of the aorta to much decrease, and after nine months in hospital he left markedly improved. He subsequently was in the hospital for five other periods varying from one to six months, on one occasion for pleurisy and pneumonia, from which he recovered entirely. During the periods that he was at work the aneurysm persistently became larger but rapidly reacted to rest and treatment after admission to the hospital. The man finally died in 1901 from rupture of the aneurysm, which he had been known to have for the remarkably long period of 16 years. The usual duration of this disease may be taken as three to five years, and it is only reasonable to suppose that this unusual prolongation of life was due to the patient being able to lie up for long periods at a time and at the same time to have appropriate skilled medical attendance.

TABLE II.—SPECIAL HOSPITALS.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
City of London for Diseases of Chest	687	1,205	1,001	—	—	111	94	67,931	—
Hospital for Consumption	1,683	1,665	1,134		—	252	179	66,490	—
North London ,,	468	—	—	—	—	—	—	—	—
Royal Hospital for Diseases of Chest	383	700	651		45	70	78	26,834	—
Royal National Hosp. for Consumption	204	963	626	—	—	147	24	—	—
Alexandra Hospital for Hip Disease	125	114	13	32	7	66	2	3,112	—
Banstead Surgical Home	21	164	43	82	37	15	1	—	—
Barnet Home Hospital	34	52	32	10	4	11	1	—	—
Belgrave Hospital for Children	100	241	60	129	7	35	43	16,782	100
Cheyne for Incurable ,,	83	75	4	6	13	50	13	—	—
East Lond. Hosp. for ,,	683	1,612	328	765	204	91	203	80,811	4,637
Evelina Hosp. for Sick ,,	592	1,017	775		60	67	173	20,281	11,513
Home for Incurable ,,	67	31	—	—	—	10	2	—	—
Home for Sick ,,	108	217	210	—	117	38	8	8,903	—
Hospital for Sick ,,	633	2,111	674	953	223	144	350	101,201	—
North-East. Hosp. for ,,	292	752	161	401	83	39	94	69,734	4,694
Paddington-green for ,,	242	592	484		30	23	85	40,560	831
St. Mary's for ,,	213	742	90	510	—	20	101	71,010	14,664
St. Monica's for ,,	63	71	43	25	48	22	1	—	—
Victoria Hospital for ,,	433	683	146	241	471	28	51	48,179	370
Victoria Home, Margate	24	77	24	14	—	35	4	—	—
"The Vine"	33	43	—	19	—	36	—	—	—
British Lying-in Hospital	34	467	457	—	3	13	2	—	—
City of London Lying in Hospital	46	660	—	648	8	32	2	16,342	—
Clapham Maternity	23	426	—	—	—	—	—	8,300	—
East-end Mothers' Home	73	193	—	—	—	—	—	8,790	—
General Lying in	35	497	—	490	59	13	4	11,372	—
Queen Charlotte's Lying in	833	1,234	1,250		—	—	4	7,192	
Chelsea Hospital for Women	312	780	670		162	46	14	9,240	—
Hospital for Women	208	493	181	324	80	33	12	18,568	—
Grosvenor Hosp. for Women and Children	125	210	71	133	—	14	6	14,250	—
New Hospital for Women	231	577	—	—	70	46	23	31,363	—
Royal Hosp. for Children and Women	218	483	—	—	20	40	01	41,245	20
Samaritan Free	433	436	58	304	—	43	11	17,910	—
Cancer	500	704	606		21	83	98	16,310	—
London Fever	583	903	—	811	—	10	22	—	—
Gordon for Fistula	22	296	16	267	—	10	1	4,143	—
St. Mark's	125	488	69	361	20	31	2	6,867	—
National for Diseases of Heart, &c.	67	103	95	7	6	19	11	13,163	—
Female Lock	208	630	679		2	111	2	—	—
Hospital for Epilepsy, &c.	41	—	—	—	—	—	—	9,742	—
National for the Paralysed, &c.	703	953	206	234	143	160	18	37,971	—
West-End for Nervous System	116	261	147	61	—	21	1	36,318	—
Central London Ophthalmic	100	332	331		—	16	—	29,450	504
Royal Eye	175	626	605		—	20	—	64,311	—
Royal London Ophthalmic	625	1,166	—	—	11	65	1	100,673	—
Royal Westminster ,,	108	476	410		—	—	—	15,322	—
Western ,,	83	173	76	97	—	—	—	18,631	—
City Orthopaedic	167	300	—	—	—	—	—	—	—
National ,,	101	203	148		—	67	—	2,776	—
Royal ,,	100	256	230	21	25	36	—	4,150	—
Royal Sea Bathing Infirmary	292	651	391	82	—	108	11	—	—
St. John's Hospital for Diseases of Skin	67	239	213		—	30	1	36,223	—
St. Peter's for Stone	67	490	463		—	20	24	41,550	—
Central London Throat and Ear	34	560	44	103	4	10	4	46,111	—
London Throat	25	609	609		1	5	1	15,011	—
Metropolitan Ear and Nose	13	244	—	—	—	—	—	7,160	—
Royal Ear	8	243	243	—	—	—	—	7,542	—
Royal Dental	104	—	—	—	—	—	—	70,010	—
National Dental	21	—	—	—	—	—	—	25,731	—
	£13,431	30,849	5,950	7,323	2,057	2,415	1,923	1,423,196	37,676
Estimated to supply omissions	—	433	5,224	7,418	171	185	29	31,539	5,514
Total	£13,431	31,256	11,174	14,741	2,228	2,600	1,952	1,454,735	42,190

St. Mary's Hospital.

F. W. GREGORY (Wounded Leg—Amputation) says:

"I am an electrical engineer in the test room of the "British Insulated Wire Company in Lancashire. I had "run up for a few days to London at Easter for a holiday, "and was staying with my friends. I was spending the "evening with a friend, and we were fencing with some "old Spanish rapiers when I met with my accident. A "doctor was called in at once, and he did what he could, "but the bleeding kept on breaking out, and the next day "I was brought to the hospital, where I have had every "attention. Nurses and everybody have been very kind to "me. "(Signed) F. W. Gregory."

Statement from the Hospital.—F. W. Gregory. Patient had received a punctured wound in the right thigh when fencing with rapiers. He had lost a great deal of blood before coming to the hospital. He had been bandaged before he arrived, which was the day after receiving the wound. On admission he was very blanched, with feeble pulse, the skin of the thigh was torn in two places, and the main artery and vein were also torn. The wound was cleaned up, the artery and vein were ligatured, and transfusion was performed. Two days afterwards gangrene was commencing in the foot on account of the deficiency of blood, and it was necessary to amputate the leg. Since then he has made fair progress towards recovery.

J. WALKER HANNA (Amputation of Leg) says:

"I am a submarine cable engineer. I went out to the "West Indies from College. I fancy what I have suffered "from is the result of a fall. The surgeon who operated "can speak as to what it was. He has been especially "kind and taken a great interest in my case, and his skill "and the good nursing I have had has brought me round. "I came home 5,000 miles, in great pain all the way, in "order to be operated on. It seems a providential thing "that I should have done so, for my ship was the *Grappler*, "so that I should have been lost in the Martinique "disaster with all the rest of those on board the ship if "I had not come home on account of my leg.

"(Signed) J. Walker Hanna."

Statement from the Hospital.—J. Walker Hanna. Treated for abscesses in the leg in the West Indies. On admission to the hospital he was found to be suffering from sarcoma of the tibia, necessitating amputation of the leg. Amputation was performed and the patient is doing well.

St. Thomas's Hospital.

HENRY DAMPIER (Abscess of Liver) says:

"I am a postman. I was in the merchant service for "two years, and in the army for 11 years. I served in "India, Burma, China, and Africa, in the Northampton "Regiment. I was called up as a reservist for the "Transvaal War, and was with Lord Methuen's column at "Magersfontein, Belmont, Graspan, and Modder River, "and was invalided home last July, with abscesses on the "liver. Since then I have been in a convalescent home "and have done some soldiering; I went home on working "furlough and started at my old employment, but I have "had it all the time more or less with liver trouble, and "was laid up for three months previous to coming into St. "Thomas's Hospital. I was sent up by my doctor at "Uxbridge. I have been in the hospital a month, and "was operated on the 25th of last month, and since I have "been operated on I have felt a great deal better. I have "been treated very well by doctors and nurses. I cer"tainly could not have got on without coming into a "hospital. I could not get about. I was hopeless. Now "I shall be able to get back to my work, and I hope to be "at it before very long. "(Signed) Harry Dampier."

Statement from the Hospital.—The patient, aged 28, was admitted suffering from abscess of the liver. He had been a soldier, and had suffered from dysentery and enteric fever in South Africa in February, 1901. He had an abscess of his liver opened in March. Later he returned to England convalescent and worked as a postman. Subsequently he began to suffer from aching pain in the abdomen and on the right side, and from other symptoms. He lost weight and flesh, and was incapacitated from work. He was operated on in St. Thomas's Hospital on the 16th of April, 1902. Gradual convalescence has followed.

ALFRED PAUL (Intestinal Obstruction) says:

"I am a hair-dresser. I have been in hospital 15 "weeks next Saturday. I was at home for some time but "could not get well. I have not been right since last "October. Since I have been in I have been operated on "four times. It was impossible that I should have been "operated on at home or nursed there. How have I been "treated in the hospital? Well, I could not have been "treated better. I wish I could make the hospital a "present, but I cannot afford to do so.

"(Signed) Alfred Paul."

Statement from the Hospital.—The patient (aged 37, with a wife and five children) had been healthy all his life and temperate. Three weeks before coming to the hospital he complained of abdominal pain, vomiting and diarrhœa, which continued until three days before admission, the obstruction became absolute, and on admission he had fæcal vomiting. He was operated upon on Jan. 25, 1902. The cæcum came out of the wound and burst, because it was so highly distended. After this operation he was very ill for some days, and on Feb. 22 he had another attack, and another operation. He was again very ill, but recovered. April 5 an anastomosis was made to help to close the artificial anus. April 26 another operation was performed for closure of the artificial anus. The patient is to be discharged and to come in again.

This is another instance of the benefit conferred by hospitals, and hospitals only, upon patients. In such a case the continued supervision of surgeons and nurses is necessary, while there is every convenience for immediate operation, should necessity arise, under conditions impossible except in a hospital.

G—— P—— (Appendicitis and General Peritonitis) says:

"I work at an iron factory. I fancy I strained myself "lifting heavy weights at my work, and pushing a truck "up a hill. I got very bad and in great pain, and couldn't "stand the pain, and thought it best to come to the "hospital. I live with my father, a porter, so could "not have been cured at home. I have been treated very "well in the hospital, and am very glad I came there.

"(Signed) G—— P——."

Statement from the Hospital.—The patient, aged 17, an errand boy, had been a perfectly healthy boy. Two days before admission he had been taken with sickness and pain in the abdomen. He was operated on immediately, within an hour of his admission. General peritonitis was found and the appendix was gangrenous. It was removed. The abdominal cavity was washed out with salt solution, and the abdominal wall sewn up. He is now convalescent. Cases of this kind never recovered until quite recent years. They belong to a class that can be treated much better in a hospital than in the home even of wealthy patients, because in private practice it is often difficult to wash out the abdomen properly, as all conveniences are absent.

University College Hospital.

MISS B—— (Strangulated Hernia) says:

"I am a Visiting Sister at L——, a deaconess, resting "for a few months until I get strong. I came to London "just for a few days' holiday. I was up but two days when "this happened through a fit of coughing about six o'clock "in the morning at the house of my sister. A doctor was "called in, and he, of course, could not do anything by "himself, but seeing what was the matter he got me a "paper at once and I was taken into the hospital. I had *nothing to do with it. I did not care what they did* with me so long as they cured me. At the hospital I was operated on at once, and am now getting well as fast as ever I can, and hope to go home at the end of next week, but I have to promise that I shall not do any work for six weeks. If there had been no hospital to go to I could not have lived. I, of course, could not afford surgeons and nursing As far as what I had the matter with me, I cannot tell you how bad I felt, and I should, I know, have died if I had not been attended to. I cannot speak too highly of the hospital and of my treatment here by nurses and doctors alike. Everything is very comfortable. "(Signed) M—— B——."

Statement from the Hospital.—A case of strangulated hernia. Operated on in the hospital Recovering.

FRANK ORCHARD (Diphtheria, Tracheotomy). MRS. ORCHARD, Mother of Frank Orchard, visited at her home, says:

"My little boy I took to the hospital in March, 1901, with the diphtheria when he was very bad, nearly dying. He was better that morning, but in the afternoon he came over bad, and I ran directly with him to the hospital, and he was operated on directly, and was in there seven months. He was given up, so that I could go at any time to see him. My husband has been *there, up to Fourteen Ward*, as many as three times a day. I am very thankful for the hospital, very thankful for their kindness towards him. I was often there, and I know he had every kindness from the nurses and the sister. My husband is a porter at a warehouse, and we certainly could not have afforded doctors and nurses; there is no doubt about that. My little boy has been in there again since with the pneumonia.

"(Signed) MRS. ANNIE ORCHARD,
"110, Whitfield-street."

Statement from the Hospital—FRANK ORCHARD, aged 1½ years, 110, Whitfield-street, was admitted to the hospital on Feb. 6, suffering from diphtheria, which affected not only the back of the throat, but also the windpipe, the upper part of which was almost completely blocked with diphtheritic membrane The child was in a condition of great prostration, and could inspire a little air into the chest only with the greatest difficulty; the veins of the neck were greatly distended and the face livid. If no operation had been done for his relief he would assuredly have died in a short space of time. Immediately on admission the windpipe was opened below the seat of obstruction, and the patient at once relieved from his distress. A tracheotomy tube was introduced into the wind-pipe, and the child put to bed in the diphtheria ward. Diphtheria antitoxin was *administered, and steam sprays used for the throat.* For

TABLE III.—COTTAGE HOSPITALS AND CONVALESCENT HOMES.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
Metropolitan Convalescent	£ 583	4,272	1,431	2,721	—	123	7	—	—
Bexhill „	217	1,980	709	1,200	—	63	3	—	—
All Saints „	333	3,441	1,257	1,977	—	16	6	—	—
Ascot Priory „	58	281	—	—	—	—	2	—	—
Charing Cross Hospital Convalescent	58	374	—	—	—	—	—	—	—
Chelsea Hospital for Women Convalescent	87	251	251		—	14	—	—	—
Deptford Medical Mission Convalescent	21	166	—	—	—	—	—	—	—
Mrs. Gladstone's Convalescent	25	584	—	—	—	—	—	—	—
Friendly Societies „	17	727	—	—	—	—	—	—	—
Hahnemann „	25	193	131	43	—	33	2	4,790	—
Hanwell „	17	146	—	—	—	—	—	—	—
Herbert „	17	423	242	135	—	40	1	—	—
Herne Bay (Baldwin Brown) Convalescent	25	349	—	—	—	—	—	—	—
Homœopathic Convalescent	17	167	—	—	—	—	—	—	—
King's College „	54	306	79	204	—	4	—	—	—
Mrs. Kitto's „	58	274	—	—	—	—	—	—	—
London and Brighton Female Convalescent	—	2,123	—	—	—	50	1	—	—
Mary Wardell Convalescent	75	—	—	—	—	—	—	—	—
Morley House „	176	1,078	—	—	—	105	1	—	—
Police Seaside Home	42	878	—	—	—	13	2	—	—
St. Andrew's (Clewer) Convalescent	117	653	—	—	—	—	—	—	—
Do. (*Folkestone*) „	208	2,052	—	—	—	75	2	—	—
St. John's Home for Convalescent Children.	75	560	—	—	—	—	—	—	—
St. Joseph's Convalescent	80	761	416	212	—	49	0	—	—
St. Leonards-on-Sea „	63	701	—	—	—	7	—	—	—
St. Mary's „	16	83	—	—	—	—	—	—	—
St. Michael's „	29	247	—	—	—	—	—	—	—
Seaside „	53	—	—	—	—	—	—	—	-
Warley „	8	81	—	—	—	—	—	—	—
Beckenham Cottage Hospital	45	—	—	—	—	11	8	3,571	11
Blackheath and Charlton Cottage Hospital	63	167	60	53	1	14	17	—	—
Bromley, Kent, „	63	373	21	101	—	6	10	—	—
Bushey Heath „	83	113	20	76	—	10	6	4,303	—
Canning Town „	43	130	41	60	43	—	4	—	—
Chislehurst, Sidcup, &c. „	42	129	11	80	—	7	8	—	—
Eltham „	83	166	18	119	—	12	6	—	12
Enfield „	48	166	14	123	—	9	9	—	21
Epsom and Ewell „	52	122	7	92	5	8	11	—	114
Hounslow „	21	65	13	63	1	13	9	—	72
Livingstone „	65	168	13	131	—	19	13	—	—
Mildmay „	42	179	56	94	—	15	10	—	—
Reigate and Redhill „	67	335	22	217	3	8	12	531	13
Sidcup „	32	143	56	83	4	8	—	1,247	—
Tilbury (Passmore Edwards) „	33	83	—	—	—	10	24	—	74
Willesden „	37	249	59	171	12	10	6	—	19
Wimbledon „	23	124	32	75	1	9	6	—	—
Woolwich and Plumstead „	29	73	27	24	7	20	3	—	—
Establishment for Gentlewomen	92	148	16	103	—	15	6	—	—
St. Saviour's Hospital and Nursing Home	100	130	66	60	—	30	4	—	—
National Sanatorium for Consumption	75	207	108	45	4	15	3	—	—
Invalid Asylum	42	250	65	115	3	20	11	—	—
Fir Home	17	54	24	—	—	12	3	—	—
St. Catherine's Home	25	35	27	—	—				
Friedenheim Home for the Dying	203	144	59		—	31	81	—	—
	£3,937	26,472	5,013	8,619	87	1,017	306	14,477	373
Estimated to supply omissions	—	1,244	4,502	1,389	—	487	20	3,719	58
Total	£3,937	27,716	9,515	10,008	87	1,504	326	17,860	431

the first few days, as the child was troubled with continuous vomiting, feeding by the bottle was resorted to, and as the temperature frequently rose to 105°, wet packs were employed in order to reduce it. Within 48 hours, as is usual in cases treated with antitoxin, the membrane began to separate from the throat and windpipe, and, as it was coughed up, frequently stuck on its passage, thereby rendering the child in imminent danger of choking. Each time this occurred the doctor was sent for and he introduced a pair of long curved forceps into the windpipe and removed the membrane. This went on for four days, the doctor frequently being up twice in the night to attend the child. When all the membrane had been coughed up and the windpipe was clear, a new danger was presented to the child, as it was found that on removing the tracheotomy tube he still could not breathe through the larynx. Attempts were therefore made to assist the child in doing without his tube by passing an intubation tube down the larynx into the wind-pipe, so that he could breathe in the usual manner. The child continually coughed the tube up, and then showed signs of choking. This caused the nurses considerable anxiety, as the doctor had to be sent for each time to replace the tube. In a few days the child developed a severe attack of pneumonia, and the tracheotomy tube was replaced, as he was not in a fit condition to undergo intubation. On April 28 the child had perfectly recovered from the pneumonia, and attempts were again made to get rid of the tracheotomy tube by substituting intubation, and by June 1 the child could breathe quite well without either intubation or tracheotomy tube, and was discharged cured on June 20. The child was readmitted to the children's ward on July 25, as he had contracted an attack of broncho-pneumonia, and was again discharged cured on Sept. 10.

Westminster Hospital.

GEORGE BROWN (Compound Fracture of the Leg) says:

"I am a labourer. I clean engines at the hydraulic. I "was using the lift; I went to step in again where I had "left the lift and it had been moved by someone, and I "fell down a fall of 42 feet. I was insensible. I came to "in the hospital, where my leg is now getting well. "Everybody has been kind to me in the hospital and I "have had everything I wanted. If there had been no "hospital I don't know how I should have got on. The "same leg was run over by a brewer's dray and broken "when I was a little boy, and I was then taken to St. "Thomas's Hospital. "(Signed) G. BROWN."

Statement from the Hospital.—GEORGE BROWN, aged 19, was brought to the hospital, having fallen down a lift, 42 feet. There was found to be a bad compound comminuted fracture of the tibia; this was operated on and set. The result is a good leg. In earlier days this would have been a case for amputation.

A—— G—— (Perforation of the Stomach and Peritonitis) says:

"I am a domestic servant, and was out in service when "I was taken ill. I had been in a situation three weeks. "My mistress sent for a doctor for me, and he ordered me "at once to the hospital. I was operated on at once, and "now I am very much better. I have been treated in the "hospital very well in every way. I have no home unless "I make it myself, and I could not have been cured "except in a hospital. "(Signed) A—— G——."

Statement from the Hospital.—A——G——, age 36. Patient was in good health up to evening of April 27, when she was suddenly seized with acute pain in the stomach with violent sickness. She was sent in to hospital and found to be suffering from acute peritonitis. An immediate operation showed the presence of a rupture of the stomach, this was sewn up, and the contents, which were soiling the cavity round the stomach, were carefully washed away. The abdominal wall was then sewn up. No dangerous symptoms supervened, and recovery may now be called complete. Such cases are exceptionally dangerous, and require immediate and skilful treatment to save life.

E—— D—— (Had not walked for 17 years) says:

"I am an orphan. My mother has died since I came to "the hospital. I was unable to walk for 17 years. It "was 17 years last March that I think I overdid my "strength, I also had a great fright through a girl, and I "seemed to fail after that. I was under lots of doctors "at Greenwich, where I lived. I was sent here and I "have been here three months. I am now able to walk "about a little and I hope I shall get to walk quite well. "But for the hospital I should never have been able to "have the treatment. It seems so strange to be walking "about after all that time. I was always so sick too. I "could not keep anything down. I am not now. I have "been quite happy and comfortable in the hospital. "Everyone has been very kind.

"(Signed) E——. D——."

Statement from the Hospital.—E—— D——, age 37. This patient has been blind since soon after birth. At the age of 23 she was laid up with weakness of the legs and since then she had been unable to move from her bed. She was thin and weak on admission, and on examination no evidence of any incurable nerve disease was found. Treatment by massage, electricity, isolation in special ward, with special nursing and diet, with the result that she can now walk across the hospital and gains weight and health every day.

GRATEFUL EXPRESSIONS TO THE NURSES.

The monotony in the statements that I have collected from the lips of hospital patients is owing to the manner in which their views have necessarily been obtained. Quite late in my inquiry a chance remark by a Sister in one of the largest hospitals suggested to me that there might be "testimonials" more spontaneous, more varied, more absolutely free from restraint or suggestion, than those I was acquiring. I refer to grateful letters written by patients after leaving the hospital to the sisters and nurses who have tended them.

As I have only asked for these in one or two instances, I do not name the hospitals to which they were sent. As they were written without any thought of publication, all names and sources of identification of the patient are also suppressed. I can only say confidently that I could have had hundreds of them had I desired it, but their genuineness must rest for the above reasons on internal evidence, and beyond this they must speak for themselves:—

DEAR MADAME,

I beg to say my husband arrived home quite safe Friday evening, "I disire to return you my most sincere thanks for your kindness to him, he is never tired of telling me how very kind the Sister's and nurse's were to him when hé was in Hospital, he miss your skilfull treatment very much, I do my best to dress him, but only this morning he said if only the Sister could walk in, how soon she would make me comfertable," I am so dreadfully nervous and so afraid I should hurt him, I think that is ware the trouble come in, should you Madame or any of the Lady's visite this neighbourhood at any time I should be very happy to give you a most hearty welcome to my humble home, my husband desire to be kindly remembered to the dear Sister's, also to the nurse's that were so kind to him, he is going on nicely but feel the need of the belt very much and will be very glad when it come, again I thank you Madame for your great kindness to my Husband also for forwarding the letter I sent him.

I beg to remain Madame yours very gratefully F. L.

May 10th, 1902.

Dec. 22nd, 1901.

SISTER,

I write these few lines to you to let you know that I am alrite from the time as I was in —— Hospital under your care. I was No. 16 in your Ward I am the man as they did call Old Taffee because I was from Wales I am a Collier and I was there to go under Opperation with a Henia I was there Last March I was with you a Month and I am alrite from it now it was Dr. —— was my Doctor and Dr. —— Please to tell them from me I am thankful to them for Curing me and I am Thankful to you Sister and all the Nurses how you treated me and I thank you how you treated me on Good Friday with the Tobacco you give me so I enclose a Order for 2s. for you to buy some little toys for some of the boys you got in there for to enjoy themselves over Christmas and I hope as you and all the Nurses will spend a Merry Christmas and a Happy New Year So no more from your Obedient Patient. A. B.

Comenly Called Old Taffee Please send a note back Sister.

The Royal Sea Bathing Hospital.

Dear Nurse F——,

You will I am sure think that I have got so interested in the sea and the sea-breezes that I have forgotten to write and let you know how I am getting on. It is beautiful down here and the air is grand. You could soon tell the difference as you came along in the train how nice and fresh the air is. I am glad to say that I have improved wonderfully, I hardly know myself like, especially my nose as the sun, sea-breezes, salt water as been taking a mean advantage of it by taking off all the skin or nearly all. I am still taking wapping big spoonfuls of jam, treacle and hope 25 is still doing the same. The wound has very nearly healed up, I have a hot salt water bath every day and that has done me a lot of good. I have got a good old pal and he has jam too, so we are a jammy lot altogether. We go out on the sands three times a week, which has been my first experience of crab-hunting or I should say pearl-shell hunting, but the first day I did not know oyster shells from pearl shells, but I think I know them now. I am going to bring enough sea air back to last me two or three (years) or weeks. Of course I don't want to get to work. I hope that lazy 24 and 5 has got up by now, I am sure they need to be separated, also 16 tell him he is to get up by the time I come back. Most of the patients sleep out all day and night. I slept out one night and that was enough, I didn't get half cold. Although it is been much warmer lately and we have had a few April showers yesterday and to-day of course they are late coming in May. Now I must close I feel as if I can never repay all that has been done for me at the Hospital by the Drs., Sister F——, the nurses and yourself. It is just tea time so Goodbye.

I am Gratefully,
W ,
one of your patients.

April 7th, 1902.

Dear Sister F——

I hope you got the few Primroses on Saturday? My little Girls Picked them and wanted me to send them.

I have so often spoken of your kindness to me to them they were so Pleased to send them. I am enclosing P.O for 4/- If you would Kindly Accept it to get a few flowers or any little thing for the Ward.

I am Pleased to say I am getting on very nicely begin to feel quite myself. Thanks to the treatment and kindness Received at the Hospital,

I beg to Remain
Yours Very Gratefully
X. Z.

ALL MUST HELP.

The lessons of the inquiry undertaken for us by our Special Commissioner are so obvious as to need only a few words of exposition. As our Supplement is written frankly with a view of arresting the attention of the public, popular and colloquial language has been employed in the medical and surgical statements from the hospitals. With regard to the choice of cases the only difficulty experienced arose out of the superabundance of material—in every institution, and in every ward of every institution, lay men, women, and children testifying to the good work of the metropolitan hospitals by their improvement under the treatment that they were undergoing. By the invaluable assistance of the staffs of the hospitals, of the resident medical officers, and of the nurses, our Special Commissioner has been put into communication with numbers of patients suffering from accident or disease where the value of hospital treatment was typically evident—where, in fact, without hospital treatment the patient would either have died or have been, in all probability, damaged for life. Of these cases we have only to say that their counterparts present themselves daily at the doors of all our medical charities.

To our usual readers the significance of the group of cases chosen will be apparent, but a few words should be added concerning the selection for the benefit of our lay readers. Firstly, these cases are detailed in proof of the great scientific skill exercised as a matter of daily routine in the operation theatres of our hospitals. Such operations as the suture of a ruptured spleen or the excision of a cerebral tumour can only be undertaken in the favourable circumstances prevailing in hospital practice. The same may be said of the procedure necessary to save life in cases of ruptured pelvis or of double amputation. Cases of operation to relieve a strangulated hernia tell a somewhat similar story. But they do not rank as surgical curiosities; their importance lies in their extreme frequency. Here a surgical operation is required by a large number of the working classes which could never be undertaken in their own homes without grave risk, which in the hospitals is remarkably successful, and which is absolutely necessary to save life. It is hardly an exaggeration to say that if hospitals, not only in London but in the civilised world, existed only to furnish skilful operative procedure for strangulated hernia among the poor they would be amply justified in appealing for public support. A case of concussion and one of aneurysm teach a different lesson. Here we see the value of the hospital in providing a rest cure either of short or long duration. The happy result of an operation for varicose veins is a good example of the part played by expert surgery in moulding a man's future—the story is one that hundreds of lads could cap, and the same may be said of the case of the infant saved, by the administration of antitoxin, prompt

Table IV.—Dispensaries.

Name of dispensary.	Hospital Sunday Fund award.	Out-patients' visits.
Battersea Provident	£71	43,917
Bloomsbury "	10	—
Brixton, &c.	40	14,548
Brompton Provident	18	4,064
Camberwell "	58	23,460
Camden "	11	8,128
Chelsea, Brompton, and Belgrave Provident	23	16,650
Chelsea Provident	10	2,616
City	92	26,737
City of London and East London	18	20,148
Clapham General and Provident	20	11,937
Deptford Medical Mission	15	2,828
Eastern	23	21,412
East Dulwich Provident	27	17,620
Farringdon General	37	11,036
Finsbury	23	31,009
Forest Hill	53	17,000
Greenwich Provident	10	10,058
Hackney "	9	9,480
Hampstead "	33	42,551
Holloway and North Islington	43	23,401
Islington	42	60,000
Kensal-town Provident	8	4,319
Kensington	45	12,780
Kilburn, Maida-vale, and St. John's-wood	82	3,950
Kilburn Provident Medical Institution	25	22,677
Leman-street Provident	—	6,447
London	13	—
London Medical Mission	63	34,179
Margaret-street Infirmary for Consumption	—	4,245
Metropolitan	28	30,437
Notting-hill	8	2,130
Paddington Provident	25	10,361
Portland-town	14	2,778
Public	32	10,660
Queen Adelaide's	17	15,626
Royal General	21	9,901
Royal Pimlico Provident	58	—
Royal South London	33	10,232
St. George's and St. James's	40	—
St. George's (Hanover-square) Provident	25	2,601
St. John's-wood and Portland town "	27	17,810
St. Marylebone General	25	10,039
St. Pancras and Northern	26	10,600
South Lambeth, Stockwell, & North Brixton	33	8,452
Stamford-hill, Stoke Newington, &c.	45	35,340
Tower Hamlets	33	16,676
Walworth Provident	10	6,765
Wandsworth-common Provident	7	4,444
Westbourne Provident	11	9,731
Western	47	14,932
Western General	104	—
Westminster General	29	20,455
Whitechapel Provident	19	21,423
Woolwich "	10	4,002
	£1,631	972,818
Estimated to supply omissions	—	100,642
Total	£1,631	1,072,410

tracheotomy, and assiduous nursing, from death from diphtheria.

Surely the places where such things are done ought not to have to beg for their existence! Surely it is wonderful that there is not an absolute competition among the rich to place these splendid charities on a sound financial basis.

Such is our appeal on behalf of the Metropolitan Hospital Sunday Fund for the Coronation year. The population of London is increasing by leaps and bounds, which every year makes the metropolis more distinctly the centre to which the empire resorts, so that the institutions of London are regarded as serving the necessities of a world rather than of a city. But while the population of London becomes larger the income of the Metropolitan Hospital Sunday Fund, as far as it is drawn from the people rather than from individual donors of big sums, remains stationary. This should not be. We have taken it for granted that no words are necessary to bring home to our readers the terrible misery which sickness means to the poor man and poor woman. The incapacity of the breadwinner to earn his wages at once places the family of the poor man within a measurable distance of starvation. That little distance would be immediately crossed if the hospital did not open its doors to the sufferer. But, alas, many hospital beds are closed and many unfortunate people have to be refused the shelter which means so much to them and so much, perhaps as much, to their families. It is the lives of the poor for which we are pleading.

The rich should give out of their superfluity, and not only because they are rich, but because they are themselves directly benefited by the hospitals. For without our hospitals the benefits which the rich derive from skilled medical attendance could not be theirs.

The poor should give out of their poverty. They need no reminding as to what the hospital means to them when they are sick. But they need much reminding as to the value of little gifts, or the Metropolitan Hospital Sunday Fund would not stand at the annual figure of £40,000.

To the benevolent man no scheme can commend itself as more worthy of his assistance than a fund to benefit his suffering and poorer brethren.

In the eyes of the practical man no less than in those of the benevolent the Fund should, nay must, find favour, for it represents order in the distribution of charity.

To all social grades, to all creeds, and to all casts of thought, the Metropolitan Hospital Sunday Fund must appeal as a noble charity, splendidly directed, economically managed, and equitably administered. That it may meet with support worthy of its merits is our most earnest hope. What nobler way of commemorating Coronation year can there be than by making that year the first in which the Metropolitan Hospital Sunday Fund receives £100,000?

And let us again remind our readers that if £80,000 can be raised in the churches and chapels, an anonymous friend of the Fund, whose previous generosity has been splendid, will at once give the £20,000 necessary to bring the total to the coveted sum.

SUMMARY OF TABLES.

—	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
General Hospitals	£26,221	70,347	23,658	34,843	7,690	4,347	6,260	2,212,430	329,300
Special Hospitals	13,431	31,286	11,174	14,741	2,258	2,600	1,962	1,454,585	42,592
Cottage Hospitals and Convalescent Homes	3,937	27,716	9,515	16,008	87	1,504	356	17,866	452
Dispensaries	1,651	—	—	—	—	—	—	1,072,410	—
Total	£45,240	129,349	44,347	65,592	10,035	8,451	8,578	4,757,291	372,344

THE METROPOLITAN HOSPITAL SUNDAY FUND.

Amounts received and disbursed in the year 1901.

Dr.

RECEIPTS *for the year ending 31st October, 1901.*

1901.	£	s.	d.	£	s.	d.
To Balance at Bank of England, 1st Nov., 1900	2,065	8	8			
,, Balance in hands of Secretary	11	8	0			
				2,076	16	8
,, Collections made at Sundry Places of Worship	36,372	0	2			
,, Collections at Schools	16	6	2			
,, Donations	16,670	6	3			
,, Donations for Surgical Appliances	29	2	11			
,, Dividend on Consols	29	6	0			
,, Interest on Deposit	82	17	5			
,, One year's interest on Legacy of £10,000 from the late Herbert Lloyd ..	285	0	0			
,, Dividend on £45,346 1s. 3d. 2¾ Consols, per Executors to the Will of W. A. Guesdon, deceased	1,247	0	4			
				54,731	19	3
				£56,808	15	11

Cr.

PAYMENTS *for the year ending 31st October, 1901.*

1901.	£	s.	d.	£	s.	d.
By Awards to 137 Hospitals	42,870	7	10			
,, Award to National Hospital for the Paralysed for 1900	766	13	4			
,, Awards to 7 Institutions	558	6	8			
,, Awards to 53 Dispensaries	1,634	11	4			
,, Special Awards to 4 Hospitals	4,000	0	0			
,, Surgical Appliances	2,500	9	11			
				52,330	9	1
,, Rent	170	0	0			
,, Fuel, Gas, and Office Cleaning	19	17	11			
,, Printing and Stationery	239	19	10			
,, Stamps and Postage	84	2	11			
,, Advertisements	269	9	7			
,, Salaries and Gratuities	1,010	14	6			
,, Sundries	6	19	0			
				1,801	3	9
,, Special Expenses—						
Church and Chapel Appeals				22	0	11
Purchase of £1524 15s. 2d. 2¾ Consols *Less* Sale of 800 0s. 0d.				739	8	6
,, Balance at Bank of England, 31st Oct., 1901	1,910	1	3			
,, Balance in hands of Secretary	5	12	5			
				1,915	13	8
				£56,808	15	11

Audited and found correct, this 20th day of November, 1901.

(Signed) W. H. PANNELL & Co., *Chartered Accountants*, 13, Basinghall street, E.C.

⁂ In the preparation of the voluminous statistics of hospital work which have been here digested and exhibited in collected form (and which have been specially supplied to us in response to our applications, and are quite independent of any returns made to the Metropolitan Hospital Sunday Fund Committee) we have been greatly indebted to a large number of secretaries and other officers of the various medical charities of the metropolis. To them we desire, as on many previous occasions, to tender our sincere thanks.—ED. L.

Printed and Published by the REGISTERED PROPRIETORS of THE LANCET, at 423, Strand, W.C., and Nos. 1 and 2, Bedford street, Strand, adjoining.

the degeneration of the nerve is of rapid, and not only of rapid but of irritative, character the muscular fibres undergo a similar change, a more irritative degeneration, a quick destruction, with granular and fatty degeneration and a rapid disappearance of all electrical excitability. These facts indicate a close vital relation between the muscular and nervous structures—a relation it is well to remember.

Of the many forms of abiotrophy in the nervous system, perhaps the most striking is one of which these spinal motor neurons are the seat. It is rare but it has been observed many times.[7] It commences soon after they have attained structural completion, about the end of the first year of life, and progresses so rapidly as to cause almost universal paralysis and death at the end of the fifth or sixth year. It occurs in families as well as in isolated cases and in both sexes, and is thus clearly due to a congenital defect of vital endurance. After death there is found almost complete degeneration of the motor cells of the spinal cord, with very little change in the white columns, total degeneration of the anterior roots and of the motor fibres down to the muscles, and extreme degeneration of these. It has, indeed, been conjectured that both the motor neurons and the muscles suffer simultaneously; whether it is so or not we cannot say, for the affection of the motor neurons is sufficient to account for the muscular changes. It is quite certain that the degeneration of the motor nerves is not a consequence of the muscular atrophy. In extreme idiopathic muscular atrophy the nerves may be unaffected. A striking proof of this is afforded by a case which was observed by Duchenne and published by him when the patient was nine years old; it was afterwards observed and described when the patient was 28 years old by Landouzy and Déjerine. The patient died when he was 36 years old, but the thorough pathological examination that was made has only lately been published.[8] In spite of extreme degeneration of a large number of muscles of limbs, trunk, face, and neck the motor-nerves and spinal motor-cells were absolutely normal.

But this abiotic infantile atrophy presents one remarkable feature: the affection begins in the muscles of the hip and thigh and trunk, and thence extends, reaching last the extremities of the limbs, which suffer first in the ordinary form of spinal atrophy. It is a feature presented both by muscular abiotrophy and by this remarkable neuronic form. Such common features are noteworthy as links between the muscular and nervous systems. A similar form of neuronic atrophy is occasionally met with in families in later childhood and early adult life; the later the onset the greater the resemblance to the common type. In some forms the cerebral motor neuron also suffers, the upper segment of the motor tract, as it does in the atrophies of later life. The isolated decay of this cerebral motor neuron is also met with in early adult life as an abiotic degeneration of the lateral columns—the pyramidal tracts. It is manifested by spastic paraplegia, coming on often without any exciting influence and sometimes in several members of the same family.[9] Occasionally the malady has followed some influence, such as an acute disease, which would depress the nutritional vigour of the whole nervous system but has an enduring effect only on structures whose vitality is defective and might soon fail without this influence.

I have here to show you an example of such abiotic spastic paraplegia. It is the more instructive because it is isolated; such sporadic cases are far from rare. Their nature is often not discerned, because it is not suggested as it is when other members of the family suffer. The patient is 20 years of age and his symptoms commenced gradually about three years ago without any cause to which they can be attributed. There is no suspicion of inherited or acquired specific disease. He has weakness of the legs, with some spasm, excessive knee-jerk and foot-clonus, with no change in sensibility or girdle pain. He has also some unsteadiness, suggestive of slight failure of the posterior columns. The abiotic nature of the case is confirmed by the fact that another system of fibres is also failing. He has atrophy of the optic nerves which also has developed gradually and which presents the aspect of simple atrophy. The simultaneous occurrence of such degeneration in two neuronic systems at this period of life leaves no doubt of its nature.

The optic nerves frequently suffer from abiotic wasting. Many groups of cases are on record in which several members of the same family have become blind, usually between the ages of 15 and 25 years, from a slow failure of the nerve fibres, progressive in spite of treatment. A full account of these cases has been given by Dr. S. H. Habershon.[10] This progressive course places their essential nature beyond doubt; yet it is obscured by the fact that the early stage has very often been accompanied by symptoms of retro-ocular neuritis with even slight signs of it in the disc. There has often been a central scotoma indicative of an "axial neuritis." The change, moreover, has often been preceded by a cause believed to be capable of inducing neuritis, especially tobacco-smoking, or in the case of women by some acute disease. We may understand this fact better, I think, if we remember what I said just now regarding the independent energy of the interstitial overgrowth when it has been set up by degeneration of the nerve elements. Remember, also, the great amount of interstitial tissue which is formed in the optic nerves even in primary tabetic atrophy. Tobacco amblyopia is apparently due to an axial neuritis, and this gradually ceases and its effects pass away when the cause ceases to act. But the loss of sight, in the case I am now speaking of, goes on steadily increasing after tobacco has been given up. It goes on as by a progressive atrophy of the nerve elements, not by an increase of the signs of neuritis, showing that the toxic agent was only the exciting cause of the process really due to an inherent defect of vitality. In those who are not smokers the toxin of an acute disease seems sometimes to have acted also as an excitant. We know that that of scarlet fever may cause pronounced neuritis. The difficulty is to understand that optic abiotrophy, wasting of the nerve-fibres from defect of vital endurance, should apparently begin by interstitial inflammation. Let me remind you of what I have just said regarding this interstitial process. Secondary as it seems it may be simultaneous in a very absolute manner. There seems to be a solidarity in the nutritional energy of the two tissue elements, the neural and neuroglial, and the tendency to overgrowth of the latter may be actually simultaneous with the tendency of the life of the former to cease. The tendencies are in the opposite direction, but they may be coincident results of the same vital condition. If so, we can understand that the trophic tendency of the interstitial tissue may cause it to respond with energy to a toxic influence which can act upon it and that thus retro-ocular neuritis the effect of a toxic agent may concur with the very commencement of the abiotic wasting of the nerve elements, and that its special symptoms may even seem to lead the way.

It is not a little curious that in the patient before you, with abiotic spastic paraplegia and optic atrophy we find indications of the same associated process that I have described. As far as its course and the ophthalmoscopic appearances are concerned it seems to be a primary simple atrophy of the optic nerve. His acuity of vision is reduced to one-tenth. The fields present a peripheral restriction, but no central defect in the fields for white can be detected, even with a small object. Yet it is different with the colour fields. My clerk, Dr. Finny, finds a well-marked central scotoma for both red and green (see accompanying chart). It is irregular in outline but extends to an average of about 10° from the fixing point and in one eye to 20°. This, of course, led to an inquiry regarding tobacco-smoking and we learned that he had been accustomed to smoke as much as half an ounce of shag tobacco a day. Thus this case agrees with those of isolated optic abiotrophy which I have mentioned in presenting slight symptoms of axial neuritis and in the fact of this exciting cause. But it presents the progressive tendency and also the peripheral restriction of the field and the aspect of disc met with in ordinary atrophy, while its abiotic nature is shown also by the coincident affection of the cerebro-spinal motor neurons. The spinal symptoms in this patient, the spastic palsy and unsteadiness due to atrophy of these neurons and those which conduct to the cerebellum, are such as often form part of the best known abiotrophy, Friedreich's disease, the so-called "hereditary ataxy." The latter name is

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[7] See especially Hoffmann: Deutsche Zeitschrift für Nervenheilkunde, Band 18, 1900; ibid., vol. xx.; Cramer: Centralblatt für Allgemeine Pathologie, 1895; Senator: Charité-Annalen, xxvi. Jahrgang, &c.

[8] Spiller: Cont. Pepper Lab., Philadelphia, 1900.

[9] See, for instance, the cases recorded by Dr. Howard H. Tooth: St. Bartholomew's Hospital Reports, vol. xxv.; Strumpell: Neurologisches Centralblatt, 1901, p. 623; Krafft-Ebing: Deutsche Zeitschrift für Neurologie, 1900; and Finzi: Rivista Sper. di Fren., xxiii.

[10] Transactions of the Ophthalmological Society of the United Kingdom, 1888, p. 190, where references to the chief writings on the subject will be found.

REPORT OF

THE LANCET

Special Commission

ON

GLYCERINATED CALF VACCINE LYMPHS:

GIVING THE NUMBER AND NATURE OF THE "EXTRANEOUS" BACTERIA FOUND IN THE COMMERCIAL VACCINE LYMPHS.

OUR investigations into the purity and activity of vaccine lymphs undertaken by us two years ago have been renewed and continued.[1] As on a former occasion, all the vaccines on the market have been examined as well as a sample of the Local Government Board lymph In addition to these one obtained from an Italian source has also been dealt with. In all cases these lymphs have been examined bacteriologically and in most some additional information has been obtained as to their vaccinal activity The net result of our inquiry is to confirm in all essentials our previous report.

(1)

JENNER INSTITUTE FOR CALF LYMPH,

73, CHURCH ROAD, BATTERSEA, LONDON, S.W

(AGENTS ALLEN AND HANBURYS, LIMITED, PLOUGH COURT, LOMBARD-STREET, LONDON, E.C)

Received three tubes of aseptic glycerinated calf lymph, No 3210, on Jan. 17th, 1902. This lymph is said to be "prepared strictly in accordance with the methods advocated by Dr S Monckton Copeman." Agar and gelatin plate cultivations were made on Jan 22nd and an anaerobic glucose formate agar shake cultivation was made on the same date The results obtained were not so good as were those obtained on a former occasion The agar plate was overgrown with organisms at the end of 24 hours, there were many rapidly growing surface colonies with crenated margins and with a peculiar greenish tint characteristic of the plate as a whole. On examining these colonies some were found to be grey cloudy growths with dark brown centre, crenated margins, and wrinkled surface. Under the microscope these colonies were seen to consist of collections of thick rods, three or four times as long as broad, arranged side by side, with rounded ends and often containing spores. The second series was made up of rapidly growing, very thin, proteus like growths with a slight bluish or greenish tinge. The long finger like processes growing out from the margin were clubbed and usually considerably thicker than the main body of the growth Rods similar to the above but offering no evidence of spore formation were also present. Other colonies of a third series were made up of staphylococcus albus (under the microscope, however, these organisms appeared to be somewhat larger than ordinary staphylococci) On the gelatin plate at the end of the eighth day there were about 680 colonies, only one of which liquefied the gelatin. Some of these colonies, growing very rapidly, had crenated margins. Amongst these were found isolated cocci (staphylococci) a very few minute bacilli, and a number of colonies of torulæ. In the glucose formate agar tube an enormous number of very fine colonies made their appearance in the depth of the agar, they were so numerous, indeed, that they were uncountable, no gas was formed. On the 29th a second series of cultivations—from vaccine tubes No. 3459—was made in agar and in agar heated to 60° C. for one hour in order to get rid of all but spore-bearing organisms In the agar plate 784 colonies were developed resembling those found on the earlier plates, whilst in the specimen heated to 60° C for one hour not a single colony was developed.

TABLE I.—*Experiments with Lymph from the Jenner Institute for Calf lymph*

Period of examination after the sample was sent out.	Number of colonies			
	Agar plate	Gelatin plate.	Glucose formate agar tube	Agar tube heated to 60° C. for one hour
First sample.				
Five days	Plate overgrown	680 (one liquefying)	Innumerable; no gas	—
Second sample.				
Twelve days	784	—	—	0

(2)

ANIMAL VACCINE ESTABLISHMENT,

UNDER THE SUPERVISION OF DR. CHAUMIER OF TOURS, AND 10, RUE DE LATRAN, PARIS.

In the form of liquid glycerinated pulp, concentrated and reinforced prepared under the most minute antiseptic precautions

Two tubes at 1*s* 3*d*., 25 vaccinations each, No 6, date sent out Jan. 17th, 1902. Agents for Great Britain, Messrs Roberts and Co., 76, New Bond street, London, W This lymph when mixed with broth appears to be slightly granular and as seen in the tube has a faint pink tinge. On Jan 23rd the vaccine in the tube was mixed with three cubic centimetres of broth, one cubic centimetre of this broth was then added to agar and a plate culture was made, one cubic centimetre was plated out in gelatin, and one cubic centimetre was added to a glucose formate agar tube. On the agar plate over 16,000 colonies developed. Some of these were large, grey, moist, opalescent colonies which were made up of short plump rods with rounded ends, these rods contained both spores and aggregations of protoplasm. Other colonies consisted of soft, slimy, opaque growths, with a sharply outlined slowly advancing margin, these were made up principally of small staphylococci (*? microcoque porcelaine*[2]), amongst these, however, were a few large rods with somewhat truncated ends. On the gelatin plate only 34 colonies developed, most of these were staphylococci. In the glucose formate agar tube thousands of colonies of very unequal size had developed. A portion of the second tube was used for the purpose of determining the presence or absence of resistant spore-bearing organisms. A definite quantity was added to agar culture medium, this was heated to 60° C for one hour, a plate was then made. Only a couple of colonies made their appearance.

TABLE II.—*Experiments with Lymph from Dr Chaumier's Animal Vaccine Establishment*

Period of examination after the sample was sent out	Number of colonies			
	Agar plate	Gelatin plate.	Glucose formate agar tube.	Agar tube heated to 60° C for one hour
One sample only				
Six days	16 200	34	Innumerable; no gas	2

(3)

FERRIS AND CO., BRISTOL.

Six half tubes of "selected glycerinated calf lymph," bearing reference No. O. 573, three tubes for 2*s* 6*d*, posted from Bristol on Jan. 17th, 1902. The lymph is clear and has a faint brown tinge. On Jan. 23rd an agar plate, a gelatin plate and a glucose formate agar tube were made. In the agar 47 colonies developed one of these a small colony with crenated edges had a reddish-green tinge. This did not grow rapidly, it was made up of rods with spores or aggregations of protoplasm. These rods were arranged irregularly side by side, three or four times as long as broad, with rounded ends. Most of the colonies consisted of typical staphylococcus albus but a few of them of very large cocci, single, in short chains, or in groups On the gelatin plate only a single colony like that of the bacillus coli communis (translucent with a series of radiating processes at the periphery, the margins being crenated and thickened) made its appearance. On microscopical examination, however, this colony was found to be made up of staphylococci. In the glucose formate agar tube were thousands of minute colonies, which however, like those already found in other specimens examined, did not make their appearance for a number of days, so that at first the tubes appeared to be almost sterile; when, however, the tubes were examined on the tenth or twelfth day the number of colonies was enormous. In a cultivation examined for spore-bearing organisms not a single colony could be found; all the organisms had been destroyed at a temperature of 60° C. maintained for one hour.

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[1] Vide THE LANCET, April 28th, 1900, p 1227.

[2] THE LANCET, June 23rd 1900, p. 1812.

TABLE III.—*Experiments with Calf Lymph from Messrs. Ferris and Co.*

Period of examination after the sample was sent out.	Number of colonies.			
	Agar plate.	Gelatin plate.	Glucose formate agar tube.	Agar tube heated to 60° C. for one hour.
One sample only.				
Six days	47	1	Thousands. No surface growth.	0

(4)

FAULKNER'S PURE RELIABLE GLYCERINATED CALF VACCINE LYMPH,

16, ENDELL-STREET, LONG ACRE, LONDON, W.C.

This lymph is slightly opaque and has a faint red tinge; "Source, W.F.H., 2" (three tubes for 2*s.* 6*d.*). It was not dated but arrived on Jan. 18th, 1902. On the 23rd the usual cultivations were made. On the agar plate about 200 colonies developed. Some of the colonies were white, pearly, or glistening and opalescent. They were made up principally of faintly stained long thin non-sporing rods with square-cut or slightly rounded ends. A second series consisted of spreading ground-glass-like colonies with fairly sharply-marked slightly-crenated margins; these colonies were made up of well-stained rods, three or four times as long as broad, with rounded ends, placed side by side fairly regularly; the protoplasm was collected into little aggregations but no distinct spores could be made out. Most—340—of the colonies growing in gelatin resembled the staphylococcus albus, both to the naked eye and microscopically. There were two liquefying colonies and 15 moulds. In the glycerine formate agar tube there was a well-defined potato bacillus on the surface of the medium: some hundreds of anaerobic colonies made their appearance in the depth of the medium. In the agar heated to 60° C. for one hour only six colonies developed on the plate.

TABLE IV.—*Experiments with Faulkner's Pure Reliable Glycerinated Calf Vacoine Lymph.*

Period of examination after the sample was sent out.	Number of colonies.			
	Agar plate.	Gelatin plate.	Glucose formate agar tube.	Agar tube heated to 60° C. for one hour.
Five days	200	340 (2 liquefying; 15 moulds).	600	6

(5)

DR. WARLOMONT'S GLYCERINATED CALF VACCINE.

AGENTS: MARKT BROS. & CO., 38 & 39, BEECH-STREET, BARBICAN, LONDON, E.C.

No. 8, date 17/1/02; three half tubes at 1*s.* This is a clear lymph contained in yellow tubes. An agar plate made on Jan. 22nd contained 112 colonies, mostly discrete, white, moist, and semi-opaque, consisting almost entirely of the staphylococcus albus. A gelatin plate made on the same date developed 28 colonies which consisted almost entirely of encapsuled cocci and a number of soft "painty"-looking colonies which were found to be yeasts. A comparatively small number of anaerobic colonies—from 40 to 70—grew in the depth of the glucose formate agar but there was no growth on the surface. There were no spore-bearing aerobic organisms.

TABLE V.—*Experiments with Lymph from Markt Bros. (Dr. Warlomont's Glycerinated Calf Vaccine).*

Period of examination after the sample was sent out.	Number of colonies.			
	Agar plate.	Gelatin plate.	Glucose formate agar tube.	Agar tube heated to 60° C. for one hour.
Five days	112	28	40–70	0

(6)

ESTABLISHMENT FOR VACCINATION WITH CALF LYMPH,

186, MARYLEBONE-ROAD, LONDON, N.W.

Three small tubes, No. 12,185 (price 2*s.* 6*d.*), sent by Dr. Charles Renner, 17/1/02, with the request, "Please use it as soon as possible." On Jan. 23rd an agar plate was made. At the end of six days 2000 colonies had made their appearance, most of these consisting of staphylococcus albus of a somewhat small variety. In glucose formate agar there were thousands of tiny brownish colonies growing deep down in the nutrient medium but none on the surface. The anaerobic colonies appeared to be made up of thin short rods and a number of cocci. In the tube heated to 60° C. for one hour there were three colonies, all of them spore-bearing. One, a proteus-like colony, spreading rapidly, was made up of short rods with rounded ends, the second, like the bacillus figurans, consisted of larger thicker rods, and the third, a very small round colony, consisted of curved rods and threads. A gelatin plate made on March 15th from a second sample, No. 82,610, vaccine of date 13/3/02, contained at least 1500 organisms, a single mould, and 30 or 40 liquefying organisms. Most of the organisms which did not liquefy the gelatin were of one species—the staphylococcus albus. A few of the colonies were yeasts and a number were short, delicately stained rods very like the bacillus coli communis; these were small, fairly prominent, transparent colonies; some of the rods had a distinct curve and some were C-shaped; the bulk of the organisms present were single cocci or staphylococci.

TABLE VI.—*Experiments with Lymph from the Establishment for Vaccination with Calf Lymph.*

Period of examination after the sample was sent out.	Number of colonies.			
	Agar plate.	Gelatin plate.	Glucose formate agar tube.	Agar tube heated to 60° C. for one hour.
First sample.				
Five days	2000	—	Many thousands.	3
Second sample.				
Two days	—	1500 + 30 or 40 liquefying.	—	—

(7)

THE ASSOCIATION FOR THE SUPPLY OF PURE VACCINE LYMPH,

12, PALL-MALL EAST, LONDON, S.W.

Two tubes, 4*s.* (in orange-coloured or amber glass), were received on Jan. 18th, 1902. These were dated 17/1/02 and marked: "To be used before 2/2/02. No. R. 822." This lymph is slightly opaque, very faintly blood-stained, and very granular. On the 23rd, or six days after it was sent out (one of these tubes was divided into three portions, the contents of the tube being placed into three cubic centimetres of sterile broth, the whole thoroughly mixed, and one cubic centimetre of the mixture used for each experiment), a gelatin plate was made with a third of the contents of one of these tubes. After four days 86 colonies had developed; most of these colonies were staphylococcus pyogenes albus or some organism very closely resembling and nearly allied to it, a yeast, and an iridescent and translucent colony composed of staphylococci or rather chains of diplococci. On the same day a similar quantity of this vaccine was mixed with agar and a plate was poured. On the 24th this plate was crowded with an uncountable number of organisms consisting principally of staphylococci and diplococci in chains, there were, however, in addition to these a number of rods with rounded ends divided into three or four segments, some of these rods contained spores, in others rapid vegetative division was going on. A similar quantity of vaccine mixed with glucose formate agar gave thousands of small anaerobic colonies, especially in the depth of the tube, by the ninth day, though on the first day only about 300 colonies, facultative anaerobes, could be seen in the upper part of the medium. At a later date, Feb. 10th, a second sample, No. 1217, was obtained and heated to 60° C for one hour When examined two days later 30 colonies had developed in this medium, some of these had crenated margins, were opaque white, with a brownish or yellowish tinge On microscopical examination these colonies were found to consist of banded or beaded bacilli almost like short diphtheria bacilli, but on more careful examination they were found to contain well-marked spores It should be noted that here, as when last this specimen was examined, the number of organisms growing on the agar plate was out of all proportion to the number of those growing on gelatin.

TABLE VII.—*Experiments with Lymph from the Association for the Supply of Pure Vaccine Lymph.*

Period of examination after the sample was sent out.	Number of colonies			
	Agar plate	Gelatin plate.	Glucose formate agar tube.	Agar tube heated to 60° C for one hour
Six days	Uncountable.	86	Thousands of small colonies.	30

(8)

GLYCERINATED CALF VACCINE LYMPH FROM THE INSTITUT DE VACCINE ANIMALE, PARIS.

DIRECTEURS L. CHAMBON AND DR. ST. YVES-MÉNARD.

AGENTS FOR THE UNITED KINGDOM AND COLONIES THE MEDICAL SUPPLY ASSOCIATION 12, TEVIOT-PLACE, EDINBURGH.

Two 1*s* tubes Calf No. 2. collected 8/1/02, sent out Jan. 17th, 1902, 8 P.M., from Edinburgh. Six days later the contents of the two tubes were added to sterile broth and the mixture was carefully divided into three, with one third of this mixture a gelatin plate was made. No colonies of any kind made their appearance. So far as extraneous organisms were concerned none had grown, even at the end of the tenth day On a similar plate prepared on agar 38 colonies made their appearance, eight of these were large discrete white colonies the rest were very tiny, both sets of organisms consisted of staphylococci, the first was staphylococcus albus the second grew more like a streptococcus, but on making a microscopical examination it was found that here again we had to deal with a staphylococcus. In the glucose formate agar some thousands of minute colonies and a few larger ones made their appearance in the depth of the medium, the smaller colonies consisted of very minute rods, the larger colonies of cocci. In the tube from another batch heated to 60° C for one hour not a single colony made its appearance, we may assume, therefore, that there were no spore-bearing organisms in this sample. Taking it altogether, this is a very satisfactory sample but it is somewhat difficult to understand the very large number of anaerobic organisms. It is evident that few of the organisms are derived from outside sources, they probably come rather from the skin of the animal, as only those that grow at a high temperature are met with.

TABLE VIII.—*Experiments with Lymph from the Institut de Vaccine Animale Paris.*

Period of examination after the sample was sent out	Number of colonies			
	Agar plate	Gelatin plate	Glucose formate agar tube.	Agar tube heated to 60° C for one hour
Six days	38	0	Some thousands of very tiny colonies and a few large ones.	0

(9)

GLYCERINATED CALF LYMPH, "PURE CULTURE BRAND," S. MAW, SON, AND SONS, 7–12, ALDERSGATE STREET, LONDON, E.C.

Three tubes at 1*s* This lymph was slightly opaque and granular and had a reddish tinge. It was sent out on Jan. 17th, 1902, and the tubes were plated on the 22nd. On the agar plate 30 colonies were developed, one of these being a typical staphylococcus pyogenes aureus, most of the others were staphylococcus pyogenes albus They were opalescent or white to the naked eye but a few of them had a yellow tinge, this, however, never became very marked A number of the other colonies had a lemon yellow tinge. On the gelatin three colonies, one of them liquefying, made their appearance, the slowly liquefying colony was made up of diplococci. In a third tube that was heated in agar for one hour at 60° C 210 colonies developed, so that in this case we had a fairly large number of spore-bearing organisms (1) of beaded rods and threads in which spores were not very distinctly marked, (2) smaller rods in which were well-marked spores, and (3) masses of thicker and shorter rods not developed into long threads In the glucose formate agar from 75 to 100 tiny colonies (strictly anaerobic organisms) developed in the depth of the medium. On the surface of this medium a large, white, soft colony, very like staphylococcus albus, made its appearance.

TABLE IX.—*Experiments with Lymph from S. Maw, Son, and Sons*

Period of examination after the sample was sent out.	Number of colonies			
	Agar plate.	Gelatin plate.	Glucose formate agar tube	Agar tube heated to 60° C for one hour
Five days –	30	3 (one liquefying)	75–100	210

(10)

BIRMINGHAM CALF VACCINE ESTABLISHMENT, 204 VICTORIA ROAD, ASTON, BIRMINGHAM

JOHN ROUND, L.R.C.P., DIRECTOR.

Three very small green glass tubes, containing vaccine slightly opaque, granular and with a pink tinge, were obtained on two occasions The first sample left Birmingham on Jan 17th, 1902, and was plated out on the 23rd. The gelatin plate gave no growth of ordinary bacteria but five moulds developed on the surface It is possible however that this was an accidental contamination as the glass capsule covering the plate was accidentally displaced for a few seconds In glucose formate agar 50 or 60 anaerobic organisms developed There were also four surface colonies which gave an opaque moist, yeast like growth. A second sample was plated out on agar on Feb 13th 1902 vaccine source 'Fresh 5" (Jan 28th) In this plate 25 colonies developed, all of them staphylococcus pyogenes albus On the same day a sample was heated to 60 C for one hour From this sample not a single organism was developed.

TABLE X.—*Experiments with Lymph from the Birmingham Calf Lymph Establishment*

Period of examination after the sample was sent out.	Number of colonies			
	Agar plate	Gelatin plate	Glucose formate agar tube	Agar tube heated to 60° C for one hour
First sample Six days	—	0 5 moulds	50-60	—
Second sample Six days – –	26	—	—	0

(11)

DR. HIME'S CALF VACCINE INSTITUTION,

62, HORTON-ROAD, BRADFORD, YORKS.

Supplied to the Government in Ireland, the Egyptian Army, the Crown Colonies, boards of guardians, and public vaccinators.

This lymph was contained in a small phial. In order to obtain the lymph pure and to plate it out in known quantity the neck of the phial was carefully sterilised; the lymph was then withdrawn with a sterile capillary pipette (the phial being weighed both before and after it was emptied) and was transferred to a known quantity of sterile broth. The sample used was sent out on Jan. 17th, 1902, and was dealt with on the 22nd of the same month. In the agar plate 63 colonies made their appearance; these spread rapidly but there was no increase in number after the first four days. The colonies resemble those of staphylococcus pyogenes albus, both to the naked eye and microscopically. Rapidly-growing proteus-like colonies, very thin cloudy growths with a slight bluish or greenish tinge, and processes long and finger-like and thicker than the rest of the colony growing out from the margin consisted of short thick rods with the "battalion" arrangement; they contained no spores. From a gelatin plate made on the same date 120 colonies developed; eight of these liquefied the gelatin; of these colonies two were moulds and two had the crenated margins and finger-like processes described in the colonies appearing on the agar plate; most of the colonies, however, consisted of yeasts and long thick rods—many of them sporulating—and a peculiar mycelial growth which, however, had none of the naked-eye characters of any of the ordinary fungi. In the glucose formate agar tube from 100 to 120 minute colonies developed in the depth of the medium, but there was one surface colony, apparently an organism belonging to the potato bacillus group. A second set of tubes was inoculated from another phial. In an agar plate poured from one of these 55 colonies developed. In the agar tube heated to 60° C. for one hour five colonies were seen; these consisted of spore-bearing organisms—thin rods with swollen nodal points, a yellow sarciniform organism and leptothrix filaments breaking into long rods with square-cut ends; these long rods contained well-developed spores.

TABLE XI.—*Experiments with Lymph from Dr. Hime's Vaccination Institute, Bradford.*

Period of examination after the sample was sent out.	Number of colonies.			
	Agar plate.	Gelatin plate.	Glucose formate agar tube	Agar tube heated to 60° C. for one hour.
First sample.				
Five days	63	120 (8 liquefying).	100–120	—
Second sample.				
Nine days	55	—	—	5

(12)

THE REBMAN PUBLISHING COMPANY,

129, SHAFTESBURY-AVENUE, CAMBRIDGE-CIRCUS, LONDON, W.C.

A sample of vaccine lymph was received from this firm on Jan. 18th, 1902. It was marked, "No. 641; 3 at 1*s.*; 17/1/02. Tubes if returned within 30 days from that date will be exchanged for fresh. Keep in a cool place." This lymph, contained in green-glass tubes, was plated out on the 22nd. On the agar plate 521 colonies developed: four of these colonies, with crenated edges, spreading rapidly, were made up of bacilli of two kinds—a thinner form very lightly stained and a thicker longer form which took on the stain deeply. The other colonies, also slightly crenated at the margins, were somewhat opaque, and at first sight had not the appearance of streptococci. On growing them in broth, however, it was found that a few streptococci were present; the bulk of the organisms were staphylococcus pyogenes albus. On the gelatin plates were 36 moulds; these developed regularly and were evidently not the result of accidental contamination of the plate. The glucose formate agar was crowded with some thousands of minute colonies. A second gelatin plate from No. 243 was made on Jan. 28th, 1902; from this 395 non-liquefying colonies and three moulds developed. Most of these colonies consisted of staphylococcus pyogenes albus. A sample of a second batch of vaccine lymph was heated for one hour at 60° C. and then plated out on agar; only two spore-bearing colonies made their appearance. These samples were more equal and the average purity was considerably higher than at the last examination of this lymph.

TABLE XII.—*Experiments with Lymph from Rebman Publishing Company, London.*

Period of examination after the sample was sent out.	Number of colonies.			
	Agar plate.	Gelatin plate.	Glucose formate agar tube.	Agar tube heated to 60° C. for one hour.
First sample.				
Five days	521	36 moulds.	Some thousands of minute colonies; little surface growth	—
Second sample.				
Four days	—	395 and 3 moulds.	—	2

(13)

LYMPH FROM THE LOCAL GOVERNMENT BOARD LABORATORIES.

A tube of lymph for 25 vaccinations, supplied by the courtesy of Mr. Long, was received on Feb. 8th, 1902, cultivations being made and plates poured two days later. A quantity, 0·101 gramme, of this vaccine mixed with agar was found to contain 24 colonies when plated out; some of these were thick, white, opaque, and paint-like; they were very unequal in size but all consisted of torulæ. A peculiar iridescent colony was composed of staphylococci; the other colonies, thick, brownish-yellow in colour, with smooth margins, all consisted of staphylococci. The gelatin plate, made with half this quantity of vaccine, contained only two colonies, both of them staphylococci; one mould, evidently an accidental contamination, made its appearance at the extreme margin of the plate. In the glucose formate agar tube small aerobic colonies were found, one growing on the surface; there was also a large-lobed, somewhat cloudy growth in the depths—an anaerobic organism. The sample heated to 60° C. for one hour gave no growth of any kind.

TABLE XIII.—*Experiments with Lymph from the Local Government Board Laboratories.*

Period of examination after the sample was sent out.	Number of colonies.			
	Agar plate.	Gelatin plate.	Glucose formate agar tube.	Agar tube heated to 60° C. for one hour.
Three days	24	2 1 mould.	10	0

All the above vaccines have been examined on a former occasion and the results now obtained may be compared with the results recorded in THE LANCET of April 28th, 1900, p. 1227. Since this investigation was commenced we have had placed at our disposal three other samples of lymph of which a similar bacteriological examination has been made with the following results.

(14)

GLYCERINATED CALF LYMPH FROM MESSRS. BURGOYNE, BURBIDGES, AND CO.,

16, COLEMAN-STREET, LONDON, E.C.

This lymph, of which we were supplied with six small tubes at 2*s.* 6*d.*, was numbered 1359½ and was dated "14/1/02," with the note: "In the event of any complaint kindly refer to above number when writing." The lymph was slightly opaque and was very well mixed and homogeneous. The plates were made eight days after the lymph was dated;

the number of colonies was low. In the agar plate 49 colonies appeared; most of them consisted of staphylococci, some white, some with a slight yellow tinge; in all of these the margin was clean cut and the colony was moist and opaque-looking. In addition to these were greyish-yellow colonies somewhat similar in appearance to the above; they were, however, composed of short, curved, plump rods with rounded ends; these rods appeared to be rapidly dividing into still shorter oval bacteria. There were also some small club-shaped organisms which appeared to be involution forms, and in some of these the protoplasm was aggregated into small irregular masses, in which, however, there were no traces of spores. On the gelatin plate 10 colonies made their appearance; here, again, most of the colonies were staphylococci, some yellow, some white, but one very opaque colony was made up of yeast cells and a second which looked almost like a drop of paint consisted of thick rods. In the glucose formate agar culture were numerous very minute colonies which as they grew caused clearing up and "brightening" of the surrounding agar; they consisted of short plump rods with curved ends. It was difficult to count these colonies very accurately but they numbered from 400 to 500. In an agar plate made with vaccine that had been heated to 60° C. for one hour only three colonies made their appearance and these consisted of small rods in which spores ultimately developed.

TABLE XIV.—*Experiments with Glycerinated Calf Lymph from Messrs. Burgoyne, Burbidges, and Co.*

Period of examination after the sample was sent out.	Number of colonies.			
	Agar plate.	Gelatin plate.	Glucose formate agar tube.	Agar tube heated to 60° C for one hour
Eight days	49	10	400-500	3

(15)

MERCK'S PURE GLYCERINATED CALF VACCINE LYMPH.

PREPARED IN THE BACTERIOLOGICAL DEPARTMENT OF MERCK'S LABORATORIES, DARMSTADT.

LONDON OFFICE: 16, JEWRY, E.C.

Merck's lymph is prepared under strict aseptic precautions after the method used in the German Government Laboratories, and is not supplied unless it satisfies the following three conditions: 1. After slaughtering, the internal organs of the animal are examined by an official veterinary surgeon, it being imperative that those organs should be in a perfectly healthy condition. 2. The lymph is subjected to bacteriological examination (on glycerine agar plates), which is required to establish the absence of pathogenic bacteria. 3. The efficiency of the lymph is ascertained by test vaccination.

The following retail prices have been fixed for the tubes:—Small tubes for one or two inoculations, yellow wrapper, two for 1*s.*, six for 2*s.* 6*d.* Medium tubes for five inoculations, red wrapper, 1*s.* each; three for 2*s.* 6*d.* Large tubes for 10 inoculations, green wrapper, 2*s.* each, three for 5*s.* Tubes *should be kept in a cool place* and must be used up immediately after they have been opened.

Six tubes, No. 404, dated 8/2/02 (to be used before 22/2/02), for five inoculations. On examining these tubes they were found to be clear or slightly opalescent, with opaque areas. On pouring out this lymph into warm agar it was found to be finely granular. Cultivations were made on Feb. 11th, three days after the vaccine was dated. In the agar plate not a single organism made its appearance. In the gelatin plate two colonies had appeared at the end of nine days, one a yellow staphylococcus, the other a liquefying colony. In the glucose formate agar tube and in the specimen heated to 60° C. for one hour not a single colony developed during the period (over a month) that the specimens were kept under observation. This result was so good that it was thought advisable to test another sample. For this purpose a special sample that had been forwarded to THE LANCET Offices for examination—No. 415, dated 20/2/02 (to be used before 6/3/02)—was used for bacteriological investigation. Here again the results were excellent, only a single colony appearing in the agar plate, none on the gelatin plate.

TABLE XV.—*Experiments with Lymph from Merck's Pure Glycerinated Calf Vaccine Lymph.*

Period of examination after the sample was sent out.	Number of colonies.			
	Agar plate.	Gelatin plate.	Glucose formate agar tube.	Agar tube heated to 60° C for one hour.
First sample				
Three days	0	2 (one liquefying)	0	0
Second sample				
Fourteen days ..	1	0	—	—

(16)

ISTITUTO VACCINOGENO,

22, VIA ALTAGUARDIA, MILAN.

DIRECTOR: DR. GIUSEPPE SIGNORILE.

Passages quoted from letters from Dr. Signorile desired the Secretary of the Italian Chamber of Commerce in London to call our "attention to the pure vaccine lymph which the Government Institute under his administration already supplies to Switzerland and other countries. The lymph is sent in a new improved glass tube, having both extremities perfectly closed with molten glass, each tube being provided with a lancet, one side of which serves to file off when wanted for use the soldered point of the tube. The testimonials of many Italian and foreign municipal bodies and medical men have fully established the fact that the lymph, preserved by means of the new process adopted by the Milanese Institute, is absolutely pure and free from all pathogenic germs whatsoever." This sample was received on March 11th, 1902, but the box containing the vaccine was stamped "27/11/01." Plates were poured on March 15th with the following results. In the agar plates numerous colonies—at least 1500—were developed. This, however, is a low estimate rather than a count, as the organisms were so numerous that the colonies growing from them ran into one another. The anaerobic organisms were principally, if not entirely, staphylococcus albus. On the gelatin plate 280 colonies developed, 52 of these liquefying the gelatin. The opaque yellowish colonies that do not liquefy the gelatin are made up of groups of flagellated rods with rounded ends, the liquefying colonies resemble bacillus subtilis very closely. In the glucose formate agar shake tube a large number of colonies developed anaerobically and much gas with a very evil smell was formed. The contents of a tube placed in agar and heated to 60° C. for one hour contained 172 organisms that had resisted this temperature, so that not only was the number of ordinary organisms very high—from which, owing to the length of time which had elapsed since the material was prepared, we must gather that the glycerination (?) has been very imperfectly carried out—but the number of spore-bearing organisms is very much higher than is met with in most of the other samples that came under our observation. These spore-bearing organisms are mostly thin rods, but in some of the opaque colonies with crenated margins a peculiar "sulphur" fluorescent organism, made up of shuttle-shaped rods and rods with rounded ends, is present. This lymph was not used as a vaccine on the human subject.

TABLE XVI.—*Experiments with Lymph from the "Istituto Vaccinogeno" of Milan.*

Period of examination after the sample was sent out.	Number of colonies.			
	Agar plate.	Gelatin plate	Glucose formate agar tube	Agar tube heated to 60° C. for one hour.
Eleven weeks –	1500 +	280 (52 liquefying)	Large number with enormous quantity of gas.	172

FORMATION OF VESICLES.

Although doubt has been thrown on the possibility of determining whether a vaccine lymph is sufficiently potent or not by any experiments except those on the calf, the monkey, or the human subject, it has now for some time been recognised that under certain conditions experiments on rabbits may afford evidence on this point, and experiments with many of these lymphs were carried out to determine whether they all acted equally powerfully on rabbits; for, as pointed out by Calmette, if the lymph is active for rabbits it is probably still more active in the case of the human subject. There can, we think, be little doubt that here we have a valuable method at our disposal; for, comparing the results obtained with the human subject, it was found that in every case the comparative results were the same, but in most cases the vaccine effects produced in the latter were very much more marked than were those produced in the former. In Table XVII. the activity of the vaccine is indicated by the number of asterisks inserted opposite to the different lymphs. In a few cases in which very marked reactions were obtained in the human subject the results in rabbits were not so marked, but in almost every case where this happened there was evidence of mixed infection, the vaccinal result being far from typical. Bearing this in mind the relative activity of any sample of lymph may be indicated by taking the sums of the numbers of asterisks in the two columns under "rabbit" and "human." High bacteriological purity associated with great vaccinal activity must be taken as the essential features of a good vaccine lymph, and bearing these features in mind it is unnecessary to lay down any hard-and-fast line as to which is the best and most trustworthy lymph in the series. Each vaccinator should, in the first instance, select those lymphs that seem to conform to these requirements and promise the best results and then, amongst these, having found one with which he is satisfied, keep to it.

In drawing up Table XVII. the total number of organisms has not always been taken as the exact measure of the bacteriological purity of a sample of vaccine lymph. The aerobic organisms growing on agar at the temperature of the body have been looked upon as giving the most trustworthy indication as to the successful glycerination of the lymph. Next in importance appear to come those organisms growing on gelatin, and then come the spore-bearing organisms. The anaerobic organisms—unless actually pathogenic or in very large numbers—appear to be of comparatively little importance except in those cases where gas, especially foul-smelling gas, was formed; and the reason that one of the lymphs has been placed in a very low position is that very large quantities of such foul-smelling gas were developed in the medium when the cultivation was maintained at the temperature of the body. It is scarcely necessary to insist more strongly upon this point.

TABLE XVII.—VACCINE LYMPH. RELATIVE BACTERIAL PURITY AND VESICLE-FORMING ACTIVITY OF SPECIMENS RECEIVED DURING JANUARY AND FEBRUARY, 1902.

Source of lymph.	Weight of material in grammes.	Number of colonies per 0·05 gramme.				Vesicle formation in rabbits.	Vesicle formation in the human subject: notes collected from various sources.
		Agar plate.	Gelatin plate.	Anaerobic tube.	Spores.		
1. Merck	0·048	0	2	0	0	* *	* * * * (three samples), * * (two samples), * (two samples), 0 (three samples).
2. Local Government Board ...	0·037	12	2	14	0	* * * *	* * * *
3. Birmingham	0·050	26	0 (? moulds).	50	0	* * * *	* * * *
4. Maw, Son, and Sons	0·046	33	3 (1 liquefying).	100	*227	* * * *	No statistics.
5. Institut de Vaccine Animale	0·048	40	0	*Some thousands.	0	*	* * * *
6. Ferris and Co.	0·038	61	1	* " "	0	* *	* * * *
7. Hime	0·041	72	146 (10 liq'g.).	135	6	* *	* * * *
8. Faulkner	0·117	87	145 (1 liq'g.).	260	3	*	* * * *
9. Burgoyne, Burbidges and Co.	0·026	94	19	850	6	* *	No statistics.
10. Warlomont (Markt Bros.) ...	0·033	170	42 (2 liq'g.).	85	0	* *	* * * *
11. Rebman	0·043	600	278	Some thousands.	3	* *	* * * *
12. Jenner Institute, Battersea	0·064	600	515 (1 liq'g.).	Innumerable.	0	* * * *	No statistics.
13. Renner	0·048	2,075	1,500	Tens of thousands.	1	* * * *	* * * *
14. Chaumier	0·081	10,000	34	Innumerable.	2	* * * *	* * * *
15. Association for the Supply of Pure Lymph (Darke)... ...	0·059	Uncountable.	110	Some thousands.	25	* * * *	* * * *
16. Istituto Vaccinogeno, Milan	0·050	1,500 +	200 (52 liq'g.).	Innumerable; gas.	172	No experiments.	No statistics.

* In No. 4 the spore-bearing organisms are comparatively numerous and in Nos. 5 and 6 the anaerobic organisms are out of all proportion to the numbers of other organisms present.

The weight of the vaccine used was obtained as follows. The glass tube or phial with its contents was first carefully weighed, then immediately after withdrawing the lymph the glass with the small quantity of vaccine remaining was again weighed. Before driving out the vaccine the tubes were carefully washed with an antiseptic solution and were allowed to dry in a sterile box. One of the sealed ends was then snipped off with sterile scissors and the closed end was gently warmed near a small gas flame in order to cause expansion of the air within the tube. The lymph driven out by the expanded air was received directly into sterile broth, agar, or gelatin, as the case might be, and never came in contact with anything but the cut end of the vaccine tube until it reached the inside of the sterile test tube. It has, of course, been pointed out that these vaccines vary considerably as to the degree of dilution and that the number of bacteria contained is not altogether a measure of the purity of the lymph before glycerination. It must be insisted, however, that whatever be the dilution of the lymph the number of organisms applied to the abraded surface is that contained in the definite volume of lymph used for vaccination and that if a lymph is sufficiently active to produce well-marked vesicles and distinct constitutional effects and at the same time contains a small number of extraneous organisms, such lymph is the best for the purpose for which it is designed to be used, and the best stage of glycerination and degree of dilution are those where the number of extraneous organisms is small, the number of vaccine organisms still being sufficiently large to bring about the desired results. It is for this reason that in coming to a decision as to the quality of a lymph not only the number of organisms present should always be taken into consideration but also the actual activity of the vaccine.

In compiling these figures access has been obtained to records of over 400 vaccinations. It is interesting to note that there is scarcely a doubt that all the vaccine lymphs at present on the market are, as regards their capability of producing vaccine vesicles, of very trustworthy character at some period or other after their preparation. It will be noted, however, that the series examined affords examples of three sets of conditions. (1) Those in which the glycerination is well carried out and the number of organisms present is small but the vaccine virus still remains sufficiently potent to induce typical vaccine vesicles without giving rise to a too violent reaction. If, when using such lymphs, proper precautions are taken to sterilise the skin and to prevent the access of extraneous germs to the abraded surface, the vaccine reactions, both local and general, run a typical course and the patient is very little inconvenienced except for a period of two or three days when the vaccine fever is at its height. This forms a kind of intermediate series, for we find that (2) there are certain lymphs in which are numerous extraneous organisms It appears from examination of these organisms that certain manufacturers are careful to avoid glycerinating the lymph to such a degree that all organisms are got rid of, indeed some of them claim that the presence of certain cocci *is of distinct advantage in so far as such organisms* assist in the production of the local lesions. There can be no doubt that in vaccines prepared on this plan most active local lesions are obtained, but especially in stout people, the accompanying œdema is often very marked and the patient may suffer considerably from constitutional disturbance—fever, malaise, &c. This is notably the case when the vaccine virus itself apart from outside organisms, is potent. Chaumier's, Rohman's, and several of the other lymphs in which the number of organisms is comparatively high (see Table XVII) may be taken as types of this lymph (3) At the other extreme are certain lymphs in which the *glycerination and dilution* appear to have been carried to such a point that there is only a slight margin between what may be called first-class vaccine lymph and lymph that though perfectly pure is not absolutely trustworthy As a type of this class Merck's is perhaps the best. It is practically free from all extraneous organisms and certain batches gave by far the best results as regards vaccination that were obtained In the cases on which these observations were made the typical pearly vesiculation, the depressed centre of the vesicle and the narrow areola were all exceedingly well marked The fever was typical though coming on at a comparatively late period Other samples of this same lymph gave exactly the same typical vesicles when the lymph did 'take,' but the number of successful insertions was comparatively small, whilst in the case of a third series of samples with which inoculations were made within a couple of days after they were received from the agents in London not a single successful insertion was obtained in six cases (18 points) though in other patients inoculated on the same day and in exactly the same fashion with some of the lymphs less highly glycerinated every insertion was successful.

On a careful comparison of those various lymphs with those examined on former occasions we are of opinion that there has been (1) a very marked improvement in the quality of the vaccine lymphs supplied during the last few years, (2) that glycerination of lymph if precautions be taken to secure a lymph 'clean' in the first instance may be carried out without interfering in any very great degree with the activity of the vaccine virus, (3) that the presence of a large number of organisms in an active vaccine lymph renders the local lesion more severe and modifies alters or renders more severe the constitutional symptoms, causing both local and constitutional symptoms to make their appearance at an earlier period than when well glycerinated vaccine is used, (4) that the œdema, though fairly severe in certain cases where well glycerinated calf lymph is used is far more severe and much more obstinate in those cases in which imperfect glycerination allows of the persistence of a large number of extraneous organisms, and (5) that although prolonged glycerination especially when the vaccine is very dilute, appears to render the lymph less trustworthy, the vesicles when produced by this lymph are so typical and the course of the process is so definite that it is worth running the risk of having to vaccinate a second time in order to obtain such satisfactory results. Where any doubt at all remains in the mind of the practitioner we would recommend that over glycerinated rather than under glycerinated lymph should be obtained A careful study of Table XVIII will enable those interested to determine for themselves which of the lymphs are probably most suitable for their purposes.

CAUSES OF "BAD VACCINATION

We are strongly of opinion that many of the bad results obtained in vaccination are due to the presence of one or other of the following conditions imperfect sterilisation of the skin and want of protection against the invasion of the weakened and abraded tissues by extraneous organisms. We have found that, given a good lymph the application of a plentiful supply of soap and water a razor to take off hairs and surface epithelium ether to remove fatty and sebaceous matter alcohol to wash away the ether, superficial vaccination and protection of the vaccinated surface throughout the whole course of the local manifestation of vaccinia, most excellent results may be obtained. The best means of protecting the local lesion is the application of several folds of sterile lint containing no chemical disinfectant, this is held in position by strips of adhesive plaster, a layer of boric lint may then be placed outside this dressing and the whole may be changed as soon as the slightest evidence of moistening by serum appears in the boric lint. One of the *most certain methods of producing severe* œdema is for the patient to use his arm freely and to bring about perspiration just before and after the vesicles have begun to form Rest free action of the bowels and the above precautions are the best preventives not only of vaccinal œdema but also of secondary sloughings We are more firmly convinced than ever—to quote from our previous report—that the 'freer the lymph is from extraneous pyogenic and other organisms the less marked will be those inflammatory concomitants which are so familiar to all vaccinators' and that "much of the irritation that has often been regarded as essential" to a successful vaccination 'is not so much due to the action of the vaccinal organism itself as to organisms acting as irritants upon the cutaneous tissues. We are informed that the best results are invariably obtained with those lymphs which produce late vesiculation and that if a lymph be free from bacteria, especially streptococci and staphylococci, and if typical vesicles slow of development with little inflammatory areolæ and late in coming to maturity be obtained the patient is properly vaccinated In the first report we had not obtained sufficient information on these points to be able to give a definite opinion but with the information now placed at our disposal we have no hesitation in speaking most definitely on this point

EXPERIMENTS WITH OLD LYMPHS

Lymphs which had been kept since the beginning of the year 1900 were plated out on agar in order to see how far they differed bacteriologically from the same lymphs examined at that time.

TABLE XVIII.—*Giving Results of Plating Out Lymphs that had been Kept (Cool and in the Dark) for a Couple of Years*

Lymph	Plated out	Number of colonies on agar
Local Government Board 6/2/00 Series 370	27/2/02	Only six tiny colonies
Establishment for Vaccination with Calf Lymph 20/ /00		Seven colonies
Ferris and Co 1900		
Helman 20/3/00		One colony
Institut de Vaccine Animale calf 73, 14/3/00		One colony
Maw Son and Sons 1900	„	About 120 mostly spore bearers
Dr Ilimo's Calf Vaccine Institution 20/ /00		154; amongst these is the yellowish green colony found in the 190 samples

Further, in order to determine whether vaccines which in the fresh condition undoubtedly give results on rabbits, remain potent for any length of time three rabbits were inoculated with old lymphs—the first three of the above (Local Government Board Renner's and Ferris's). In every case the results were absolutely negative

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THE EDUCATION OF THE DEAF AND DUMB.—On May 30th Earl Egerton of Tatton presided at the Westminster Palace Hotel over a conference composed of the representatives of the governing bodies of schools for the deaf and dumb The chairman stated that the report of the Royal Commission on the success of the oral system, especially in Germany and Italy had led to a large increase of the teaching of that system, while the standard of the teacher had been raised. The conference passed resolutions to the effect that institutions for the deaf should be exempt from rates and taxes, that the obligatory condition in the Blind and Deaf Act 1893 of raising one-third of the expense of maintenance from private sources should be removed, that an increased grant ought to be allowed, and that the reduction of the grant when a child was absent from the schoolroom through illness although remaining in the institution should not take place

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THURSDAY, MAY 29TH.

THE sittings of the summer session of the General Council of Medical Education and Registration were resumed to-day in the Council's hall at 299, Oxford-street, W., Sir WILLIAM TURNER, the President, being in the chair.

The Case of Dr. Tyndale Watson.

The Council considered the case of Dr. William Tyndale Watson of Tottenham, Middlesex, N., registered as Mem. R. Coll. Surg. Eng. 1861, M.D. Univ. Dubl. 1867, but stated to possess the further unregistered qualifications of M.D. Oxon., Dip. State Med. Dubl., who had been summoned to appear before the Council on conviction for misdemeanour, he having in November last pleaded guilty to a charge of indecent assault brought against him in the Central Criminal Court and been sentenced therefor to a month's imprisonment.

Dr. WATSON appeared and stated that Mr. A. A. Strong, solicitor, would represent him before the Council.

Mr. WINTERBOTHAM (solicitor to the Council) explained the charge and Mr. STRONG proceeded with the evidence in mitigation of punishment.

Mr. JOSEPH HOWARD, M.P. for the Tottenham Division of Middlesex, was first called and in answer to Mr. STRONG said that he had known Dr. Watson for rather more than 40 years. He had always held a very high opinion of him. Witness had met him occasionally and the doctor had frequently been at his house as a friend. He had attended witness professionally but none of his family. Witness had always found Dr. Watson to be of irreproachable character.

Dr. GILBART SMITH testified that he knew Dr. Watson well. He had known him very intimately for more than 30 years and had found him most highly honourable and absolutely opposed to such a thing as he had confessed to have done. Witness had the highest respect for him. About 10 years ago he had attended him when he was suffering from the effects of influenza. He saw him with another medical man. They thought to recommend Dr. Watson to take a sea voyage but they had not made a recommendation in that direction because of the state of the doctor's mind, which might have made his presence on board ship dangerous. There had been signs of insanity in his family, a brother having had to be put under control.

In answer to Sir CHRISTOPHER NIXON witness said that he and the other medical man were afraid to permit Dr. Watson to take a sea voyage because they thought he might commit suicide.

Dr. G. VIVIAN POORE stated that he had known Dr. Watson for about 20 years and had always the highest opinion of his character. He certainly never thought him capable of such an action as in court he pleaded guilty to.

The Rev. CHARLES HOWELL, vicar of Trinity Church, Tottenham, said that he had known Dr. Watson for about 30 years and from the first had had a high opinion of his personal character. He had constantly met him and he should say that the general opinion of the people of Tottenham was what his own was.

Mr. E. WOOD, Enfield, a registered medical practitioner, who stated that he had known Dr. Watson for about 27 years, said that he had always had the highest opinion of him. He was surprised that Dr. Watson had been charged with anything of the sort he had admitted. Witness had a letter from the North Tottenham Medical Society testifying to the high esteem in which he was held among the practitioners of Tottenham.

Mr. DOUGLAS WATSON, M.R.C.S. Eng., L.R.C.P. Lond., in practice in Essex, and a son of Dr. Watson, informed the Council that during the illness which occurred 10 years ago his brother and himself had had a great deal of trouble in looking after their father. On several occasions they had to see that he was not permitted to take chloroform or any opiate. After his brother's death three years ago his father broke down again and witness had the same trouble and anxiety as previously he had had.

Mr. STRONG, in answer to a question as to whether Dr. Watson would go into the witness-box, said that the doctor was in a bad condition of health, but he was ready to present himself if the Council wished to ask him any questions. He explained that Dr. Watson had been in prison for a month, the Recorder having postponed sentence from the one session at which he pleaded guilty to the following session, and on being brought up again the sentence imposed released him from custody on the day on which it was given.

Dr. GILBART SMITH volunteered the statement that while Dr. Watson was in prison he saw him on two or three occasions. He was in hospital then and he thought that the certificate of the prison doctor had had something to do in influencing the Recorder's judgment in the case.

Mr. STRONG, in addressing the Council, made an appeal for merciful consideration of the doctor's case. Dr. Watson, he said, was born in Ireland 63 years ago. He had been in Tottenham since shortly after obtaining his degree of Doctor of Medicine in 1867 and he had acted as medical officer of health of Tottenham and officer at the Tottenham Dispensary. Subsequently he had received from Dublin an honorary Diploma in Public Health. When he resumed work after his trouble of 10 years ago his practice increased and he took his eldest son into partnership with him. That son died three years ago and Dr. Watson, in addition to the mental anxiety caused by his death, had to bear the anxiety of finding under the copartnery contract a large sum of money for his son's young widow. He, moreover, had the practice thrown on his own hands and unfortunately he had tried to get strength to carry it on efficiently by taking such drugs as morphia; he suffered from constipation, nervous depression, piles, and enlargement of the prostate gland; they must all feel that there must have been some strong mental or physical reason which had caused him to slip from the path of virtue. Dr. Watson, however, had never attempted to deny his fault. He admitted that he had sinned but would not add to it by telling a lie. He had undergone imprisonment but that was absolutely nothing to the punishment he had suffered in other ways. On his release he found his practice practically gone and had to part with it for a mere song; he found his friends deserting him, his money was exhausted, and he at once left off practice and went to Swanage where he hoped to remain for the rest of his days, having ceased to have all practical connexion with that profession which he loved so much. If the Council struck him off the Register he would feel that to be the greatest blow of all. If there was a case in which mercy should be shown it was this, and for the sake of the doctor's wife, to whom he had been married for 35 years, and for his sons and daughters, and because of the many years during which he had gone quietly on his way without committing fault, he, Mr. Strong, entreated them to show Dr. Watson mercy.

The Council deliberated on the case *in camerâ*. On the readmission of strangers, the PRESIDENT, addressing Dr. Watson, said: The Council has carefully deliberated on your case and this is what I am instructed to say, "That having heard evidence bearing on the state of your mental and physical health the Council does not see fit to remove your name from the Medical Register."

The Case of Dr. Robert Rendall.

Consideration was next given to the case against Robert Rendall, of 19, St. Peter's-road, Great Yarmouth, registered as M.B., Mast. Surg. 1893, Univ. Edin. Dr. Rendall appeared for himself and Dr. A. G. Bateman as representing the Medical Defence Union.

Mr. WINTERBOTHAM explained the position in which this case stood. He said that the charge against Dr. Rendall was brought before the Council last November and was this—

> That you have been guilty of infamous conduct in a professional respect, particulars of which are that you have accepted and continue to hold the appointment of medical officer to the Liverpool Victoria Legal Friendly Society at Great Yarmouth, a society which systematically practises canvassing for the purpose of procuring patients, and that you have approved or acquiesced in such canvassing.

Having deliberated on the case the Council came to the conclusion "that the facts alleged against you in the notice of inquiry have been proved to the satisfaction of the Council. The Council feel it their duty to express their sense of the gravity of the facts which have been proved against you; but in order to give you an opportunity seriously to reconsider your position in relation to the Liverpool Victoria Legal Friendly Society and the National Medical Aid Company, Limited, they have adjourned the further consideration of the charge until the next session, when you will have to appear and satisfy the Council as to your conduct in the interval."

Due notice to attend had been served on Dr. Rendall and the following letter was received from him on May 13th :—

19, St. Peter's-road, Great Yarmouth, May 13th, 1902.

DEAR SIR,—I beg to lay before the General Medical Council the following statement—viz. : that I sent in my resignation as medical officer to the National Medical Aid Co. and as medical referee to the Liverpool Victoria Legal Friendly Society on Dec. 24th, 1901, and my connexion with them has been entirely and completely severed since Lady Day, March 25th last.

I inclose the acknowledgment of my resignation sent me on Jan. 3rd, 1902, by the secretary of the National Medical Aid Co.

Under these circumstances will you kindly let me know if it is necessary for me to attend on the 29th inst. ?

Yours obediently,
R. RENDALL.

W. H. Winterbotham, Esq.,
Solicitor to the General Medical Council.

[INCLOSURE.]

The National Medical Aid Co., Ltd.,
Registered Offices, 80 & 80A, Fleet-street,
London, E.C., January 3, 1902.

DEAR SIR,—I beg to acknowledge receipt of your letter of the 24th ult., which was read to the directors at their last meeting, and I beg to inform you that your resignation as medical officer of the company at Great Yarmouth contained therein has been accepted and will come into effect on March 24th next.

By order of the Board,
E. T. HARWOOD, Secretary.

Dr. R. RENDALL, 19, St. Peter's-road, Great Yarmouth.

He (Mr. WINTERBOTHAM) had informed Dr. Rendall that it was necessary he should attend the meeting of the Council and he was present.

The PRESIDENT, addressing Dr. Rendall : Have you any further evidence to offer?

Dr. RENDALL : No, sir.

The PRESIDENT : Do you wish to address the Council on the matter?

Dr. RENDALL : No, sir, I have nothing further to say; just to affirm the fact that I resigned the appointment I held in the Medical Aid Company and I have no intention of having in the future any connexion with it.

Dr. BATEMAN informed the Council that he had nothing to say.

The Council then sat in private for some minutes. On resuming in public the PRESIDENT, addressing Dr. Rendall, said : I am instructed to communicate to you the decision at which the Council has arrived—namely : "That having considered the facts and evidence submitted by you in relation to your action since the last session the Council has resolved to proceed no further in regard to the charge proved against you."

An Application for Registration.

On the motion of Dr. MACALISTER, seconded by Mr. BRYANT, it was agreed to adopt a recommendation of the English Branch Councils that they should consent to the registration of Mr. Abiathar Wall, Lic. Soc. Apoth. Lond., 1871, Lic. R. Coll. Phys. Edin., 1872, Mem. R. Coll. Surg. Eng., 1872, a medical practitioner entitled to be registered under the Medical Act (1858), but who neglected to effect such registration until after the "appointed day" (June 30th, 1887), under the Medical Act (1886).

The Case of Dr. William Park.

The next business on the order paper was consideration of the case of William Park, registered as of Gartlea House, Airdrie, M.B., Mast. Surg., 1897, Univ. Glasg., who had been summoned to appear before the Council on a charge of unprofessional conduct. Application was made to have the hearing postponed till November on the ground that Dr. Park was abroad, that the ship in which he had taken up the position of "ship's doctor" would not return to this country before July next, and that he wished to be heard in his own defence; but on the advice of Mr. MUIR MACKENZIE (the Council's legal adviser) it was resolved to proceed and for upwards of an hour the hearing of, and deliberation on, the case went on *in camerâ*. On the readmission of the public

The PRESIDENT said : The Council have deliberated on this case and their judgment is "that William Park has been guilty of infamous conduct in a professional respect and they do direct the Registrar to erase his name from the Medical Register."

The Council adjourned.

FRIDAY, MAY 30th.

The Council resumed work to-day, Sir WILLIAM TURNER presiding.

Appointment of Committees.

The Pharmacopœia, Finance, Dental, and Students' Registration Committees were reappointed without change. In the Examination Committee Dr. Windle was appointed in place of Dr. Glover and Dr. Finlay in place of Dr. Pettigrew. In the Education Committee Dr. Reid's place was given to Dr. Mackay, while in the Public Health Committee the place resigned by Dr. Pye-Smith was given to Mr. Jackson. In the case of the Dental Education and Examination Committee Dr. Finlay was appointed in place of Dr. Reid, and Dr. Bennett was made an additional Irish representative.

The Finances of the Council. Scheme of Reform.

The next business was the consideration of the report of the Financial Relations Committee appointed in June, 1901, "to consider what amendments, if any, to the Medical Acts are necessary in order that the relations between the Council and the Branch Councils may be readjusted and how the financial position of the Council may be placed on a satisfactory basis." In their report the committee said that the following points had become clear :—

(*a*) That the financial position of the Council and its branches is unsatisfactory and calls for consideration and decided action on the part of the Council.

(*b*) That the deficit, on the Council's income and expenditure account, on the average of the last seven years' amounts to full £1200 per annum.

(*c*) That this state of the Council's affairs is due to the special constitution, the small income, and the work of the Council and Branch Councils, as determined by the Medical Acts, 1858-1886, and it cannot be met by such economies as are proposed in the reports of the Finance and Special Finance Committees referred to in the narrative.

(*d*) That to readjust permanently the relations between the Council and the Branch Councils it will be necessary to obtain certain amendments of the Medical Acts, 1858-1886.

It will render the situation of the Council plainer to first submit the general conclusion arrived at by Mr. Tomes from an examination of the original state of the finance of the General Council and the effect thereupon of the 42 years which have elapsed since the initiatory payments of registration fees began in 1858.

During the first few years after the institution of the Register large sums were received in the form of £2 registration fees paid by those entitled to admission to the Register, and these payments, in diminishing amounts continued over a good many subsequent years. An investigation of the accounts shows that there was received from such £2 registration fees £35,000 in round numbers.

The interest actually received upon such part of this sum as was not devoted to current expenditure but was invested has, during the whole period since the Council was instituted, amounted to £40,485 in round numbers, so that the initial receipts and the interest received amount together to £75,485. In addition a sum of about £2600 has been derived from profit upon the issues of the Pharmacopœia.

But the present assets do not materially exceed £41,600, so that the whole of the Pharmacopœia profits, the current registration fees, and, in addition, some £34,000 derived from interest, have been expended.

From this it follows that throughout the whole period of the Council's work the current £5 registration fees have failed to meet the expenditure by something like £900 a year, although it is possible that there may be individual years or even periods when the above-mentioned fees were adequate, if the receipts were large and the expenditure happened to be small.

This aspect of the matter, the insufficiency of the £5 registration fees to pay their way unaided, even over the whole period which embraces many favourable years, is of vital importance to a full recognition of the fact that the present deficiency of resources is inherent in the limitations contained in the Medical Act, 1858.

It ought in this connexion to be remembered that the Act in question was, by reason of the circumstances surrounding its inception, tentative, and it is not surprising, therefore, to find that after an experience of over 40 years some of its provisions have proved to be inadequate.

It will now be readily understood that the Council is at present dependent on the surplusage of fees remaining as accumulations of the income of the English and Scottish Branch Councils and that these assets are rapidly diminishing, since the work of the Council causes at the present time an annual deficit of over £1200. The Irish asset of this kind has already been exhausted.

The assets of the General Council consist in brief of the Pharmacopœia, of the difference between the actual value of the freehold premises and the amount for which they are mortgaged to the English branch, and of the present value of the sinking fund. The assets of the English branch consist of the mortgage on the present premises of the Council which stood in the last balance-sheet at £25,764 and of an investment—i.e., £9149 in Consols (taken at 90). The assets of the Scottish branch consist of £4770 in Consols (taken at 90). There is thus, taking the investments together, a sum of about £13,919 in the form of liquid assets available at any moment.

In addition to such available assets the Council possesses house property (i.e., No. 299, Oxford-street, and No. 16, Hanover-square) which represents in actual cost £25,764, and which probably stands for a considerably larger sum if the asset be realised.

The foregoing represents the whole resources of the Council. As regards its financial stability, it is clear that in the year 1901 the deficit was £1509; at this rate, and that of the annual deficit shown in Mr. Frere's report for the preceding three years, all the liquid assets will be exhausted in eight or nine years and it will then become necessary to commence to realise the value of the premises.

Since, therefore, the efficient work of the Council will cease from lack of resources within the forthcoming decade a complete scheme of financial reform must be adopted at the earliest possible date and from what has been already said it is obvious that such a scheme requires fresh legislation for its execution.

SCHEME OF READJUSTMENT OF THE FINANCIAL RELATIONS OF THE COUNCIL AND BRANCH COUNCILS AND OF REFORM OF THE FINANCES OF THE COUNCIL.

Any scheme of financial reform must fulfil the following conditions:—

1. Provision of sufficient revenue for the execution of the duties of the Council.

2. Provision of a central administration for the income and expenditure of the Council and Branch Councils.

The details of such a scheme consequently may be most conveniently considered under the heading of (1) Revenue, (2) Administration.

(1) REVENUE.

The revenue of the General Council is at present provided under Sections XIII. and XV. of the Medical Act, 1858, which enact that the bulk of the income—viz., fees paid for registration—is to be paid to the branch councils, and that the Council is to obtain its chief supplies by requiring contributions from the Branch Councils by a percentage-rate on all moneys received—i.e., in effect at a rate proportionate to the registrations effected at each Council's office.

The income of the Branch Councils is derived from only two sources—viz., the fees for registration and the interest on the accumulation, if any, of income—i.e., original registration fees—before referred to.

The latter amounts in the case of the English Branch Council to about one-third, of the Scottish Branch Council to about one-twentieth of the first-named source. The Irish Branch Council now has only the registration fees as its source of income which has to be supplemented by an annual grant from the funds of the General Council.

Hence the reliable revenue is the amount of the annual registration fees, plus the rent of the Hanover-square property—viz., £250 per annum, less income tax. The amount of the annual registration fees varies, and in the year 1901 only amounted to £7060, whereas the restricted expenditure of the Council for the same year amounted to £10,065.

The essential source of the Council's revenue being thus inadequate it is essential that a revision of the system of registration fees be instituted, as it is needless to take into consideration the only remaining alternative of assistance from the Imperial Treasury.

The system of registration fees at the present time includes an initial registration fee of £5 and small fees for subsequent additional registrations, but there is no fee charged for the entries on the Students' Register.

There are three courses of revision possible if a larger revenue is to be secured: to raise the initial registration fee for practitioners, to substitute a small annual registration fee for an initial payment, or to institute a student's registration fee.

Objections can be readily raised against each of these propositions, but at this point only one primary consideration can be discussed—namely, how far would the instituting a registration fee for students or the raising of the initial registration fee for practitioners or the payment of an annual registration fee reasonably satisfy the requirement of an adequate revenue.

Undoubtedly an annual fee from each registered medical practitioner would provide a large revenue, but the committee are of opinion that the provision of an addition to the annual revenue can at present be best created by adopting the institution of a students' registration fee and by raising the fee for the initial registration of practitioners. The committee estimate that if the latter fee be raised from £5 to £7 and if a fee of £1 be charged for a student's registration, the resultant addition to the Council's revenue per annum will amount to somewhat over £4000. Such an increase of the resources of the Council would at least save it from the bankruptcy with which in a few years' time it will be threatened if action is not soon taken to place the accounts on a stable basis.

(2) ADMINISTRATION.

The present system of administration of the funds of the Council and Branch Councils is very cumbersome and unbusinesslike.

It has, in fact, led to the embarrassment and insolvency of the Irish Branch Council.

To effect the necessary reforms in this particular all that is needful is to reverse the present system and to provide that all moneys paid into the offices of the Branch Councils shall be forwarded forthwith to the General Council and that all accumulations of income by the Branch Councils shall be transferred to the account of the General Council.

It would further be necessary to provide that all needful expenditure, either on behalf of the General Council or the Branch Councils, should be defrayed by the General Council.

Such financial reforms would in no wise interfere with the registration rights of the Branch Councils.

To carry out a scheme of this nature amendment of the Medical Acts would be necessary.

The report then set out in detail the requisite alterations in the Medical Acts. The recommendations of the committee were as follows:—

1. That the principles of amendment of the financial position of the Council embodied in the report of the Financial Relations Committee be approved.

2. That the Financial Relations Committee be reappointed, with instructions to draft, with the assistance of the legal advisers of the Council, a Medical Acts Amendment Bill, carrying out the principles of financial reform approved by the Council.

3. That such draft Bill be considered at the next session of the Council.

NOTE BY MR. HORSLEY.

The foregoing report is the report of the committee as a whole.

I desire to record my belief that a complete solution of the financial difficulties of the Council is only to be secured by the institution of an annual registration fee and by extensive reform of the Medical Acts.

VICTOR HORSLEY.

NOTE BY DR. HERON WATSON

Supplementary to the Report of the "Special Committee" of the General Medical Council appointed to consider "the financial relations of the Council."

In circumstances such as those which present themselves to the General Medical Council, where, in the matter of finance, a deficit either exists or is imminent, the great general principle should not be lost sight of, as equally applicable to an individual or a public body—viz., to curtail expenditure to such a point as shall prevent matters becoming more embarrassed—and then, when an assured solvency has been reached, to determine if the expenditure in the past, whether in whole or in detail, was either necessary or beneficial, and then conclude whether it is to be continued or how it may be best met.

1. Such a line of action upon the part of the "Special Committee" appointed by the General Medical Council to consider the financial relations of the Council and to suggest some measure of relief seems to me to be hardly met by the proposal that the initial registration fee for practitioners should be raised or that an additional charge should be imposed upon the somewhat slender income of the great mass of practitioners whose names appear upon the Medical Register, as such a measure will most certainly risk the opposition of the medical profession and would tend to render the General Medical Council unpopular.

2. A self-imposed restriction upon the faculty of much speaking on the members of the Council, with a commensurate shortening of the meetings, a greater number of hours devoted to the actual business of the Council and its committees, implying, if need be, morning, afternoon, and evening sittings, might well be adopted as a preliminary tentative measure, and should this increase in the number of hours prove insufficient the withdrawal of all fees for attendance upon the meetings while only travelling and hotel expenses be continued might most reasonably be adopted.

Certainly it appears to me that some such self-denying regulation should be passed so as to manifest to the medical profession that what is done by the Council is due to a single-minded determination to confer benefits and not to bind burdens upon the profession at large.

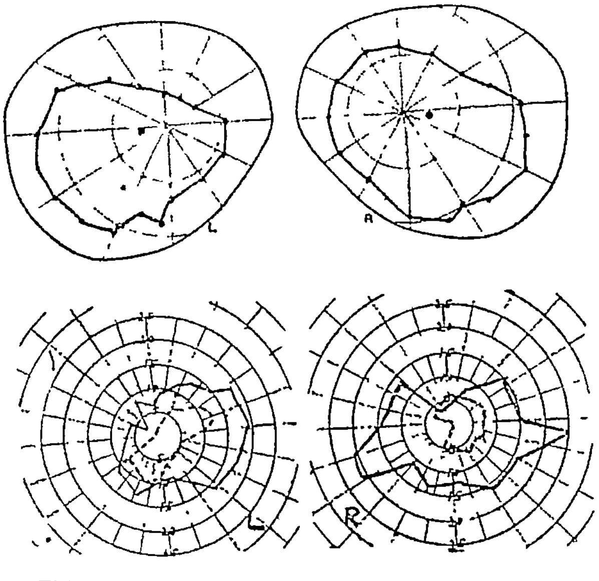
3. So far as I have considered this matter—and it is no new question to me—I am strongly impressed with the feeling that any further pecuniary burdens imposed by this Council for the performance of its duties upon the medical profession will be regarded as a grievance likely to be resisted at every point, more especially where this additional impost can only be obtained by the introduction in Parliament of an amendment to the Medical Acts.

4. In such circumstances it may be well carefully to consider whether before such a tribunal as the Houses of Parliament the medical practitioner upon the Register on the one hand or the General Medical Council on the other be the more likely to obtain support such as will be required to meet successfully the exigencies of such a conflict.

PATRICK HERON WATSON.

The PRESIDENT explained that he himself was chairman of the committee but he thought that it would be well that Mr. Horsley should present the report.

Mr. HORSLEY moved that the report be received and entered on the minutes. He felt a certain difficulty, he said, in the matter. He had appended to the report a note simply to preserve his political consistency on this question. He had always held, and still held, that an annual registration fee was the proper means of their meeting their financial difficulties, but in the committee when the vote was taken on this point he found himself in a minority of one. With this explanation he ventured to ask the Council to accept the report as a step forward in financial reform. He believed that as a matter of fact the Council was prepared to consider fully any project which could be made to it which had a reasonable hope of success, but in saying that he would direct the attention of the Council to another note at the end of the report, a most important note by Dr. Heron Watson, because in that note there was raised a question which really was scarcely before the committee. The committee had a distinct reference to it to find out how in their opinion the finances of the Council might be renovated and Dr. Heron Watson thought that a more fundamental step should be taken in the direction of diminution of expenditure. He believed that the members of the committee were not satisfied that the present deficit would be met in this manner and they certainly were not satisfied that however reasonable it might be in an individual to cut down expenditure in the manner suggested it would be reasonable for this Council to take the step considering the work it was expected to do under the Acts of Parliament. The committee had come to the conclusion that, roughly speaking, from £10,000 to £12,000 were required to balance the accounts of the Council, and, further, they were assured that if there was a small increase in the initial registration fee of practitioners and if a registration fee for students was created these two means would provide the necessary funds. As to the mode in which the expenditure and income of the Council should be conducted the committee proposed to introduce a very sweeping system of reform. The present position of the Council was most anomalous—a position thrust upon it by the Medical Act of 1858. Although it had to conduct really the whole business that was ever brought before the Council or its branches it nevertheless actually had no reliable income above a few hundred pounds. The income only approached it indirectly through the branches. This system the report asked the Council to abolish altogether. The Council was asked to provide that the income as it was paid into the branch offices should be at once sent to the central office of the General Council, so that that would centralise another instance of inaccurate terminology, because the evidence of heredity is not so common as is the affection of collaterals, of brothers and sisters. This "family" feature is clear proof of the congenital nature of the tendency to vital failure which the disease manifests. It is really ataxic paraplegia depending upon slow changes in the posterior and lateral columns but associated with other symptoms in speech, &c. In this malady the abiotic tendency is clearly congenital. Males suffer more frequently than do females, but not in the same degree as in some other analogous maladies.



Fields of vision. The upper for white, the lower the central region for red (continuous line) and green (broken line).

Friedreich's disease was the first of the kind to be distinguished and is the best known, but the attention which has been given to it has revealed the wide variation in the precise characters presented by cases which cannot well be separated from typical forms. The characteristic weakness, the weakness and unsteadiness of the legs, sometimes ataxy of the arms, the change in speech and nystagmus, are often found to be associated with some impairment of sensation, and with either loss or with excess of the knee-jerk; the condition of speech also is found to vary and there may or may not be mental alteration. The cases pass by degrees into another group which has been thought to be distinct. In this the most conspicuous feature is the swaying disturbance of equilibrium when standing, with or without evident weakness of the legs; there may be loss or excess of the knee-jerk but there is seldom any disturbance of cutaneous sensibility. The arms may present any form of incoördination or none. Speech is commonly altered, slow and monotonous, sometimes with confluent articulation, sometimes with a staccato utterance. There is almost always nystagmus and mental change is more often marked than in Friedreich's disease. The difference in other symptoms is generally one of degree only and depends on the age at which symptoms come on. This is chiefly during the second half of actual childhood. Resemblance of the symptoms to those of disease of the cerebellum has caused the malady to be called by the inexact and clumsy name "heredo-cerebellar ataxy." Although heredity has been found in a few cases merely a family association has been commonly met with. Disease in the lateral columns has been found but changes are greatest in the posterior columns and the direct cerebellar tract, which seem to convey afferent impulses to the cerebellum; their defect deranges its coördination of impulses to guide the cerebral motor centres. Affections of these upbearing fibres, conveying impressions from the muscles, seem thus to cause this peculiar "cerebellar" ataxy, as distinguished from the pure incoördination of the legs met with when the inbearing fibres to the cord degenerate, as in ordinary tabes. All the facts regarding the disease show that it is a true abiotrophy, a degeneration of certain neurons from defect of vital power, but the precise distribution of the defect varies in different cases. Probably many of the neurons in the brain which connect different parts and associate and harmonise their functions also waste, and thus the mental change may be explained. But the special pathology of this affection is beyond my present subject.

Before I leave this group of abiotrophies, those of earli life, it may be well to point out that not all the morbi states which seem congenital are really such. Caution especially needful in the case of the diplegias which da from birth, because they are so frequently due to meninge hæmorrhage during a tedious or instrumental labour. T narrow pelvis which causes this in one child may have t same effect on another and thus we may have the semblan of a family affection by that which is purely acquired. T birth damage tends to improve as time goes on, abiotroph tend to increase, but when slight in degree they may see sometimes to become stationary. The varying course o served in both muscular and nerve affections makes probable that the degree and extent of the deficient vit endurance may vary much in different cases with cor sponding variations in the extent and character of t symptoms that it causes.

The second group of degenerations are those which occ at the other end of life. While general life still seems f of vigour the nutrition of some neurons fails; they slow die. The neurons which most frequently thus decay a the spinal motor neurons—those which sometimes fail, we have seen, at the very beginning of life. According the position of the tracts which suffer first and most t effect is the symptoms of spinal progressive muscular atrop or of labio-glossal paralysis. These are more frequent late life than isolated degeneration of the upper, cerebr motor neuron which causes spastic paralysis, although t does sometimes suffer alone and almost always together wi the lower neuron in the ordinary atrophic cases. The maladies often come on without any apparent cause simp because the term of life for those structures is reached a they decay in a true abiotrophy. When any exciti cause can be traced it is usually one which is alo inadequate—some general depressing influence, such anxiety or grief, which must act equally on all the oth structures and tissues, reducing the vital energy of all. B vitality only fails in those which have inherently a le degree; their defect is sufficient to make the reduction these, though the same as in the others, relatively great sufficient to end their life. Without this influence th might or might not have persisted to the end of general li The apparent cause does not lessen the significance of t facts which show these affections to be essentially sen abiotrophy.

Mental change, especially simple mental failure, also oft occurs under the same conditions and no doubt from a sl degeneration of cerebral neurons which connect and combi others in a way we cannot yet perceive. Another sen malady, paralysis agitans, must be referred to vital fail in some cerebral motor structure. It is a striking example its conditions and course of a cerebral abiotrophy. In sp of its obvious seat in motor structures, in spite of its strong progressive character, it seems never to entail the decay the motor neurons which connect the brain, the spinal co and the muscles. It formerly seemed to me like a degene tion peculiar in kind, such as we are reminded of by th which causes the hair to become white from lack of pigme though growth is still luxuriant and presents a contrast wi the degeneration which causes baldness. But the rece discoveries compel us to look to the extremities of t branching processes of the motor cells, the dendrites wh pass into the spongy grey substance, for the source of t motor impulses which the fibres conduct that pass throu the nerve-cells without interruption. A change in th nutrition may disorder function yet leave the vital cell a the nutrition of the neuron as a whole unaffected. It is al conceivable that there may be a change in the relation the dendrite endings to those which stimulate them a induce the motor impulses. We know too little to be ab to form an adequate hypothesis. But paralysis agita generally occurs without any adequate cause and must regarded as a pure effect of a special defect in vitality—as form of abiosis. Its occasional occurrence, even in extre form, in middle life, also without discernible cause, is co sistent with this view, for the same is true of other sen maladies.

A third group remains, a large and important class degenerations the precise nature of which we cann discern. They are the varied degenerations that occ the aggregation of the income. Naturally they must have the expenditure similarly controlled from the centre and that also was proposed in the report. There was an annex to this part of the subject to which he must refer at greater length. Members who had given particular attention to the difficulties of the financial position of the Irish Branch would remember that the sums of money standing to the credit of the English and Scotch Branches had always been a source of mystery and it was only three years ago that they learned that the branches had no legal right to hold those accumulations of income. The report proposed that the money should be handed over to the account of the General Council. He hoped and believed that this proposal would recommend itself to the Council and there would be no particular difficulty in carrying it out The alteration of the income was, of course, a difficult procedure, for it would require an amendment of the Medical Acts.

Mr Jackson seconded the motion for the reception of the report and its entry on the minutes.

Dr Bruce intimated that he desired to add his name to the note prepared by Dr Heron Watson

Dr. Atthill said that he concurred in everything in the note except one point and that was that he did not think it would be wise to discontinue the payment to members of the Council.

The motion was then agreed to.

Mr Horsley, by way of raising a general debate, moved the first recommendation of the committee—

> That the principles of amendment of the financial position of the Council embodied in the report of the Financial Relations Committee be approved.

Sir Christopher Nixon formally seconded this motion.

Dr Norman Moore said that he would like an answer to the question whether the Council had power under the present Acts to compel students to register If it had not this power then this proposed fee would be an uncertain source of revenue. Obviously it would be necessary to obtain a clause in an Act of Parliament compelling the registration of students.

Dr. Atthill That is the intention.

Dr Norman Moore said that this was what he wanted to learn. If students were to be compelled to register there must be some advantage either to the students or to the public or to both. Were the Council prepared to demonstrate that? What would be the advantage to the students? None What would be the advantage to the public? It would not secure that the students had studied any longer time. He was afraid that the House of Commons would be very particular to inquire what were the advantages. It seemed to him that in relying upon this as a source of revenue they were relying upon what it was improbable they would get, and he would go further and say at once that he thought it would be a most unjustifiable thing to turn a voluntary registration, whatever its benefits, into a means of increasing the income of the Council. How did the public look upon that sort of procedure? A man said, 'I am doing something I do it for nothing but it is a very good thing to be done and now I want some payment for doing it." As to the question of charging a larger fee to practitioners on registration, he regarded the keeping of the Register as the most important function of the Council and the one in which it did the most useful service to the public The Council was clearly entitled to charge a fee when a man's name was placed on the Register Would it be possible to charge a higher fee? His own opinion was that if the fee were bigger there would be no difficulty in obtaining it but before they went to Parliament for this power they must make it clear that they used the funds now in their possession in the most thrifty fashion and that by this additional income they would do still better work. He could not help feeling that it would lead to very elaborate criticism of the way in which they spent their time and it would be said, "Is it worth while to buy more of this kind of thing?" He thought that that was the way the public would put it.

Dr Atthill said that it would be absurd to attach a fee to registration which was not compulsory He thought it should be compulsory and that such an arrangement would be for the advantage of the public and the profession

Dr McVail said that he did not think they should discuss this question of the registration of students. Parliament would never sanction registration merely as a means of getting a fee for this Council He was confident, however that Parliament would sanction a raising of the fee for practitioners on entering the Register if the Council made out a sufficiently good case. What would the case be? He dissociated himself from the view taken by Dr Norman Moore. Dr Norman Moore's speech implied that the Council did its work in such a way that Parliament would not buy any more of it. He did not know whether this Council was more perfect than other bodies but it was not less perfect. Its volume of minutes was a proof of the quality of its work and he would not have the slightest hesitation in going to Parliament so far as the quality of the work of the Council was concerned. He did not know any body which wasted less time. By the Act of 1858 the Council consisted of 23 members and these 23 were to elect a twenty fourth who should be President. The Council now consisted of 31 members, the other seven members having been imposed upon it by Parliament. The Act specified that members of Council were to be paid fees and the Act imposed upon the Council the printing and issuing of these registers. The difference between 24 members and 31 would practically account for the financial position in which the Council now found itself Moreover, the Government had frequently asked the Council to do work not connected with the Act of Parliament. They had sent down the Midwives Bill for instance, and asked the opinion of the Council with regard to it, and days had been spent discussing matters at the instance of the Privy Council. These were reasons why the Government should not be unwilling to increase the revenue of the Council. Again, the Act of 1858 gave the Council the power of visiting examinations but did not compel the Council to visit examinations. The Act of 1886, however, compelled the Council to inspect the final examinations. That was a new work put upon the Council and he never could understand why the Council did not demand an increase of funds in that connexion. He submitted, therefore, that they had a strong case for going to the Government and to Parliament for additional assistance. While that was so he objected to putting a tax upon the medical student who, in his opinion, was quite enough taxed already It was a different matter when a man was going in for registration on the Medical Register Of all the methods suggested in this report undoubtedly the increase of the registration fee was by far the simplest and the one that would commend itself to the Government. The fee was already in existence and it was only an increase that was proposed He did not think there would be any difficulty in getting the Government to assist them if they went about the matter in the right way

Sir Christopher Nixon said he wished to express his regret that at a time when the Council had so many critics one of its own members should speak adversely of its work and do so unsupported by any grounds whatever For himself he did not know a body which did its work as well as this Council or had a higher object in view The work of this Council must be maintained both in the interest of the public and of the profession, and if it was to be maintained there must be sufficient funds for the purpose. Dr Norman Moore said that he did not see any great use of the register of medical students but the Council attached great importance to it, and he wished to say that by seeking to have a compulsory registration of medical students they went a long way towards securing a uniformity of curriculum. That was shown in the contention which had arisen between the Royal Colleges in England and the Council and if they had a compulsory registration there would be no difficulty He had had a conversation with an influential Member of Parliament whose view was that there would be no difficulty in getting a moderate increase in the registration fee, and the amount this member suggested was £10. In the case of a barrister he had to pay £50 Stamp Duty before he was called to the bar If members of this Council considered that they did their duty honestly and faithfully to the public, to the State, and to the profession, he thought there would be no difficulty in securing a sufficient sum of money to carry out their work efficiently and he for one most strongly objected to the suggestion that members should receive no fee for their attendance. He did not think they were called upon to make this additonal sacrifice

Sir John Batty Tuke said that a compulsory registration of students would infer the right of this Council to lay down conditions of registration, and although that was a consummation he longed for he thought that no one who knew the condition of feeling amongst the various bodies could fail to recognise the amount of opposition it would raise. Indeed, he thought the possibilities of obtaining the compulsory registration of students were extremely remote. Very soon after he came to this Council he saw that the Council was gradually slipping into monetary difficulties, that the income would in a comparatively short time fall short of the expenditure, and he and the late Dr. Leishman had the question very fully discussed on at least two occasions and endeavoured in every way they could to get the Council to think of the serious state of affairs which was likely to ensue. The remedy which appeared to him then as the only one likely to be of any effect was a reduction of the fees of members and he still held to that. He thought that the Council would be in a much more dignified position if members rendered their services to the profession and the public without any remuneration whatever. A further suggestion he made at the time was that the Council if it objected to the reduction of fees should sit for a greater number of hours each day. What would be the state of the case if they went to Parliament? They would show that a large proportion of the expenditure of the Council consisted of fees paid to members, and the first question asked would be, "How long do you work?" The answer was that they worked four hours a day. Rightly or wrongly the average Member of Parliament would say, "We work eight, nine, and 10 hours a day." It would be perfectly useless to lay down to Parliament the difficulty and the nature of the work of this Council. The first thing Parliament would say was, "You must not ask the profession to make further sacrifices; try to make some sacrifices yourselves;" and he believed that it was upon these lines they should work. He was entirely in accord with the opinion expressed by Dr. Heron Watson.

Sir **Christopher Nixon**: Would it not be quite competent for any member not to take the fee?

Dr. **Heron Watson**: Yes; and he would be regarded as a most superior person.

Dr. **Bruce** was sure that all Dr. Norman Moore meant to say was that when they went to Parliament they would be asked, Were they already doing work sufficient for the money they got? He agreed with Dr. Watson and Sir John Batty Tuke that they should seriously consider in what way they could economise the money they already got. For instance, he thought the meetings of each session should not be confined to one week, the committees meeting on the Saturday before the Monday on which they started.

Mr. **Brown** considered that economies might be effected in various directions. For one thing, he thought the work and expenditure of the Scottish Branch Council ought to be done centrally by the Council itself and that would effect a considerable saving, for it appeared to him that the expenditure of the Scottish Branch Council was somewhat extravagant, if not excessive Then they might reduce the number of members of the General Medical Council and the representation of licensing bodies who were merged into one. He could not see why the Royal Colleges of Physicians of London and Surgeons of England, which formed the English Conjoint Board, should be represented by two members.

Dr. **Norman Moore**: It is not a fact that the Royal College of Physicians of London is merged into the Royal College of Surgeons of England.

Mr. **Brown**: Practically they are—in the English Conjoint Board.

The **President** suggested that Mr. Brown was going beyond the report.

Mr. **Brown**: Well, sir, if we determine to go to Parliament for economical measures I shall bring before the Council economies in the directions I have indicated. I do not feel quite sure that sufficient grounds have been made out for putting a registration fee on students, but I certainly think that we might increase the initial fee for the registration of practitioners, and I think it would conduce to the greater correctness of the annual issue of the Medical Register if there was a small annual fee, for even with all the care that is now taken in the preparation of the work there are in it many errors which would not be visible if we had annual registration.

The **President**, after a pause, remarked that they had now got to consider how they were to come to a conclusion on the matters which the report raised. Mr. Horsley's motion was before them proposing to approve of the principles of amendment of the financial position of the Council as embodied in the report. The question of revenue had been discussed but the very important question of administration had not been touched. The question of revenue resolved itself into three parts—the raising of the fee, substituting an annual fee for an initial fee, and instituting a students' registration fee. He should hold that the principles of amendment would embody one or other of these three parts. If they agreed to proceed with amendment they might take a vote as regards these three parts and then they would raise a direct issue. The question was how to bring the subject before the Council so as to get its opinion and he thought that he should have to ask Dr. Heron Watson to formulate an amendment to Mr. Horsley's motion.

Dr. **MacAlister** suggested that in deciding upon the principles it might be advisable to express these one by one in the form following:—

> That the Council approves in principle of the following proposals for fresh legislation contained in the report of the Financial Relations Committee:—
>
> 1. That a fee of £1 be charged for registration in the Students' Registers.
> 2. That the initial registration fee for practitioners be raised from £5 to £7.
> 3. That the financial administration of the funds should be remodelled so far as the mutual relations of the Council and its Branch Councils are concerned.

Mr. **Horsley** accepted this expansion of his motion but he considered that Mr. Jackson's notice of motion in respect to annual registration should be dealt with as a separate and substantive proposal after (1) had been disposed of, because it was an expression of opinion.

The **President**: Then you might say a few words on the question of administration.

Mr. **Horsley** thereupon read that part of the report headed "(2) Administration," and beginning with the words, "The present system of the administration of the funds." He thought it might well be in the minds of a given Branch Council that the reform advocated was of such a drastic nature that it would encroach on the authority and rights of the Branch Councils. It did not do that at all. The influence and rights of the Branch Council remained unimpaired. If the scheme did anything it did this—it permitted Branch Councils to spend money and send in the bill to the General Council to pay. Of course, if there was dissatisfaction with the conduct of any Branch Council there would be an opportunity of discussing it in the General Council. So far as the Irish Branch Council was concerned, its present position was entirely due to the structure of the Medical Act of 1858, the system of assessment authorised by that Act being wholly insufficient for the proper conduct of the branch which certainly should be reconstituted.

As no one seemed desirous to say anything further on the question of administration the **President** asked if anyone had any remark to make on the question of the transference of the monies of the Branch Councils to the General Council.

Sir **John Batty Tuke**: Transference involves an Act of Parliament.

The **President**: Of course.

Dr. **Bruce** thought there could be no objection.

Dr. **McVail**: Should not this be sent to the branches?

The **President**: It was sent two or three years ago.

Dr. **McVail**: I do not think the question of their giving up what was entrusted to them by the Medical Act was. This is too big a question to be settled right off by the Council. It should be first sent to the branches.

Dr. **Payne** was of the same opinion.

Dr. **Little** thought that surely that would be an unnecessarily cumbrous mode of procedure. The Council could vote on the spot.

Dr. **Atthill's** objection to further reference to the Branch Councils was that it would be simply waste of time.

The **President** proceeded to ask the Council to decide on the first part of Dr. MacAlister's expansion of Mr. Horsley's motion.

Dr. **Heron Watson** proposed as an amendment:—

> That before the Council commits itself, to the principle that further legislation is necessary for the continued solvency of the Council the Financial Relations Committee be requested to report on the economies which it may be possible to effect in the expenditure of the Council and its branches in the direction of the abandonment of fees, and an increase in the time expended on the work of the Council and of its committees in each day of session.

Dr. **Bruce** seconded this amendment.

The **President** pointed out that the distinction between the motion and the amendment was that they should endeavour to bring into harmony with each other the income and expenditure by further legislation, or economies should be brought about internally without fresh legislation.

Dr McVail thought this amendment should be split into two parts. It proposed the abandonment of fees and the increase of work. These two subjects should be taken separately. He was altogether unfavourable to any increase in the Council's hours of work, because, with reading the official papers issued in the morning, attending meetings of committee, and afterwards the meeting of Council, the hours already were as long as they ought to be. So far as fees were concerned he was prepared to support Dr. Heron Watson's proposal.

Dr. Bennett was opposed to the idea of putting aside the question of fresh legislation. In his view it was perfectly absurd to talk of the Irish Branch Council going on with the present mode of assessment. The branch was, and must continue to be, in a state of bankruptcy so long as that mode of assessment lasted.

Sir William Thomson said that they ought to hear this amendment explained before they further proceeded with it.

Dr Heron Watson If members read the committee's report and my note appended to it they should fairly understand the position

On a division 11 voted for the amendment and 14 against it, five did not vote and one member was absent

Dr Norman Moore proposed an amendment with the same preliminary words as Dr Heron Watson's contained but concluding with the words "expenditure of the Council and its branches in general relation to the fees and the work of the Council."

Dr Bruce seconded this amendment, the terms of it *in extenso* being :—

> That before the Council commits itself to the principle that further legislation is necessary for the continued solvency of the Council the Financial Relations Committee be requested to report on the economies which it may be possible to effect in the expenditure of the Council and its branches in general relation to the fees and work of the Council.

Mr Horsley submitted that that was precisely what the Special Financial Committee reported on 18 months ago—a period prior to that at which Dr Norman Moore became a member of the General Council.

On a division only eight members supported the proposal and it was accordingly declared to have been lost.

On the question that the preamble and (1) be adopted Mr Horsley expressed the thought that it would be better if he withdrew from the position of proposer, seeing that he wished to second Mr Jackson's proposal for an annual registration fee. The Council consented to permit this and accepted the motion as being proposed by Dr Atthill and seconded by Sir Christopher Nixon

Dr. MacAlister It is clear that it is proposed to put students' registration in the Bill contemplated, if agreed to it would appear for the first time in an Act of Parliament.

Dr. Windle For the first time the registration of medical students would become compulsory

The President Yes.

Dr Norman Moore Then I think that the proposal should begin with the words, "That students' registration should be compulsory and that," &c.

Mr Horsley said that the committee had not raised the great question of the compulsory registration of students All that they asked to do was to establish a registration fee and the question of compulsory registration ought not to have been brought up at this moment. It would really not come upon the table until the proposed draft Bill was there. He submitted that all the Council was asked to do now was to agree to the desirability of instituting a students' fee.

Dr Windle said that surely the question of compulsory registration was wrapt up in the proposal to institute a fee and he did not see how they could vote on the subject unless it was made clear that compulsory registration of students was included. Otherwise they would be voting for a source of income on which it would be impossible to rely, because it would be perfectly open for any licensing body to say that it did not require students' registration, and if several of the licensing bodies adopted the same course the income from this source would of course be very uncertain.

Sir Christopher Nixon The fee for registration depends altogether on the compulsory registration.

Dr McVail I entirely approve of compulsory registration of students in itself as a principle, but I entirely object to bring it into operation simply as a means of taxing students for furnishing this General Council with funds. The Council ought to get its funds solely from practitioners entering the profession.

Dr Atthill The fee paid by a student before registration would stand exactly on the same ground as registration for a practitioner for both must be paid by the parents.

Dr Little I think the debates in this Council have shown that unless we can register students at the time they begin their work we cut away the foundation from medical education. I do not think there is a better way of increasing the Council's funds than by imposing a fee on students for registration.

Mr Horsley If this debate is continued someone must move an amendment. No mention is made in the report of registration as a subject.

Mr Brown said he was anxious to vote for the institution of some fee for the registration of students and that meant compulsory registration, for it was obvious that if registration was to be optional no student would come and put down a sovereign merely for the sake of having his name inserted in the Students' Register

The Council divided, with the result that 13 voted for, 12 against, three did not vote, and the other three were absent.

It was accordingly carried by a majority of one

> That the Council approves in principle of the following proposals for fresh legislation contained in the report of the Financial Relations Committee: (1) that a fee of £1 be charged for registration in the Students Register

Dr Atthill, seconded by Sir Christopher Nixon, then moved

> (2) That the initial registration fee for practitioners be raised from £5 to £7

Mr Jackson proposed the following as an amendment —

> That in the opinion of this Council it is desirable that an annual licensing fee of 10s be substituted for the present registration fee of £5; the annual fee not to be paid for 10 years after registration by those who have already paid the £5 registration fee.

In supporting this proposal he said it appeared to him that the work of the Council had very much increased since its institution At the present moment it looked to him that if the public wanted to convert the Council into a court for the punishment of medical men for lapses from the path of virtue, as the proceedings during this session indicated that they were somewhat inclined to do so, it was quite certain that their work would further increase. Various modes might be suggested by which the work might be reduced but if they were to carry on efficiently they must have a largely increased income. He need hardly say that they had new universities springing up all over the country and representation of these must entail a certain amount of extra expenditure on the Council's part. His strong belief was that in the circumstances the best way to obtain an increased income was by the proposal he now made for an annual licence. If they had annual licences on the basis he proposed that would give them an income of £12,000 a year It would be said that there would be great difficulty in the collection of the annual payment, but surely their collection could be done in the same way as the subscription of men all over the world to the British Medical Association was obtained. There was no doubt that annual registration would secure greater accuracy in the yearly issue of the Medical Register He had spoken to many medical men in the country and they had approved of the alteration he now suggested He thought the change would not be objected to by medical men generally, especially when they were convinced of the benefits that would arise from it. Of course, the Council would have to go to Parliament to obtain the powers to alter the system, but he did not see why they should not.

Mr Horsley seconded the amendment. He said that the subject had been discussed by the committee and he knew perfectly well that several of them were absolutely opposed to the proposal. At the same time he wished to point out that if the General Medical Council were going to Parliament for fresh legislation Parliament would ask a *quid pro quo* for any advantages that might be demanded for the profession, and he thought this would be a perfectly justifiable thing to ask from the profession—an annual bargain as between the public and the profession. An annual registration fee was, he thought, a thing that would cause Government to look with great favour on any amendments of the Medical Acts which the General Medical Council might propose.

Sir Christopher Nixon was strongly opposed to an annual assessment. It would impose something on the profession for which nothing was given in return. Parliament was very unlikely to give it, even if the Council had the machinery for collecting an annual tax. The profession would acquiesce in the increase of the registration fee, but as they would have to pay it themselves they would be strongly opposed to an annual tax and would doubtless take such steps as would ensure the rejection of the proposal by Parliament.

Dr. **HERON WATSON** declared that the scheme was unworkable. If any such were adopted it would be an act of policing and it would certainly degrade the Council in the eyes of their professional brethren.

Sir **WILLIAM THOMSON** said that he was once of opinion that the principle of this proposal was one which would meet the difficulty of the Council's approaching bankruptcy, but he had come to the conclusion, after considering the matter very carefully, that the suggestion to put an annual fee on the profession was not one that would be palatable. There was no use of citing the collecting power of the British Medical Association, for the case of that Association and that of the General Medical Council were entirely different. If a member of the British Medical Association was late in paying his subscription he did not cease to be a member of the body, but it was an entirely different thing when they came to deal with a payment for keeping a man's name on the Register. Their medical practitioners were scattered all over the country and if they did not pay at once how was the payment to be recovered? The difficulties were so many that he should not like to encourage departure from the existing system—payment at entrance to the profession. If the initial fee was to be raised he did not think there should be any cheese-paring in the matter and they might as well say 10 guineas instead of the £7 which was now named. Ten guineas was a light fee for entrance to a profession. He was sure there would be no objection to it from the general body of the profession and the gentlemen who would have to contribute that sum would be only too glad to pay it.

Dr. **BRUCE** said that the difficulty of collecting rendered the scheme absolutely out of question, but there was also this to face—if they were to charge every member of the profession an annual tax the profession must have absolutely entire direct representation. The scheme was not a workable one and put forward the worst way in which an increase of funds might be secured.

Dr. **ATTHILL** was quite willing that the registration fee should be 10 guineas.

Dr. **MACALISTER** opposed the amendment. He said that if it were carried the profession would have to be remodeled.

After a few remarks in reply from Mr. **JACKSON** the amendment was rejected by 22 votes to 3. Three members did not vote and three were absent.

Sir **WILLIAM THOMSON** moved as an amendment—

> That the registration fee be raised from £5 to a sum not exceeding £10.

Dr. **ATTHILL** seconded, and the proposal was carried by 18 votes to 7, and on being put as a substantive motion was adopted by 18 votes to 6.

On the motion of Mr. **HORSLEY**, seconded by Sir **CHRISTOPHER NIXON**, it was agreed without discussion—

> (3) That the financial administration of the funds should be remodeled as far as the mutual relations of the Council and its Branch Councils are concerned.

Mr. **HORSLEY** next moved the second recommendation of the committee, namely:—

> That the Financial Relations Committee be reappointed, with instructions to draft, with the assistance of the legal advisers of the Council, a Medical Acts Amendment Bill, carrying out the principles of financial reform approved by the Council.

The wording of that recommendation, he said, was in general terms, because it was thought the Council might alter the principles embodied in the report. In order to give effect to it, it was necessary that they should have a draft Bill constructed. In that Bill certain important questions would be included as being necessary for the fulfilment of the report.

The **PRESIDENT**: Do you propose to go beyond the report in the framing of the Bill? Do you mean that the Bill should cover any ground other than the ground specified in the report and in the principles of it?

Mr. **HORSLEY**: Oh, no. The committee will act according to the instructions of this Council.

The **PRESIDENT**: Oh, no; only in terms of this motion.

Mr. **HORSLEY**: This motion will become the instructions of the Council to the committee.

The **PRESIDENT**: What I wanted to make quite clear was that the committee who were to draft the Bill were to be restricted to principles embodied in this report. It might be argued that there is not much use in bringing forward a Bill when there is not much chance of its being passed, but it seems to me that if this Council would put on its minutes such a Bill it would be a step in the direction of securing what it wants.

Sir **CHRISTOPHER NIXON** seconded the motion.

Dr. **MCVAIL** said it seemed to him that this proposal would seriously affect the Scottish Branch Council, which had been a very active body in past times and which he wished to see active again. To what extent it would be effective he did not quite see, and therefore what he should do would be to retain his right to act against the motion if, on investigation, he found that it would destroy the powers which were inherent in the Scottish Branch. As he understood the position at present, that branch would loose all power and would become simply a local committee of the General Council.

Dr. **NORMAN MOORE** suggested that owing to the great difference of opinion which had been evidenced in the divisions it would better the Council's position in the country if they waited until something like unanimity was secured before they drafted a Bill that they would like Parliament to pass.

Dr. **ATTHILL** hoped they would have unanimity, but how could they come to agreement if they had not the heads of the measure before them? Once these were in sight let them modify them as much as they liked, but in his view it would be a great mistake to postpone this matter indefinitely.

The **PRESIDENT**: As to what this suggested Bill is to cover, in my judgment it cannot cover anything beyond what is stated in the report—that is to say, an alteration of sections of the existing Acts and the provision of new sections limited to three things.

Dr. **MCVAIL**: Would you specify what you mean? We have done nothing in respect to administration.

Mr. **HORSLEY** suggested that by the adoption of Dr. MacAlister's expansion of the committee's recommendation the position had certainly been somewhat altered.

Dr. **MCVAIL**: This question is growing as we go on. It is a bigger question than I thought it was when we started the discussion and if it in its result is practically to annihilate the Scottish Branch Council it is a question that cannot be settled before the Scottish universities and the Scottish medical corporations have had an opportunity of discussing it.

The **PRESIDENT**: The committee will have to approve of the financial reform approved by the Council. We have agreed to the three sections as suggested by Dr. MacAlister and the committee's recommendation now before the Council covers these and nothing more.

Dr. **MCVAIL**: I shall vote against this.

Dr. **MACALISTER** thought a slight modification of the recommendation would get rid of any difficulty. He suggested the addition of the words "and embodied in the suggested amendments to the Medical Acts on pages 13 to 17 of the report of the Financial Relations Committee."

This addition was consented to and the complete motion now was:—

> That the Financial Relations Committee be reappointed, with instructions to draft, with the assistance of the legal advisers of the Council, a Medical Acts Amendment Bill carrying out the principles of financial reform approved by the Council and embodied in the "suggested amendments to the Medical Acts" on pp. 13–17 of the report of the Financial Relations Committee.

The **PRESIDENT** asked if this should be voted on at once.

Several members informed him that it was now after six o'clock, the fixed hour for adjournment, and they were not prepared to sit later.

The **PRESIDENT** thought they might in the circumstances suspend the Standing Orders.

Several members: Too late.

The Council adjourned.

SATURDAY, MAY 31ST.

The Council met again to-day with Sir **WILLIAM TURNER** in the chair.

The Finances of the Council.

Discussion was resumed on the following motion, moved by Mr. **HORSLEY** and seconded by Sir **CHRISTOPHER NIXON**, viz.:—

> That the Financial Relations Committee be reappointed, with instructions to draft, with the assistance of the legal advisers of the

Council, a Medical Acts Amendment Bill, carrying out the principles of financial reform approved by the Council and embodied in the "suggested amendments to the Medical Acts" on pp. 13–17 of the report of the Financial Relations Committee.

Dr. Little moved an amendment to adjourn the discussion and empower the President to make such provisional arrangements for the next meeting and generally for carrying on the business of the Council in the interval as might appear to him most conducive to economy.

Dr. Bruce seconded this amendment.

The President said that while the amendment was in order it was a question whether he should undertake for even a short period the position of an amiable despot.

After a short debate the amendment was rejected.

Sir John Batty Tuke, continuing the debate on Mr Horsley's motion, said that if it were passed it would indefinitely postpone the question of fiscal reform. A Bill would be drafted and it would come before the Council and it would lead to a series of academic debates, and supposing a Bill were approved by the Council it would go to Parliament where it would rank as a private Member's measure and might remain for years and years before being passed Another consideration was whether there was anything behind this motion. Had they any assurance that this Bill when it went before Parliament would remain the Bill of this Council? Had they any assurance that it would not be indefinitely extended? It seemed to him very much as if it were a lever for the upsetting of the whole of the existing Medical Acts. If the Council wanted to save money it must begin from within. All talk about Bills and things of that kind represented so much wasted time. Either go on spending the money—the £20,000 or £30,000—as long as it lasted and then go into bankruptcy or let them institute practical economy and exercise some sacrifice.

Dr Mackay said that when the Bill had been drafted it would be for the Council to consider it carefully and in the meantime he thought it would be well for the Council to consider what economies could be practised. He therefore moved as an addition to the motion "and that it also be remitted to the committee to consider what economies in the expenditure of the Council it may be possible to effect."

Dr. Finlay seconded this proposal.

Dr Pye-Smith said that while he agreed with the endeavour to simplify the finances by having them in one place, he did not agree with the justice of increasing the registration fee of professional brethren which he thought would be very unfair indeed. In his opinion one reform they should aim at was a reduction in the membership of the Council.

It was agreed to accept the addition to the motion proposed by Dr Mackay.

Mr. Horsley assured the Council that the committee was perfectly ready to see what economies could be practised.

Dr Atthill, seconded by Mr Tomes, moved the closure and it was agreed to without a vote.

A vote was then taken on Mr. Horsley's motion with the addition proposed by Dr Mackay, when 20 members voted for it, four against it, six did not vote, and one was absent. The motion was accordingly carried.

On the motion of Mr. Horsley, seconded by Sir Christopher Nixon, it was agreed that the report of the committee should be presented at the November session.

Report of the Finance Committee.

The next business was the consideration of the report of the Finance Committee for the year 1901. The following passages occur in it:—

The Finance Committee report that the income of the General and Branch Councils for the year ending December 31st, 1901, was £8557 0s 7d.; the expenditure for the same period was £10 065 12s 7d.; consequently there is a deficit on the year's working of £1508 12s.

From Table A it will be seen that the receipts from fees show a decrease of £79 4s., the English Branch having received £8 7s. 6d. less than in the previous year, the Irish Branch £105 16s. less, and the Scottish Branch £32 18s 6d. more. A further falling-off in the general amount received from these fees must be anticipated in the near future, for the number of students registered in the last three periods of six years (which is the average time taken to complete the curriculum) is as follows:—

Years.	Students	Average per annum.	Decrease in average.
1884-1889	11,631	1,938	—
1890-1895	11,178	1,863	75
1896-1901	9,575	1,596	267

That is to say, that the average number of students registered in the last period of six years is 267 per annum less than the number registered in the previous similar period and the effect must appear before very long in the receipts from fees.

A statement of the expenditure of the General Council comparative with former years will be found in Table B. The chief items calling for explanation are:—

(a) A decrease of £439 19s. in fees to the General Council, the sessions having been three days shorter than in 1900.

(b) A decrease of £164 10s in various committee fees, the cost of extraordinary meetings having been exceptionally high in 1900

(c) An increase of £47 16s. 3d in the printing of Registers, to which the attention of the Stationery Office has been called, and a reduction is expected this year

(d) An increase of £55 19s 9d. in house expenses, being the cost of the electric fan in the Council chamber

(e) A decrease of £263 17s 2d. in law expenses.

(f) An increase of £315 13s 10d. for inspection of examinations, a new cycle having been begun.

(g) An increase of £57 17s 7d. in miscellaneous expenses, caused by the fee paid to Mr Frere for his report on finance.

The summary of the results is as follows: the income of the General and Branch Councils in 1901 was £100 8s. less and the expenditure £370 12s. 11d. more than in 1900.

A new table, C, shows comparatively the income and the expenditure of the three Branch Councils for the past three years and it will be noted that the expenditure is increased in each case by the exceptional expenses of the election of the Direct Representatives. The chief points which call for attention are (1) that the increase in office expenses of the English Branch is mainly due to the issue of circulars of inquiry regarding the accuracy of addresses in the Register; and (2) that the fees paid to the Scottish Branch Council show an increase because the meetings summoned in connexion with the election are not charged to that account, as is done in the case of the other two branches.

Table D shows that the Pharmacopœia being excluded, the expenditure of the General and Branch Councils for 1901 has exceeded the income by £1508 12s., as against the average excess for the past seven years of £1201 19s. 1d The percentage-rate is 93·51, as against the average for the same period of 91·80. In the past year the elections are responsible for a large part of the deficit, but no great reduction in expenditure can be anticipated for the present year on account of the expense of the extraordinary meeting of the Council in February and the cost that will be incurred in the inspection of primary as well as of final examinations.

The Irish Branch began the present year with a cash balance of £403. Assuming its receipts from fees to be about the same as before, say £800, it ought to be able to meet its expenses without the aid this year of a grant from the General Council, whose expenditure will therefore benefit by this reduction The Irish Branch will, it is hoped, be able to effect some reduction in its office expenses in the immediate future.

Table E shows that the assets of the Branch Councils have decreased by £1008 12s during the past year

From Table F which shows the receipts and expenditure in connexion with the Pharmacopœia, it will be seen that the debit balance of £228 8s. 7d. brought forward at the close of 1900, which was the first year in which this account was kept separate, has been reduced to £112 13s. 4d. and the sale of the stock in hand, together with the profit on the sale of the Government of India Edition of the Addendum, should turn this into a credit balance at the end of the present year.

Dental Finance—Table G shows that the receipts of the dental fund were £365 5s. 9d more than its expenditure, and its assets are therefore increased by this amount

Sinking Fund.—Mr Tomes brought before the committee the subject of the Sinking Fund and handed in a statement which is printed at the end of this report

SINKING FUND.

The complications introduced into the finance of the Council by the wording of the Act render it indispensable, in order to get a clear idea of the matter to consider it in its effect upon the finances regarded as one whole and upon them regarded from the point of view of the independent funds of the several branches.

1 Taking the funds as one undivided whole

The general idea of a sinking fund is the setting aside of money annually in sufficient amount to make good in a given period of years the depreciation of a wasting security But the freehold of the premises is not a wasting security; on the contrary it will almost surely have largely increased in value before the expiration of the term and indeed is probably now worth considerably more than the cost price at which it stands in the accounts A sinking fund in any ordinary acceptation of the term is not at all called for and is inappropriate

2. Taking the funds of the branches as having independent existence.

It was urged in favour of a sinking fund that by this means in 50 years the General Council would be placed in possession of the freehold unencumbered by a mortgage while the funds of the English Branch would be retained intact by the repayment of its mortgage

This is however quite fallacious In order that it may have the money wherewith to pay the annual premium the Council has to call upon the branches for a larger annual contribution than would otherwise suffice, in the proportion of their percentage shares. Under the rates shown on the last balance-sheet the English Branch is called upon for an additional £121 in round numbers. On a 2½ per cent. table and taking Consols at par so as to be on the safe side this amounts in 50 years to no less than £11 800 so that out of the £25 000 which it is then to receive the English Branch will have provided no less than £11,800, or in other words will receive net £13,200 in discharge of its £25,000. If there were no sinking fund at all this asset of the English Branch would be as good at the end of 50 years as it is now, by the establishment of the sinking fund it loses £11,800 This is such a shockingly bad bargain that nothing more need be said from the point of view of the interests of the English Branch except that so long as the Irish Branch does not really contribute its quota but has to be subsidised out of the funds of the other branches the figures would work out even worse than these

THE SCOTTISH BRANCH.—The rate of extra contribution called for from the Scottish Branch is about £72 per annum, or on the same tables nearly £7000 in the entire period—considerably more than their present assets. But at the end of the period they will experience some advantage in no longer being called upon for their contribution towards

> the mortgage interest, at present some £240 per annum, as there will be no rent to pay in this or any other form.'
>
> THE IRISH BRANCH.—Their nominal contribution to the sinking fund is about £21 per annum, or a total of £2000 in round numbers, but, as already remarked, this seems likely not to be really provided by them but out of the subsidies which they receive.
>
> GENERAL CONSIDERATIONS.—The real effect of the sinking fund, as was pointed out by Mr. Tomes and subsequently fully endorsed by Mr. Frere's report, is a gradual transference of the assets of the branches to the General Council to the extent of £25,000. This is not provided for under the Act and may be *ultra vires*, but it is not worth while to labour this point What is of more practical importance is that by the sinking fund the Council of to-day, in face of an annual deficit of from £1200 to £1500 a year, not likely to be less for some years to come, is setting aside a sum of money for the betterment of the Council in a remote future. That, in fact, taking the Council and its branches as a whole, it may actually be placed in a better position than it is at present by the receipt of a lump sum of £25,000.
>
> Eliminating all the confusion arising from the system of accounts dictated by the Act the common sense issue amounts to this. Is it the business of the Council of to day, with financial difficulties in full sight and with an income inadequate and likely to be still more inadequate, to be making provision, not out of its surplus but as an addition to its deficits, for the Council of 50 years hence?

On the motion of Mr. BRYANT, seconded by Dr. PYE-SMITH, the report was received and entered on the minutes.

Mr. TOMES moved a motion to the effect—

> That the payments to the Sinking Fund be discontinued and that the necessary steps be taken for obtaining, according to the agreement, a refund of a proportion of the payments already made.

Dr. ATTHILL seconded the motion.

Mr. BRYANT, while recognising the force of the arguments in favour of this step, viewed the withdrawal of the sinking fund with regret.

After a short debate the motion was agreed to.

Primary Examination of the English Conjoint Board.

It was agreed, on the motion of Mr. BRYANT, seconded by Dr. NORMAN MOORE—

> That subject to the approval of the Privy Council the remuneration of the persons appointed to visit the primary examination of the Examining Board of the Royal Colleges in England be at the rate of £5 5*s.* a day with travelling and hotel expenses.

The Prevention of Personation.

The Council then went into committee for the further consideration of the report of the committee on the Prevention of Personation. This report was before the Council in committee during the last November session and certain of the proposed regulations were then dealt with. The report, however, was sent back to the committee with a view of obtaining the opinion of the branch registrars on the regulations.

Mr. HORSLEY intimated that the comments of the branch registrars had been obtained and it was agreed that they should be entered on the minutes.

The following regulation was adopted in substitution of the first regulation passed in November, viz. :—

> All forms of application for registrations duly signed and presented shall be preserved by the Registrar of the Branch Council, to whom they may be presented in such a manner as to be easily accessible for reference.

Mr. HORSLEY moved the adoption of this regulation, viz. :—

> No certificate of registration of any name on the Medical or Dentists' Register shall be given except in respect of a registered medical or dental practitioner whose name does not appear in the current printed issue of the respective Registers.

He stated that in the present state of things it was possible for a man to go into the office, put down a merely nominal fee, say he was Mr. So-and-so, and get a certificate of registration.

Sir CHRISTOPHER NIXON seconded the motion.

Sir JOHN BATTY TUKE did not think the matter was quite so simple as Mr. Horsley suggested, because there must be a statutory declaration.

Mr. HORSLEY said that the thing had been actually done with consequences of the most distressing kind.

The PRESIDENT asked the Council to consider whether this regulation would give the Council any greater security than did the existing regulations.

Mr. HORSLEY pointed out that this was in addition to the existing regulations.

Dr. MACALISTER said that during the war the authorities of the War Office had frequently required duplicate certificates and he saw no reason why the Council should not make a reasonable provision for their issue.

Mr. HORSLEY said that once a man had his name on the Register the onus of proof lay with the person who disputed his statement that he was registered.

Dr. HERON WATSON thought it quite a legitimate thing that a man should be able to get a duplicate and his impression was that the Act provided for it.

Dr. MCVAIL expressed the opinion that the regulation was unnecessarily severe.

Mr. HORSLEY said that the certificate which was issued by the office at the time of registration was only valid until the appearance of the next issue of the printed Register.

On a divison the proposed regulation was rejected.

Mr. HORSLEY moved the following motion, viz. :—

> All applications for restoration to the Medical or Dentists' Register or for registration under exceptional circumstances shall be accompanied by a statutory declaration drawn in the terms stated in the forms included in the accompanying schedule.

This motion was under discussion when the Council adjourned.

MONDAY, JUNE 2ND.

The Council resumed to-day, Sir WILLIAM TURNER being in the chair.

The General Registrar.

In the absence of Mr. H. E. Allen, Registrar, Dr. MACALISTER, chairman on the Business Committee, called the roll and read the minutes of Saturday's sitting.

The PRESIDENT said that on Saturday afternoon the Registrar had asked leave to go home on account of the serious illness of his wife and in the evening he (Sir William Turner) had received a telegram announcing the death of Mrs. Allen. He had written to the Registrar to say that the Council would excuse his absence from the present sitting and Dr. MacAlister had kindly undertaken to act for him. Considering the long and faithful services which he had given to the Council his feeling was that they should record on their minutes an expression of sympathy with Mr. Allen.

On the motion of Dr. MACALISTER, seconded by Mr. BRYANT, the President was then asked to convey by letter to the Registrar an expression of the Council's sincere sympathy in the severe domestic bereavement he had sustained, it being agreed that the formal motion should form part of the minutes.

The Examinations of the Scottish Conjoint Board.

The Council proceeded to consideration of a report by the Examination Committee on the visitation and inspection of the final examinations in medicine, surgery, and midwifery for the triple qualification of the Conjoint Board of Scotland, by the visitor, Dr. Payne, and the Inspector, Sir George F. Duffey, M.D., appointed by the General Medical Council, together with remarks by the body inspected (April–July, 1901).

Mr. BRYANT, in moving that the report be received and entered on the minutes, said that the report was a very interesting one and had been very carefully drawn up. The visitor and inspector had gone through their work thoroughly, as they generally did. He did not propose to go through the report by these gentlemen or the remarks of the body visited, but he wished to call attention to the remarks of the Examination Committee on the whole. These were as follows :—

> The visitor and inspector of the Scottish Triple Conjoint Board of Scotland, having declared the final examinations for the triple qualification "to be sufficient," the Committee of Management of the Conjoint Board express their gratification at the general tenor of the report, although on certain matters of detail it was critical. The Examination Committee is satisfied with these conclusions.
>
> It is pointed out in the remarks by the body inspected that this Committee of Management of the triple Board has, since the date of the last inspection, discontinued—what this Council then condemned—the methods of allowing candidates to enter for the final examination in divisions or single subjects, although it is necessarily still permitted in the case of candidates who passed the second examination of the Board before August, 1896. It will be satisfactory to this Council when the practice has been entirely discontinued by those bodies who still permit it.
>
> The visitor and inspector point out at p. 8 of their report that in the Edinburgh written examination, as soon as the candidates took their seats, three sets of printed questions were given to each—viz., one in medicine, one in therapeutics, and one in surgery and surgical anatomy—and that four hours were allowed to write answers to the eleven questions assigned, the candidates using their own discretion in apportioning the time among the three papers. The committee is, however, informed that this practice is not always followed.
>
> At p 18 of the same report it was recorded that at the Glasgow written examination, instead of three papers of questions in two or more different subjects being given out simultaneously, they were given out singly, and a definite time was allotted for each paper. This committee suggests that the practice in Glasgow should be adopted at the examination in Edinburgh.
>
> At neither examination was the average time (half an hour) recommended by this Council for answering each question allowed. In such important subjects as medicine, surgery, and midwifery, the full time

of half an hour should be allowed for the answering of each question, although in less important subjects the rule possibly need not be so binding.

The clinical examinations in Edinburgh and Glasgow, including the examination of patients and the chemical and microscopical examination of urine and other specimens, were approved by the visitor and inspector, and it is clear to this committee that upon the whole they were well arranged. Failure in clinical medicine or surgery excludes from the oral examination in the same and allied subjects.

In Edinburgh each candidate in medicine was examined on two patients (p. 11) by one or other of the two examiners and where doubt existed the candidate was given a third. In surgery, however, each candidate was required to examine one patient only (p. 12) and was directed to mark on a patient the lines of incision for two operations. The candidate was subsequently examined upon the clinical case and also upon the assigned operations for about 20 minutes, and later on upon the names, uses, and modes of employment of surgical instruments and appliances.

At Glasgow the clinical examination in medicine differed from the one at Edinburgh in a written report of one case being required from each candidate and in the examination being conducted throughout in the presence of and by both of the examiners (p. 19) In surgery each candidate took notes of one case for which he was allowed 10 minutes and was orally examined upon two others; he was likewise examined in surgical anatomy and the uses and application of splints and instruments. The examination was pronounced by the visitor and inspector as an excellent one, but this committee is of opinion that 10 minutes for examining and reporting a clinical case is quite inadequate.

The Examination Committee would suggest that the Board of Management should arrange that in future every candidate at this clinical examination should be examined on at least three patients and that two examiners should together throughout conduct the clinical examination. To test a candidate in clinical surgery upon one case is insufficient.

The visitor and inspector state that "the plan of sending a schedule round with the candidate at each part of the examination" (p. 39), which contains not only the subjects upon which the candidate has been examined, but also the number of marks gained by him at each preceding part of the examination, is not a good one. This committee regard such a schedule, which carries out the first purpose, to be an essential aid to the examiners, but can see no good result to be gained by the second purpose, for by such an arrangement a too sympathetic examiner may be induced, in order to enable a candidate to pass, to give marks in excess of those he would have given when estimating only the value of the part of the examination in which he was concerned.

The absence of an examination in operative surgery is in the opinion of this committee greatly to be regretted. It is said to arise from difficulties connected with the working of the Anatomy Act.

The history of the oral examination of one candidate in surgery as described in pp. 16 and 17 of the report and commented upon by the body inspected on p. 41 is regrettable. This committee trusts that such an occurrence has been exceptional. The marks decided on by the two examiners engaged at the time should be arrived at with judicial care and given as their final judgment. It is to be regretted that the visitor and inspector were both absent at the re-examination of this candidate.

Dr. **NORMAN MOORE** seconded the motion.

Dr. **HERON WATSON**, referring to the last paragraph of this report, stated that he had received a letter from Mr Cotterill, one of the examiners who had had to do with the examination of the candidate alluded to, explaining that Dr. Barlow, his colleague, and he had for a time had doubts whether the candidate should be "referred" in surgery or not. They, however, had agreed on a number of marks to allow him. The whole Board of Examiners thought he should be re examined. Dr. Barlow had declined to assent to re-examination. But he (Mr. Cotterill) had undertaken re-examination and the results were such that the Board expressed the opinion that the candidate should be passed He (Mr Cotterill) was of opinion that the man did well enough to pass, though he did not express that opinion at the time the examination was going on.

Sir **HECTOR CAMERON** said that he had no personal knowledge of this matter but he had heard it discussed. His information was that Mr Cotterill and Dr Barlow examined the candidate in question. They had, no doubt, some difference of opinion, but after discussion they agreed to allow him 45 points—50 being the minimum pass number. On the matter coming before the general Board of Examiners somebody said, "Well, he wants only another five marks in surgery, let us re-examine him." To this Dr Barlow objected. However, it was arranged that he should be re-examined, but by that time the candidate had left and so also had both visitor and inspector. Later the candidate was re-examined and passed He believed that was what occurred, but the incident was not one that he could honestly say he approved of. It was not in accordance with the rule of the Conjoint Board to permit the re-examination of any candidate in regard to whose work at an examination both examiners had agreed upon the number of marks to allow. If there had been disagreement between the examiners the Board might, as they usually did in such cases, have ordered re-examination.

Dr. **MACALISTER** pointed out that the report stated that the number of marks awarded was not 45 but 40.

Sir **HECTOR CAMERON** had repeated only what he had heard.

Dr. **PAYNE** said that whether the marks given were 40 or 45 they were below the pass number, and the remarks of Sir Hector Cameron simply confirmed the report of the visitor and inspector.

Mr. **BROWN** hoped it would be understood that the General Council could not tolerate procedure of the kind under discussion. If a candidate was rejected he must regard it as a very serious matter, indeed, if that candidate by some means or other was passed without being sent back for a further period of study. The minimum marks were not sufficient for a pass, but when a candidate did not reach even the minimum he regretted that any examining board should allow him to pass.

Mr **HORSLEY** asked Dr. Payne why he had reported that the examination was "sufficient." The General Council was the only body to declare an examination "sufficient."

Dr. **MACALISTER** pointed out that the Medical Acts laid it down that there might be an opinion expressed by the inspector as to the sufficiency or insufficiency of the examination.

Dr **PAYNE** said that he had reported in accordance with what he believed it was his duty to report. When he applied the word "sufficient" he did not mean that the examination was perfect but in the ordinary sense "sufficient."

Sir **WILLIAM THOMSON** thought that Mr. Horsley was much too particular and defended the visitor and inspector's use of the word "sufficient." In his view, although the examination was not a perfect one, it was yet "sufficient" in the view of the visitor and inspector. It might have been imperfect in certain particulars but that did not destroy the sufficiency of the examination.

The motion to receive the report and enter it on the minutes was then agreed to and it was also agreed to adopt the report of the Examination Committee on the report.

The **PRESIDENT**, in answer to Mr. Brown, stated that when the three years' cycle of inspection was completed it might be that the report, with all the rest, would be considered in committee of the Council.

The Examinations of the Royal University of Ireland.

Mr. **BRYANT** read the following report by the Examination Committee on the Visitation and Inspection of the Final Examinations in Medicine, Surgery, and Midwifery of the Royal University of Ireland, held in October, 1901, by the Visitor, D. C. McVail, M.B., and the Inspector, Sir George Duffey, M.D., appointed by the General Medical Council, together with remarks by the body inspected (May, 1902):—

The visitor and inspector were of opinion that all the arrangements made for the final examination were excellent. There were 35 candidates, including one woman, and 13 examiners drawn from many different quarters.

At the clinical, oral, and practical examinations the candidates are known by their names, but in marking the answers to the written examination and at the final meeting of all the examiners to determine the result of the examination the numbers only of the candidates are before the examiners

In the written examination the questions given were numerous and sound—about six in each subject; all had to be attempted and plenty of time was allowed for each paper. The visitor and inspector were well satisfied with the marks that had been awarded by the examiners to the papers and were gratified to observe that the majority of the candidates showed an ability to write prescriptions in full Latin with accuracy as to dosage and with a grammatical correctness which is, unfortunately, far from being general at final examinations elsewhere.

The clinical examinations are held in the medical and surgical wards of the general hospitals of Dublin. The candidates are divided into groups of 12.

In medicine two only of the three examiners take part in the examination.

Each examiner had charge of six candidates in one ward and each candidate was in the first instance required to write on a form supplied a report of one case He was subsequently examined on a second and third case by one examiner and on two or three other cases by the second. On the reported case the candidate was interrogated by the examiner and in most cases required to repeat his physical examination of the patient before the examiner to demonstrate to him the signs elicited and to explain their significance.

The examination was evidently a good one although care is wanted to prevent a candidate being examined by the second examiner on cases of the same disease as he had been examined on previously by the first

The clinical laboratory work was well arranged and carried out.

In surgery the clinical examinations were essentially good and practical and there were said to have been an ample number of suitable cases. But no written report of a case was required as in the medical clinical examination but each candidate was examined on two cases by one examiner It is not quite clear to this committee why more than two cases were not utilised; it would seem only to be right to raise this part of the examination to the level of that of medicine, in marks as well as in cases

The examination on ophthalmology was all that could be wished. That on operative surgery was well conducted.

The oral examinations were well reported upon by the visitor and inspector and particularly the one on pathology. This committee would have been pleased to know whether pathological specimens were utilised freely in the medical and surgical examinations.

The visitor and inspector call attention to the fact that in the last report (Vol. xxx, Appendix viii., p. 62) it was suggested that the examination in clinical medicine might be conducted with more efficiency and with less delay by an alteration in the details of the examination and that the remarks made in that report appear still to hold good. They suggest some arrangements by which these changes might be effected and the Examination Committee trust that the authorities of the University will take them into early consideration. With respect to the surgical examination they call the attention of this committee to the fact that the recommendation of the General Medical Council that "a candidate should not be orally examined except in the presence of two examiners" is not observed. They close their carefully-worded report by stating their opinion that the final examinations in medicine, surgery, and midwifery of the Royal University of Ireland are "sufficient."

The remarks of the body inspected are quite satisfactory to this committee. They agreed to recommend "that in future the clinical examinations in medicine should be conducted by three examiners in medicine, instead of by two only, as heretofore"; that the recommendation of the General Medical Council, "A candidate should not be orally examined except in the presence of two examiners," be extended to the oral examination in surgery, and from the tone of their remarks are prepared to consider carefully the other criticisms contained in the report of the visitor and inspector.

The committee of the body inspected recognise the strict and thorough character of the inspection and express their appreciation of the courtesy shown by the visitor and the inspector.

The Examination Committee are pleased with this appreciation of the work, which has been evidently well done, and recognise in these periodical visitations a power which cannot prove otherwise than good in the influence of this Council.

He (Mr. Bryant) moved that the report be received and entered on the minutes.

Dr. NORMAN MOORE seconded the motion.

Dr. MCVAIL, asked by the PRESIDENT if, as visitor, he had anything to say, said that he had looked upon the work with great pleasure. The examination was one of the most admirable that he had knowledge of. It was conducted thoroughly and efficiently with regard to the interest of both the students and the University, and he was quite convinced that any man who took his degree in the Royal University was a man who had been adequately taught and adequately examined.

After some remarks by Sir CHRISTOPHER NIXON, who assured the Council that the Royal University of Ireland, always anxious to comply in every respect with the requirements of the Council, had made arrangements to get rid of defects pointed out by the visitor and inspector, the motion to receive the report and enter it on the minutes was agreed, and so also was the further motion, that the Examination Committee's report on the report be adopted.

The Council went into *camerâ* "to receive a statement from the Examination Committee in regard to the inspection in 1901 of the examinations of the University of Dublin." On the readmission of the public

The PRESIDENT said: The Council has authorised the visitor and inspector of the final examination of the University of Dublin to complete their inspection at the November examination.

Executive Committee.

A ballot resulted in the election of the following members to form the Executive Committee: England—Mr. Bryant, Dr. Payne, Dr. MacAlister, and Dr. Pye-Smith; Scotland—Dr. Heron Watson and Sir William Gairdner; Ireland—Dr. Atthill and Sir Christopher Nixon.

Penal Cases Committee.

The following members were chosen by ballot to form the Committee on Penal Cases—namely, England: Mr. Bryant, Mr. Tomes, Mr. Horsley, and Dr. Windle; Scotland: Dr. Heron Watson and Dr. Bruce; Ireland: Sir Christopher Nixon and Sir William Thomson.

The PRESIDENT explained that the only alteration in the composition of the committee was that Dr. Windle had been selected for the vacancy caused by the retirement of Dr. Glover.

Students' Registration.

Sir HUGH BEEVOR, on behalf of the Students Registration Committee, presented a report on exceptional cases and on the approval of certain recognised teaching institutions. He moved that it be received and approved and entered on the minutes.

Dr. MACALISTER seconded.

Dr. NORMAN MOORE called attention to the following paragraph in the report:—

> An application to be registered and antedated under exceptional circumstances:—On behalf of T. T. O'Farrell, who had passed the preliminary examination of the Irish Conjoint Board and had begun medical study at Stonyhurst College in September, 1901, requesting that he might be allowed to register and antedate to the time of commencement of medical study. Resolved: That Mr. O'Farrell be informed that Stonyhurst College has not been approved by the Council as a place for the commencement of medical study.

He thought this resolution of the committee's did an injustice to Mr. O'Farrell; it was not a proper answer to make by this Council because the Council had not taken any special pains to satisfy itself that the institution in question possessed sufficient teaching powers. He moved as an amendment to the committee's resolution—

> That Mr. O'Farrell be informed that the Council will make inquiry and if it should be found that Stonyhurst College is provided with laboratory appliances and teachers necessary for the efficient commencement of medical studies his application will be acceded to.

Stonyhurst College, he said, was not a grammar school and it was to be considered on quite a different footing. It had been inspected on two occasions by the Royal College of Surgeons of England and he knew that it had two teachers for physics with laboratory appliances and that there were teachers for chemistry and biology who were furnished with laboratory appliances. In addition, there was a natural history museum of general value. He was not urging that the Council should "recognise" this institution, but he thought the Council was putting itself into a false position by refusing to approve of a school in regard to which they had made no inquiry.

Sir CHRISTOPHER NIXON, in seconding the amendment, said that Dr. Moore's proposal did not commit the Council to an absolute recognition of Stonyhurst. This college, he believed, was recognised by the Conjoint Board, but hitherto it had not come up to the requirements of the Council. If, however, it could be shown that it had sufficient means to give adequate instruction it would be a pity to refuse it recognition.

Sir WILLIAM THOMSON asked what Dr. Norman Moore meant by "inquiry."

Dr. NORMAN MOORE did not wish to employ other than the ordinary means of getting information. If the Council asked him to supply a report he should ask the Conjoint Board if they would lend him their report for the purpose. But he thought the Council might write to Stonyhurst itself and he had no doubt that any information furnished in reply would be trustworthy.

Dr. WINDLE said that Stonyhurst College was a school and certain parts of the scientific teaching power and appliances were used for the lower division of the institution. He should strongly oppose the amendment, for he thought that it was trying by a side wind to override the Council's decision in respect to scientific institutions; and if it were adopted it would in the course of time lead to the Council's visitation and inspection of all such schools.

On a division the amendment was supported by only eight votes and was declared to have been lost, and the motion to receive and approve the report was agreed to.

The Public Health Diploma.

Dr. BRUCE presented a report by the Public Health Committee on a proposed amendment to the resolutions of the Council in regard to diplomas in public health. This report showed that in December last a section of the report of the Public Health Committee was referred back to them for reconsideration. That section was in the nature of an amendment to Rule (3) of the resolutions of the Council of Dec. 5th, 1900, as regards diplomas in Public Health, which reads as follows: "Every candidate shall have produced evidence that after obtaining a registrable qualification he has during six months, of which at least three months shall be distinct and separate from the period devoted to laboratory work as required under Rule (2), been associated day by day in the duty, routine and special, of public health administration under," &c. The precise alteration recommended was the substitution of *three* months for *six* months of outdoor or practical sanitary work, under the personal supervision of a medical officer of health duly qualified to impart such instruction; with the view of substituting a three months' course of lectures in sanitary law and other subjects cognate to the duties of a medical officer of health, such course to run concurrently with laboratory study. The committee have ascertained, as regards outdoor work, that a period of more than three months under present circumstances is impossible to secure in many cases. They consider, therefore, that it is imperatively necessary that the student should give during this period his whole time and attention sedulously to his duties. On the other hand, it seems to the committee that if the period of training be reduced to three months, the balance of the six months should be allotted to classes in sanitary law, vital statistics, and practical demonstrations in sanitary engineering. Of the advantages to be derived from such a systematic course there can, the committee consider, be very little doubt. The principles underlying sanitary law, vital statistics, and hygiene require to be stated and explained. On the other hand, demonstrations in connexion with arrangements for dealing with sewerage, the nature and use of disinfectants, the sanitary principles in the construction of dwelling-houses, the mechanism and use of refuse destructors, and the storage and filtration of water-supplies, with a moderate amount of knowledge of engineering methods, would prove of the greatest advantage to the student of public health. The committee summarised their views as follows :—

1. In the opinion of the committee at least three months' thorough training in outdoor work should be absolutely insisted upon, apart from all other kinds of teaching.

2. That the medical officer of health should be required to certify that the student has had sufficient opportunities for acquiring a thorough training in practical sanitary work and *that to his knowledge the pupil has honestly taken advantage of these opportunities.*

3. A course of lectures on the principles and practice of hygiene, vital statistics, and sanitary law *may* be substituted for the remaining three months of the six presently set aside for outdoor work, but this is merely in the nature of an option and is not meant to interfere with the present rule as to outdoor work where the medical officer of health conjoins it with teaching.

It was resolved that the report so far should be received and entered on the minutes, and the Council proceeded to consider proposed alterations in the resolutions and rules adopted in December, 1900. The first of these changes was the deletion from Rule 3 of the words "been associated day by day in the duty, routine and special, of public health administration, under the supervision of ——," and the putting in their place words of a more elastic interpretation —viz., "been diligently engaged," &c.—so as to make the complete rule, as revised, read as follows :—

3. Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has during six months (of which at least three months shall be distinct and separate from the period of laboratory instruction required under Rule 2) been diligently engaged in acquiring a practical knowledge of the duties, routine and special, of Public Health Administration, under the supervision of ——.

Dr. PAYNE remarked that the Medical Board which he represented took "day by day" as a stumbling-block and he was glad that the committee had found a way to get rid of it.

Dr. MACALISTER mentioned that the "day by day" part of the rule had caused much difficulty in interpretation. The substituted words would, he thought, meet all practical requirements and he believed there would be no longer any misapprehension about the meaning of the rule.

On the motion of Dr. BRUCE, seconded by Dr. NORMAN MOORE, the alteration of the rule was agreed to.

Dr. BRUCE then proposed the following as a second ⁂ note to Rule 3 :—

⁂ The period may be reduced to three months in the case of any candidate who produces evidence that, after obtaining a registrable qualification, he has during three months attended a course or courses of instruction in sanitary law, sanitary engineering, vital statistics, and other subjects cognate to sanitary study and work, given by a teacher in the department of public health of a recognised medical school.

Objection was taken that this would cut down a 12 months' curriculum to nine months.

Dr. MACALISTER said that the curriculum at present was a nine months' one and the proposed note simply allowed a rearrangement of the time in which certain things must be done. The irreducible minimum was nine months.

After further discussion the proposal was adopted in this form :—

⁂ Provided that the period of six months may be reduced to a period of three months, which shall be distinct and separate from the period of laboratory instruction under Rule 2, in the case of any candidate who produces evidence that, after obtaining a registrable qualification, he has during three months attended a course or courses of instruction in sanitary law, sanitary engineering, vital statistics, and other subjects bearing on public health administration, given by a teacher in the department of public health of a recognised medical school.

Dr. BRUCE next asked the Council to add the following words :—

⁂ Provided also that a registered practitioner of not less than five years' standing may be exempted on cause shown from the regulation as to outdoor work if he produce evidence that he has acted for at least six months as a bona fide medical officer of health or if he belong to H. M. service in the navy or army, the Indian Medical Service, or the public service of any of the colonies.

Dr. MCVAIL objected to this proposal because he did not think the committee had agreed to the exemption of officers of the army and navy, let alone the others now included.

Dr. MACALISTER thought that if put into operation this regulation would do great harm, because it would tend to reduce the leave that officers serving abroad might obtain to come home in order to go through the curriculum and it would open the door to men who might pass one day, and on the strength of having passed leave the army next day, leaving, moreover, without having had anything whatever to do with sanitary administration in order to undertake sanitary work.

Dr. BRUCE said that he was, of course, in the hands of the Council but personally he was quite ready to withdraw the proposal.

The proposal was withdrawn.

Dr. BENNETT proposed to amend the existing Rule 4— viz. :

4. Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has attended during three months the practice of a hospital for infectious diseases at which opportunities are afforded for the study of methods of administration—

by deleting all the words after the word "diseases."

Dr. NORMAN MOORE, in seconding, said that in London it was extremely difficult to obtain opportunities for instruction in the methods of the administration of a fever hospital. As a matter of fact, in the greater part of the metropolis the regulation was unworkable and he thought that no harm would ensue from its entire omission.

Dr. MACALISTER stated that the regulation had been adopted after a great deal of consideration, and if it remained practically unworkable that was the fault of the bodies who granted public health diplomas because they had not sufficiently pressed the metropolitan hospital authorities to afford the necessary facilities.

Dr. PAYNE said that when he was speaking of this difficulty in London to Mr. Power, that gentleman had remarked that so far as the Asylums Board was concerned it was a difficulty that would easily be got over.

Dr. BRUCE had not heard that and he wished Mr. Power had been present at this discussion. His own experience of local authorities was that they were very chary in giving students the right to see what their administration was. He thought instruction of the kind was necessary and he believed that it was possible to secure it, but he questioned whether it was well to have a rule of this kind standing.

Dr. MCVAIL remembered Sir Richard Thorne, the late chairman of the committee, expressing the opinion that the man was not competent to do the work of medical officer who had not had a course of study in the administration of an infectious hospital. He hoped there was no chance of the rule being dropped.

Mr. BROWN must urge the Council most strongly not to tamper with this rule. It was most important that men should be thoroughly instructed in sanitary work and this rule must operate in the direction of securing that.

Dr. MACALISTER moved that the rule be adhered to.

Dr. MCVAIL seconded.

Dr. BENNETT'S proposal was modified so as to substitute the words he originally proposed to omit by the words "in view of the acquisition of a knowledge of the methods of administration."

It was agreed to treat this proposal as an amendment, and on being put to the vote it was supported by so few members that the President declared it to be lost. Rule 4 consequently was retained without alteration.

Adjustment of the amended report was deferred and the Council adjourned.

FOREIGN UNIVERSITY INTELLIGENCE.—*Freiburg :* Dr. Ernst Roos, *privat-docent* of Medicine, has been promoted to an Extraordinary Professorship.—*Giessen :* Dr. Johannes Pfannenstiel of Breslau has been appointed to succeed the late Professor Löhlein in the chair of Midwifery and Gynæcology.—*Göttingen :* Dr. Bendix has been recognised as *privat-docent* of Medicine.—*Heidelberg :* Dr. Kehrer, Professor of Midwifery and Gynæcology, is about to retire.—*Leipzig :* Dr. Saxer, *privat-docent* of Pathological Anatomy, has been promoted to an Extraordinary Professorship.—*Turin :* Dr. Arnaldo Fumagalli of Pisa has been recognised as *privat-docent* of Ophthalmology.

THE ROYAL MEDICAL BENEVOLENT COLLEGE.

THE annual general meeting of the governors of the Royal Medical Benevolent College was held on May 30th, at the office in Soho-square, London, W., the treasurer of the institution, Dr. O. HOLMAN, being in the chair. The scrutineers announced the result of the voting to be as follows:—

PENSIONERSHIPS.

1. Owen, Fanny E.	10397	5. Matthews, Lucy E.	4939
2. Sheppard, Margaret M.	9347	6. Wilson, Fanny W.	4339
3. Jones, Caroline M.	9319	7. Nolan, Sarah	3295
4. Johnson, Charlotte	7492		

FOUNDATION SCHOLARSHIPS.

1. Curry, Wilfred L.	8710	4. Cowan, John A.	7325
2. MacNaught, Gerald K.	8165	5. Leigh, Reginald H.	5625
3. Wallington, William T.K.	8048	6. Sewart, John H.	4483

MORGAN ANNUITIES.

1. Rymer, Matilda S.	7649	3. Wilcocks, Ann	3578
2. Thackthwaite, Emma	3718		

In opening the proceedings, Dr. HOLMAN referred to the lamented death of Dr. John Lumsden Propert, a son of the Founder of the College, and proposed a motion of condolence with Mrs. Propert and her family which was seconded by Sir JOSEPH FAYRER and carried unanimously.

In reference to the report for the past year Dr. WINSLOW inquired whether the Council could see its way to have the name of the institution altered to "Epsom College." In replying, Mr. STAMFORD FELCE, the chairman of the Finance Committee, stated that the Council had given most careful consideration to the matter, but it had come to the conclusion that it was inexpedient to make a change, in view of the fact that money was absolutely necessary for the charitable side of the institution, and if the name of the institution were to be altered as indicated it was highly probable that important legacies such as those which had recently been received would no longer be left to the College.

The following were elected members of the Council: Mr. G. C. Croft, Sir Joseph Fayrer, Dr. Latham, Dr. A. C. Latham, Dr. Needham, Rev. E. W. Northey, Mr. H. W. Page, Mr. Pollard, Dr. F. Taylor, and Dr. Thomas Buzzard. Dr. Galton was elected a vice-president in recognition of his having collected £1000.

A vote of thanks was proposed by Sir JOSEPH FAYRER to the chairman, a brief reply from whom brought the proceedings to a close.

ASYLUM REPORTS.

Nottingham City Asylum (Annual Report for 1901).—The average number of patients resident during the year was 704, comprising 343 males and 361 females. The admissions during the year amounted to 205—viz., 128 were males and 77 females. Of these 188 were first admissions. Mr. Evan Powell, the medical superintendent, states in his report that there were 30 private patients in residence during the year. Among the admissions a large proportion of patients presented no prospect of recovery. Thus 18 of them were subjects of senile mental disease, eight were epileptic, and 18 were general paralytics. Among the general paralytics there was a much larger proportion of females than usual. Among the causes of insanity in the patients admitted hereditary predisposition was ascertained in 25 cases, alcoholic intemperance in 19, and mental stress of one kind or another in 29 cases. 50 of the admissions were males suffering from chronic insanity, received under contract from London and East Sussex to fill up vacancies afforded by the opening of the new wing in the institution. The number of patients discharged as recovered during the year amounted to 67—viz., 25 males and 42 females, or 9·5 per cent. of the average number resident. The deaths during the year amounted to 74—viz., 37 males and 37 females, or 10·4 per cent. as calculated on the same basis. Of the deaths two each were due to epilepsy, senile decay, and colitis, four to cerebral softening, four to cardiac disease, five to cerebral atrophy, six to renal disease, nine to phthisis, 27 to general paralysis of the insane, and the rest to other causes. The cause of death was ascertained by post-mortem examination in 70 out of the 74 cases. Of the two cases of colitis one was a patient admitted from a London asylum who died from the disease a fortnight after admission, so that he had probably contracted the disease before admission. The other case was that of a patient who had been in the asylum for some years. "Colitis," adds Mr. Powell, "is said to be in a large measure due to overcrowding; if this be so it is curious that it made its appearance with us some time after the opening of the new wings and when our accommodation was ample. It is undoubtedly an infectious disease, so that every precaution was taken to prevent its spread, and with satisfactory results, as we have not had another case." The new block for male epileptics was completed and occupied in March. The Commissioners in Lunacy state in their report that the wards were bright and cheerful, the dormitories and bedding clean and in good order, the patients neatly dressed and orderly in their behaviour, and the medical case-books well kept. The weekly charge for patients remains the same as in the previous year—viz., 10*s.*

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF MEMBERS OF COUNCIL.

ON Thursday, July 3rd, a meeting of the Fellows of the College will be held for the election of four members of Council. Three of the members retire by rotation—namely, Mr. Reginald Harrison, Mr. Howard Marsh, and Mr. J. Hardie. The fourth vacancy is due to the death of Sir William Mac Cormac.

The following list of the 23 members of Council gives the date at which each member will retire; the date of the first election is given in every case in which the member has been elected to the Council more than once:—

Retire in 1909: Professor A. W. Mayo Robson, Leeds Infirmary (first elected 1893); Mr. W. Watson Cheyne, King's College Hospital; and Mr. Clement Lucas, Guy's Hospital.

Retire in 1908: Mr. Alfred Cooper (first elected 1892); Dr. J. Ward Cousins, Royal Portsmouth Hospital (first elected 1895); and Mr. A. Pearce Gould, Middlesex Hospital.

Retire in 1907: Mr. T. R. Jessop, Leeds General Infirmary (first elected 1891); and Mr. H. W. Page, St. Mary's Hospital.

Retire in 1906: Mr. F. Richardson Cross, Bristol Royal Infirmary; Mr. Henry Morris, Middlesex Hospital (first elected 1893); and Mr. John Langton, St. Bartholomew's Hospital (first elected 1890).

Retire in 1905: Mr. H. G. Howse, Guy's Hospital (first elected 1889); Mr. Edmund Owen, St. Mary's Hospital; and Mr. Rickman J. Godlee, University College Hospital.

Retire in 1904: Mr. Thomas Bryant, Guy's Hospital (first elected 1880); Mr. T. Pickering Pick, St. George's Hospital (first elected 1888); and Mr. J. Tweedy, University College Hospital (first elected 1892).

Retire in 1903: Mr. A. Willett, St. Bartholomew's Hospital (first elected 1887); Mr. H. T. Butlin, St. Bartholomew's Hospital; and Sir F. Treves, London Hospital.

Retire in 1902: Mr. Reginald Harrison (first elected 1888); Mr. Howard Marsh, St. Bartholomew's Hospital (first elected 1892); and Mr. J. Hardie, Royal Infirmary, Manchester.

We understand that Mr. Howard Marsh intends to offer himself for re-election but that Mr. Harrison and Mr. Hardie will not stand again.

At present there are eight candidates in addition to Mr. Howard Marsh. These are Mr. H. H. Clutton of St. Thomas's Hospital; Sir W. H. Bennett and Mr. C. T. Dent of St. George's Hospital; Mr. J. H. Morgan of Charing-cross Hospital; Mr. C. H. Golding-Bird of Guy's Hospital; Mr. C. Mansell Moullin of the London Hospital; Mr. J. Bland-Sutton of the Middlesex Hospital; and Mr. Jordan Lloyd of Birmingham.

There may be other candidates, as there is still time to apply. Applications must reach the secretary by Monday, June 9th.

ANNUAL MEETING OF FELLOWS.

The annual meeting of the Fellows will be held on Thursday, July 3rd, at 5.30 P.M., after the conclusion of the election to the Council. Any motions will be considered of which notice has been sent to the secretary not later than June 12th. Unfortunately, on the last five occasions on especially in middle life, as the result of some definite cause. It is not clear how far these are due to induced defect of life. The degeneration may be the result of the presence in the blood of some material which is able to enter into the constitution of the nerve elements but is not adequate for their proper functional or structural maintenance. They may slowly recover if the supply of the noxious matter ceases. Arsenical neuritis is an example. Arsenic seems capable of taking the place of phosphorus in metabolic changes of nutrition but its presence deranges function and also structure, so that degenerative change is the result. The alteration begins where vitality is weakest, at the extremities of the nerves furthest from the nutritional centre, the cell; the energy of this may ultimately be impaired, but we have not evidence that the primary influence is exerted on this or that the process consists essentially in a failure of vital energy, that it is a true abiotrophy. The same statements may be made with regard to alcoholic neuritis, since the same process occurs in this.

The most common neuronic degeneration of the middle period of life is tabes. This, as you know, must be ascribed to the influence of a post-syphilitic toxin. But it occurs so long after the primary disease and at such a variable interval of years that the question arises—Is the affection of the nerve elements due to the constant presence of the toxin in the system in varying quantity and varying degree of toxic power, or has a transient toxin an influence in reducing future vital endurance? In the latter case it may be regarded as acquired abiotrophy. Each hypothesis has difficulties, but neither is quite inconceivable. On the whole, I think the first is that which best explains the facts of the disease. The analogous toxin of which we know most—that which causes diphtheritic paralysis—has been proved by Professor Sidney Martin to be due to a change in the chemical constitution of albuminoses caused by a ferment-like material which the organisms in the throat produce. The toxin varies in its character, to judge by its different effects, and it is noteworthy that it may sometimes act on the same neurons as are affected in locomotor ataxy and give rise to the same symptoms. It is conceivable that such a change in the chemical constitution of albuminous substances once set up may continue and the toxin may be constantly produced in varying amount and varying toxic power, its formation being modified from time to time by other influences of which we know nothing. In the processes concerned in the production of excess of sugar we have an example of the persistence of the derangement of a chemical process and its gradual increase if not restrained, and although the analogy is not very close (since sugar is a normal product) it illustrates that such disordered chemical action may be enduring. The occasional rapid increase in the symptoms of tabes, such as may bring a patient from a stationary slight degree to the most extreme disability in a few days, is better explained by the sudden production of a poison of greater power than by the sudden reduction of the resistance of structures the vitality of which is impaired. The same conclusion seems suggested by the great improvement which we meet with in some cases. A man came in here about two years ago who had had symptoms of the first stage for some years and then in the course of a few days the ataxy increased to such a degree that he was not able to stand from the extreme incoördination. Retention of urine had developed and cystitis had set up a suppurative orchitis. Yet this patient gradually improved until he could walk without much unsteadiness before he left the hospital and now he can walk well for eight or nine miles. Unfortunately, improvement does not always occur in the case of rapid exacerbation. There is one tabetic process the course of which is more uniformly progressive, so much so, indeed, as to resemble closely the effect of reduced vitality—the atrophy of the optic nerves. But even in this we meet with cases which become arrested, usually as the result of treatment. The significance of this fact we cannot discern or even wisely speculate about. Arrested improvement from treatment occurs in other slow degenerations which occur during the middle period of life, some of them are met with occasionally as the sequelæ of syphilis, but they may occur without obvious cause or as the result of exposure to cold, or they seem to be due to the toxin of some other specific disease. The nature of these also is doubtful. Some of the progressive muscular atrophies of middle life resemble the senile form we have just considered in their slow commencement and gradual extension and increase, and sometimes in the absence of a cause. Yet they differ in being more amenable to treatment. There is a considerable prospect that such cases will be permanently arrested. But even in the cases after syphilis it is not by anti-syphilitic treatment that good is done but by the hypodermic injection of strychnia. In one typical case the malady commenced just after a course of treatment at Aix, but the permanence of the arrest is shown by the fact that it has now been absolute for about 12 years. In another case, more advanced but also arrested, the treatment was commenced after a rapid increase which occurred during the administration of iodide of potassium. This treatment has not the same influence in the senile abiotrophic form.

That terrible malady, general paralysis of the insane, seems, often at least, to be due to the same cause as tabes, symptoms of which are so often associated, and seems to be of the same degenerative nature, produced no doubt in a like way. That which has been said of tabes applies to it also, and that which has been said of the secondary processes may explain the inflammatory changes often met with. But here we are on uncertain ground. Those cases which belong to the type which is recognised as most characteristic seldom fail to go on to death. Here also the pathological relation of the morbid process to its cause is quite obscure.

Just as the simple baldness which develops in early manhood may also come on at any period in adult life and in any degree, so the family abiotrophies which usually commence early in adult life or in childhood may show themselves later. In the families in which some members suffer early, in other members the same symptoms may occur only during middle life—a fact which we can understand by the conception that the degree of vital energy in such cases is greater, the vital endurance is such as to persist longer. Yet the occurrence of both in the same family shows that their nature is the same and that the difference is one of degree.

These conceptions I hope may help you, if not to understand these processes, at least to think of them more clearly. I would especially impress upon you the fact which is illustrated by the lad whom I have shown you—the sporadic occurrence of these abiotrophic diseases. Their nature is easily discerned when they occur in groups which have the tie of consanguinity but the discernment is less easy when the disease occurs in isolated form. Remember the significance in such cases of the age of the patient, the slow development of the malady, the absence of adequate cause whether an inadequate cause can or cannot be traced, and the correspondence of the symptoms to the functions of certain sets of neurons. Many cases of this kind are regarded as due to disseminated insular sclerosis, often assumed to exist when the symptoms afford no justification for the opinion and in cases in which the future course of the case negatives it. It was, indeed, written at the head of the notes of this case before I saw the patient. Remember that the symptoms of systematic degeneration are not alone ground for the diagnosis of insular sclerosis nor is the additional presence of nystagmus. Nystagmus on movement of the eyes is met with in many spinal degenerations of pure systemic type, why we do not know, but the fact deprives it of the diagnostic importance which has often been attached to it.

My object in this lecture has been to present to you the aspect of many degenerative diseases of the nervous system as a result of a defect in vitality. The two aspects of death which I mentioned at the onset are very different in our practical view. Somatic death is that against which we ever strive, which we endeavour to postpone as long as may be. The other aspect of death—the termination of life of isolated structures in the body—is to us what we call disease. It does not of necessity involve the termination of general life, but it is not less to be striven against, although the strife must often be in vain. The discernment of these diseases which we may call "abiotic," the recognition of the symptoms, *the course*, and the *conditions* which indicate them is of extreme importance. It may save you from many errors, may prevent many mistakes, both in your forecast and your treatment. We must endeavour to check their progress, for we seldom know the strength or feebleness of the tendency, or whether it can be hindered, but the discernment of the nature of these maladies will often help you. It will enable you better to perceive why treatment fails and it may save from useless prolongation of attempts to gain that which cannot be, and it may sometimes save from waste of money that can ill be spared and from the waste of hope which means only deeper disappointment.

which a meeting of the Fellows has been summoned no quorum has been obtained, probably chiefly because there have been no agenda.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD

REPORTS OF MEDICAL OFFICERS OF HEALTH

Bromsgrove Urban District.—Dr. H. Cameron Kidd continued during 1901 his energetic efforts with regard to the control of tuberculosis and a sample of milk from each dairy in the district was examined for the tubercle bacillus But the specific bacillus was not detected microscopically, culturally, or by inoculation. Dr. Kidd is most surprised at this result as he finds it difficult to believe that none of the milch cattle were suffering from tuberculosis His suspicions are probably well founded, but, as was shown in the investigations performed under the auspices of the first Royal Commission on Tuberculosis, it is extremely rare to detect the tubercle bacillus unless the udder itself is diseased, and possibly very different results might be obtained at Bromsgrove were the tuberculin test applied to the cattle, or were the milk only examined in cases where the udders were involved, indeed, perhaps the most useful measures in the present state of our knowledge are the frequent inspection of dairies and cowsheds, and the examination of the cow's udders in all cases.

Macclesfield Urban District.—Mr. J. Hedley Marsh deplores the altogether undue loss of life from infantile mortality in this borough, and the statistics for the last 12 years show that there is practically no diminution in that mortality During 1899 and 1900 the rates were 190 per 1000 births for each year, and although during 1901 the rate fell to 180 Mr. Marsh attributes this improvement to the slackness of trade which enabled the mothers to stay at home and to nurse their offspring rather than to consign them to the care of a nurse whose main object is to keep the children quiet at any cost

Exeter Urban District.—Dr. John Woodman reports that the intercepting sewers which are being constructed at Exeter are nearly completed and that nearly the whole of the sewage is being taken to the septic tanks at Belle Isle. At present the effluent from the septic tanks is apparently passing directly to the land, but when the filters are constructed such effluent will pass through the filters before passing over the land. The work which has already been performed has, we are told, very materially improved the state of the Exe

Plympton St. Mary Rural District.—Mr. S. Noy Scott reports that the council of the district has had under its consideration the question of supporting the proposed Devon Sanatorium for Consumption by means of annual subscriptions. There was, however, some doubt as to the legality of the proposed contribution and the Local Government Board was consulted in the matter Apparently no definite reply had been received at the date of writing the report, but we doubt if any objection is likely to be raised by the central authority, more particularly as the proposed sanatorium is referred to in the sense of an isolation hospital rather than as a place of cure This distinction is legally, we believe, of some importance. In any circumstances Mr. Scott advises his council not to rest content with a negative reply, but to endeavour by joint action with other authorities similarly placed to alter the Whitehall decision.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9118 births and 4710 deaths were registered during the week ending May 31st. The annual rate of mortality in these towns, which had been 17·3 and 16·6 per 1000 in the two preceding weeks, further declined last week to 16·5 per 1000. In London the death rate was 16·6 per 1000, while it averaged 16·5 in the 75 other large towns The lowest death rates in these towns were 6·5 in Wallasey, 7·3 in Smethwick, 7·5 in Handsworth, 7·6 in Hornsey, 8·3 in Newport (Mon.), 9·0 in East Ham, and 9·9 in Willesden, the highest rates were 22·9 in Liverpool, 23·0 in Salford, 23·5 in Middlesbrough, 23·9 in Burnley, 24·2 in Rochdale, 24·6 in Burton on Trent, 25·7 in Oldham, and 25·9 in Barrow-in Furness. The 4710 deaths in these towns included 505 which were referred to the principal zymotic diseases, against 516 and 531 in the two preceding weeks, of these 505 deaths 151 resulted from measles, 108 from whooping cough, 59 from small-pox, 59 from scarlet fever, 54 from diphtheria, 45 from "fever" (principally enteric), and 29 from diarrhœa. No death from any of these diseases was registered last week in Croydon, Hornsey, Hastings, Portsmouth, Norwich, Handsworth, Aston Manor, Coventry, Grimsby, or Stockport, while the highest zymotic death rates were recorded in Tottenham, Rochdale, Burnley, Barrow-in-Furness, Middlesbrough, Sunderland, and South Shields. The greatest proportional mortality from measles occurred in Bournemouth Derby, Bury, Rochdale, Barrow in Furness, Stockton on-Tees, and Sunderland, from scarlet fever in Burnley, from diphtheria in St. Helens and Middlesbrough; from whooping-cough in Birkenhead, Barrow-in-Furness, West Hartlepool, and South Shields, and from "fever" in Middlesbrough. 59 fatal cases of small pox among persons belonging to these large towns were registered last week, of these 48 belonged to London, seven to West Ham, and four to Tottenham. The Metropolitan Asylums hospitals contained 1274 small pox patients at the end of last week, against 1419, 1360, and 1344 at the end of the three preceding weeks, 251 new cases were admitted during the week, against 248, 233, and 307 in the three preceding weeks The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2212, 2207, and 2236 on the three preceding Saturdays, had further risen to 2266 on Saturday, May 31st, 319 new cases were admitted during the week, against 256, 270, and 280 in the three preceding weeks The deaths referred to diseases of the respiratory organs in London, which had been 231, 216, and 237 in the three preceding weeks, further rose last week to 261, and were 15 above the corrected average. The causes of 51, or 1·1 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Portsmouth, Bristol, Leicester, Nottingham, Manchester, Salford, Bradford, Newcastle, and 47 other smaller towns, the largest proportions of uncertified deaths were registered in Liverpool, Blackburn, Preston, Halifax, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·1, 19·4, and 20·3 per 1000 in the three preceding weeks, declined again to 19·3 per 1000 during the week ending May 31st, but showed an excess of 2·8 per 1000 over the mean rate during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 15·2 in Leith and 15·9 in Greenock to 21·1 in Paisley and 25·0 in Perth The 624 deaths in these towns included 22 which were referred to whooping-cough, 15 to diarrhœa, 13 to measles, four to diphtheria, two to "fever," and one to scarlet fever In all 57 deaths resulted from these principal zymotic diseases last week, against 74 and 55 in the two preceding weeks. These 57 deaths were equal to an annual rate of 1·8 per 1000, which corresponded with the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping cough, which had been 25 and 14 in the two preceding weeks, rose again last week to 22, of which 14 occurred in Glasgow, two in Edinburgh, two in Dundee, two in Aberdeen, and two in Leith. The deaths from diarrhœa, which had been 19 and 14 in the two preceding weeks, increased to 15 last week, and included six in Glasgow, three in Dundee two in Edinburgh, and two in Paisley The fatal cases of measles which had been 21 and 16 in the two preceding weeks, further declined last week to 13, of which eight were registered in Glasgow and two in Edinburgh. The deaths from diphtheria, which had been three, four, and one in the three preceding weeks, rose again to four last week and included three in Edinburgh. The two fatal cases of "fever" showed a decline from recent weekly numbers and were both recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 113, 114, and 156 in the three preceding weeks, declined again last week to 129, but were 22 above the number in the corresponding period of last year. The causes of 22, or nearly 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·8 and 19·1 per 1000 in the two preceding weeks, rose again to 22·3 per 1000 during the week ending May 31st. During the past four weeks the death-rate has averaged 22·2 per 1000, the rates during the same period being 16·5 in London and 17 5 in Edinburgh. The 162 deaths of persons belonging to Dublin registered during the week under notice exceeded by 23 the number in the preceding week and included eight which were referred to the principal zymotic diseases, against 12, 13, and six in the three preceding weeks; of these, two resulted from measles, two from diphtheria, one from scarlet fever, one from whooping-cough, one from "fever," and one from diarrhœa. These eight deaths were equal to an annual rate of 1·1 per 1000, the zymotic death-rates during the same period being 2·3 in London and 1·5 in Edinburgh. The deaths from measles, which had been six, three, and two in the three preceding weeks, were again two last week. The mortality from "fever" and from diarrhœa also corresponded with that recorded in the preceding week, while that from scarlet fever showed a slight decline. The 162 deaths in Dublin last week included 33 of children under one year of age and 35 of persons aged upwards of 60 years; the deaths of infants were considerably in excess of the number recorded in the preceding week, while those of elderly persons showed a slight decline Seven inquest cases and four deaths from violence were registered; and 63, or more than a third, of the deaths occurred in public institutions. The causes of seven, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

MAJOR C. G. WOODS retires from the service, receiving a gratuity. Dated June 4th, 1902.

INDIAN MEDICAL SERVICE.

Colonel A. Scott Reid, succeeds Surgeon-General Spencer, C.B., as Principal Medical Officer of the Punjab Command and Colonel W. McConaghey, Lucknow, takes Colonel A. Scott Reid's place as Inspector-General of Civil Hospitals in the Punjab.

IMPERIAL YEOMANRY (IN SOUTH AFRICA).

32nd Battalion: Robert John McClelland to be Medical Officer, with the temporary rank of Captain.

38th Battalion: Richard Murphy to be Medical Officer, with the temporary rank of Captain in the Army.

IMPERIAL YEOMANRY.

The undermentioned officers resign their commissions and receive new commissions subject to the provisions of the Militia and Yeomanry Act, 1901, each retaining his present rank and seniority, viz.:—

Duke of Lancaster's Own: Surgeon-Lieutenant-Colonel W. W. Wingate-Saul and Surgeon-Lieutenant L. G. S. Molloy.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain W. A. Dingle to be Surgeon-Major. Dated June 4th, 1902.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Cinque Ports; Surgeon-Captain J. W. T. Gilbert to be Surgeon-Major. 2nd Devonshire: Malcolm Bell Hay to be Surgeon-Lieutenant.

Rifle: 8th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Captain John Anderson resigns his commission and is appointed Captain. 1st Volunteer Battalion the Northumberland Fusiliers: Surgeon-Captain D. Stewart to be Surgeon-Major. 3rd (Morayshire) Volunteer Battalion, Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's): Surgeon-Lieutenant D. G. Campbell to be Surgeon-Captain. 1st Dumbartonshire: Surgeon-Lieutenant T. J. Burton to be Surgeon-Captain.

VOLUNTEER INFANTRY BRIGADE BEARER COMPANY.

1st London: Surgeon-Captain W. N. Evans, from the 1st Volunteer Battalion the Duke of Cambridge's Own (Middlesex Regiment), to be Surgeon-Captain and to command under paragraph 55A Volunteer Regulations.

NOTES FROM SOUTH AFRICA.

Civil Surgeon Abraham Ellenbogen was reported dangerously ill from typhlitis at Cape Town on June 1st, but after an operation on the following day he showed signs of recovery and is now progressing satisfactorily.

Civil Surgeon White is reported "distinctly better."

THE FUTURE EDUCATION AND TRAINING OF ARMY OFFICERS.

Among the recommendations and suggestions contained in the report of the Committee on Military Education there is one which will commend itself, if only on hygienic grounds, to the medical profession as highly desirable—namely, that a military cadet's studies would be, as far as possible, better carried out in the open air than in class-rooms. As far as their health and physical efficiency are concerned—and these count for even more in the army and navy than they do in other walks of life—we should say that army cadets cannot be too much in the open air and too little in lecture-rooms and class-rooms or engaged in sedentary occupations. It is difficult, no doubt, to discover some method of selecting candidates for our public services other than that of competitive examinations, but so far as these are written examinations they give a very inadequate idea of the capacity and fitness of a young fellow for an army life and campaigning work. They necessarily leave out of consideration altogether qualities of character, judgment, temper, and common-sense. Provided that a candidate comes up to the physical standard required by the regulations he may, if only properly crammed, succeed in taking a high place at a competitive examination and in supplanting other and much more desirable candidates. It cannot be said that the Boers are an intellectual or a cultured race, but as far as military tactics are concerned they have taught us and every other nation a great practical lesson. A competitive examination for our future officers should, as we have always held, be competitive all round, and superior physical qualifications and efficiency in school sports and games should count for something. It goes without saying that the possession of brains as well as bodies is a necessary qualification and that everybody is the better for being well educated generally and for being specially taught and trained for any and every walk in life. In the case of the more scientific branches of the army service—such as the Royal Engineers, the Royal Artillery, and the Royal Army Medical Corps—such special training is essential; and in the case of the Royal Military Academy at Woolwich it is satisfactory to find that the committee has no particular fault to find with the system and course pursued there. It is with the Royal Military College at Sandhurst that the committee appears to be so much dissatisfied and to have expressed its belief that the military training of young officers at that institution fails to develop knowledge or to promote efficiency. Mr. Brodrick having, as we may suppose, settled on a scheme for the future Royal Army Medical Corps, will have now to occupy his attention with army educational reform.

THE UNIFORM OF MEDICAL OFFICERS OF THE YEOMANRY AND VOLUNTEER CORPS.

We have recently received inquiries from correspondents with regard to the proper "kit" for medical officers of the yeomanry and volunteer corps. The following may therefore prove of use to many of our readers:—Medical officers of yeomanry wear the uniform of their respective corps (paragraph 352, Regulations for Yeomanry Cavalry, 1898). As regards volunteers: 1. Regimental medical officers of volunteer corps wear the uniform of their respective corps, with sword and pouch-belts as for officers of the Royal Army Medical Corps, silver being substituted for gold (paragraph 917, Volunteer Regulations). 2. Brigade-surgeon lieutenant-colonels may wear either their regimental uniform or the uniform of officers holding similar appointments in the Royal Army Medical Corps (paragraph 915, Volunteer Regulations). 3. Officers of the Royal Army Medical Corps (Volunteers) will wear the same uniform as officers of the Royal Army Medical Corps, silver being substituted for gold (paragraphs 903, 909 F., 910, 893, 894, and 899). 4. Officers gazetted to volunteer infantry brigade bearer companies will wear the same uniform as Royal Army Medical Corps (Volunteers) except that the title of the company will appear on the helmet plate and shoulder strap (paragraph 851). Particulars of the uniform of yeomanry and volunteers do not appear in the Dress Regulations, but sealed patterns are kept in the department for "dress" in the War Office, where information on any point can be obtained.

The Army Rank of the Director-General of the Army Medical Service.

In connexion with the new system of army medical administration, by which, as we have previously announced, the Director-General is to occupy a more influential position in the councils of the War Office as the responsible representative of the Army Medical Department, it is satisfactory to learn that he will in future rank officially as a lieutenant-general and not as a major-general, as has hitherto been the case. It was no doubt deemed necessary to take this step in order to put the Director-General in his proper position in his official dealings with the headquarter staff and also to raise his military rank above that which is held by senior administrative officers serving under him. On these and other grounds the change is to be regarded as a desirable and wise one.

Deaths in the Services.

Civil Surgeon Birch, at St. Helena, on May 28th, from enteric fever.

Sir T. J. Gallwey has arrived at Simla and taken up his appointment as Surgeon-General of His Majesty's Forces and Principal Medical Officer of India.

Correspondence.

"Audi alteram partem."

ETHER v. CHLOROFORM.

To the Editors of The Lancet.

Sirs,—Anent the correspondence in your columns as to the relative safety of ether and chloroform, will you allow me to recall that some years ago I pointed out in your journal[1] that the only really reliable data bearing on this subject were comprised in the admirable records of the administration of anæsthetics as tabulated in the St. Bartholomew's Hospital annual reports, which go back as far as 1875. As the subject still continues to attract in an increasing degree the attention of the profession I should like to set forth the results up to date, so that, so far as the occurrence of fatalities is concerned, there should in future be no ambiguity.

With regard to *chloroform*, the hospital records for the 16 years 1875–1890 show 13 deaths in 19,526 administrations. Since then the course of events has been as follows:—

Year.	Administrations.	Deaths.
1891	2,031	1
1892	1,827	1
1893	2,524	2
1894	2,350	2
1895	2,552	2
1896	2,436	3
1897	1,939	2
1898	2,648	3
1899	2,604	3
1900	2,561	1
Total	23,452	20

Thus during the 26 years 1875–1900 chloroform was administered 42,978 times, with 33 fatalities or 1 in 1300.

During the 16 years 1875–1890 *ether* was administered 21,332 times with only four deaths. In 12,941 of these cases ether was preceded by "gas," only one fatality belonging to this category; in the other 8391 cases ether alone was given and three deaths occurred. Since this period the ether record has been as follows:—

Year.	Ether alone.	Deaths.	Ether preceded by "gas."	Deaths.	Total.
1891	866	*Nil.*	130	*Nil.*	996
1892	824	"	73	"	897
1893	1420	"	17	"	1,437
1894	931	"	701	"	1,632
1895	242	"	1,150	"	1,392
1896	189	"	1,427	"	1,616
1897	201	"	1,261	"	1,462
1898	43	"	1,872	"	1,915
1899	17	"	2,382	"	2,399
1900	43	"	2,106	"	2,149
Total ...	4826	*Nil.*	11,119	*Nil.*	15,945

Thus, during the 26 years 1875–1900 ether was administered 37,277 times, with only four fatalities, or 1 in 9319. In 24,060 of these cases ether was preceded by "gas," and only one fatality occurred. In 13,217 cases ether alone was given and three fatalities occurred, or 1 in 4405.

It follows from the foregoing that ether is a very much safer anæsthetic than chloroform (in the proportion of 1300 to 9319); but much safer than either of these agents alone is ether preceded by "gas."

I am, Sirs, yours faithfully,
Clifton, Bristol, May 31st, 1902. W. Roger Williams.

THE FEEBLE-MINDED AND CRIME.

To the Editors of The Lancet.

Sirs,—Miss Dendy's paper on the above subject in The Lancet of May 24th, 1902, p. 1460, is a valuable contribution towards the discussion of a social problem of great importance and magnitude. The views there expressed coincide very nearly with the conclusions which I have drawn from four years' work in connexion with the schools for the mentally defective under the London School Board. Important as the education of the feeble-minded is, it forms but a small, and by far the least difficult, part of the problem what to do with the feeble-minded. The work that is being done in this direction by public bodies and private individuals is, in my opinion, often largely thrown away because there exists no subsequent provision for the needs of a great number of those whom we attempt to educate.

In 1892 the London School Board first established special centres for the instruction of the mentally deficient and there are now nearly 2500 children on the rolls of these classes. Sufficient time has therefore elapsed to make it possible to form some opinion on what the future of children thus educated is likely to be. A certain number of the children passed as mentally deficient are passed out after a period of special training into the ordinary schools. These comprise largely in my experience cases of two types, the first neurotic excitable children below par mentally but without marked mental abnormality, the second stolid and apathetic children with sluggish brains but usually well nourished physically. Children of both these types do badly in the large classes of ordinary schools; they stagnate, or in the one case tend to nervous breakdown and in the other develop into hopeless dullards or truants. Under the individual training of the special classes they improve greatly and are usually able to return in time to the ordinary schools and rank henceforth as normal individuals. To these may be added another type common enough in the poorer districts—children stunted in body and mind from underfeeding and apparently incapable of learning anything. To the fact that in the defective centres, thanks to private charity, food is generally obtainable for really necessitous cases is due, I think, the striking improvement which often takes place in these cases. But the number of children returned to ordinary schools is small; I have not at present the exact statistics but they would hardly exceed 10 or 15 per cent. A few cases at the other end of the scale are excluded as imbeciles and considered only fit for an asylum.

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[1] The Lancet, Feb. 8th, 1890, p. 317.

The large majority of the children admitted remain, however, in the special classes until they are passed out into the world. I think it may be said that all are improved and most are capable of doing work of some kind to a greater or less degree, but in very few cases can they compete with, or rank as, normal individuals. Past arrested development cannot be wholly compensated for; the adult remains in many respects a child, often with definite mental defects or at least with queer mental twists which produce exasperation in employers and despair in philanthropic friends. A certain proportion are incapable of work under ordinary conditions; if they obtain places they lose them at once. The majority, however, do obtain work. The boys seem to get employment readily and in certain kinds of mechanical work do well. But as they get older the difficulties of getting work increase; they can command boys' wages but do not become good enough to obtain those of men, and many sad histories come to the knowledge of the teachers in the schools they have left The girls obtain factory work of an ill-paid kind or small places as domestic servants which they rarely retain long. If they do not marry, and often if they do, they usually become inmates from time to time of a workhouse maternity ward. Judging by what we often observe in the parents of the children with whom we have to deal, feeble mindedness in either man or woman is no bar to matrimony, and indeed many of these defectives marry soon after they leave school with the probability, almost amounting to certainty, of transmitting a heritage of morbid mental or nervous conditions to their descendants.

As regards the question specially dealt with by Miss Dendy, the connexion of feeble-mindedness with crime, there is undoubtedly in every centre a group of cases approaching the type of the moral imbecile and characterised by instinctive tendencies to theft and other forms of immorality, but I do not think this is the case with the majority of the feeble-minded. When these drift into crime it is rather because they naturally sink into the lowest strata of society and are unduly amenable to the influence of others. The few homes which now exist for the care of the feeble minded show that by the exercise of much patience and under careful supervision the inmates can do satisfactory work, lead happy lives, and make the homes at least partly self supporting. A larger number of permanent homes with powers of forcible detention in suitable cases seems the only satisfactory method of dealing with the subject—of rescuing these unfortunates from the wretchedness to which so many are condemned and arresting the transmission of their defects to unborn generations It is a subject which will have to be dealt with by the State before much progress can be made.

I am, Sirs, yours faithfully,
F. MAY DICKINSON BERRY, M.D, B S. Lond.,
Assistant Medical Officer to the School Board for London.
Wimpole-street, W., May 27th, 1902.

WHAT IS A "CURE"?

To the Editors of THE LANCET.

SIRS,—I read the leading article "What is a Cure?" in THE LANCET of May 24th (p. 1478) with some interest, especially the passage relating to the scepticism that now obtains amongst a large and growing number of medical men as to whether our therapeutic measures do even help to bring about a cure. When I read on and came to the illustrations you gave of the fruits of the scientific study of medicine my interest deepened because you gave expression to the state of mind that is common not only among medical men but also among laymen. I do not, of course, deny that antitoxin in diphtheria and thyroid gland for myxœdema are brilliant triumphs of scientific discovery, but if these specific treatments are the only things that medicine can boast and the only future she awaits is for every other disease to have its like specific remedy, then where will be the need of the physician? The patient would in these enlightened days merely have to get his complaint diagnosed before repairing to a penny-in-the-slot machine to obtain his specific remedy and *c'est tout.* Indeed, in these days of tabloids and shallowness, we are a step or two in that direction already.

Now, Sirs, I contend that although without doubt our forefathers in medicine put too much faith in drugs, we are, as usual, going to the other extreme and are putting too little faith in them. Our want of faith is born frequently of as great ignorance as their belief and certainly of greater shallowness of thought.

The true physician in these days when surgery is being lauded to the skies—its successes how apparent, its failures how numerous and awful and frequently tragical, in private practice especially—is becoming either a *rara avis* or at any rate a timid one, for his voice is seldom "heard in the land" in vindication of his art. I contend that the skill of the physician in regard to treatment is seen not in giving such preparations as that of thyroid extract for myxœdema but in the skill which he displays in treating each case of departure from the normal rightly termed disease as a separate study and problem to be solved, by his drugs (perhaps using them as a sort of "liberating energy") calling into play the latent powers of nature or checking her too boisterous manifestations, it may be by displaying a "masterly inactivity" at certain stages and at the right time giving a suitable drug or drugs in the right combination in the right dose to assist, to coax, or to stimulate the vis medicatrix naturæ to lead on to health. There is no doubt that the commercial spirit, the rush of private practice together with low fees, club work with the resulting bodily exercise taking the place of mental, is driving many a practitioner into becoming anything but a thoughtful physician. In conclusion, if we had no other drugs than those handed down to us by our forefathers I do not think I shall be alone in saying that by them we could obtain (even as we are obtaining) glorious triumphs over disease. But if any man, either as a result of training or of mental gift, have not what has been called the "Mens Medica" then drugs and medical therapeutic remedies generally will be in his hands like the most beautiful colours in the hands of him who knows not how to paint.

I am, Sirs, yours faithfully,
May 30th, 1902. A. W. FULLER, M.B. Edin., &c.

THE CASE OF DR. W. T. LAW.

To the Editors of THE LANCET.

SIRS,—In this busy life so many things are constantly occurring, absorbing our attention, that we sometimes fail to appreciate the gravity of a charge which, according to a righteous judge and jury, ought not to have been brought against one of ourselves. Such is the case of Dr. W. T. Law who had to undergo a painful trial, being sued for £5000 by a former patient. Dr. Theodore Williams in his excellent speech at the King's Hall on May 9th said he never knew a patient who was suffering from spasmodic asthma who had so much done for her as was done by Dr. Law.

THE LANCET says in its issue of May 3rd: "Owing to the poverty of the plaintiff Dr. Law is saddled with the payment of heavy costs. At any moment anyone of us may find himself in a like position and we therefore hope that not only will the leaders of the medical profession subscribe their guineas but that the rank and file thereof will send their shillings. Sympathy is a great thing but, as the Apostle James remarked, 'If a brother or sister be naked, and destitute of daily food, and one of you say unto them, Depart in peace, be ye warmed and filled; notwithstanding ye give them not those things which are needful to the body; what doth it profit?' So let us show our sympathy in a practical way. And in particular we hope that the subscriptions will flow into the fund from the profession at large, for the matter is one of vital importance to them and they should recognise it."

Many of Dr. Law's professional brethren have shown their sympathy for him in a practical manner, for which he is extremely grateful. Some who have given to the fund already have promised to give more if others will not lend a helping hand. Some have been good enough to leave to me the amount that they should give. Several who have already given would have gladly given more if they were asked to do so. Others have written expressing the hope that more than the actual amount required will be forthcoming as a compensation for the indignity, worry, and loss of health which such a trial necessarily entails. In a case like this, affecting the honour, the prestige, and the liberty of the profession, it is desirable that many should show their interest in this unusual and exceptional case. Fortunately, Dr. Law is rich in the possession of sincere friendship, which many really wealthy men do not possess. At the painful trial his friends came to the rescue to give evidence in his favour. The grand service of Dr. Theodore Williams is well known and the testimony of

Sir Richard Douglas Powell, who although suffering from an attack of influenza came willingly to court, was no less valuable. If such sympathy can be displayed, ought not many to carry out the good advice of THE LANCET and join others who have been, and are, doing their best for one who did his best for his patient?

I leave the matter in the hands of my brethren, thanking the medical profession for what it has already done, and especially the medical press, ever jealous of maintaining its reputation of being a noble and generous profession.

I am, Sirs, yours faithfully
RICHARD PARAMORE.

2, Gordon-square, W C., June 3rd, 1902.

PS.—I inclose a list of additional *subscriptions*.[1] Postal orders and cheques should be made payable to the Law Fund and crossed London and County Bank, Holborn, W C

THE SIMULATION OF ABDOMINAL BY THORACIC INFLAMMATION

To the Editors of THE LANCET

SIRS,—The reference to the paper of Mr H. L Barnard and Dr M H Richardson on "The Simulation of Abdominal by Thoracic Inflammation" in THE LANCET of May 17th, p 1414, reminds me of a case under my care some few years ago I was called late in the evening to a man said to be suffering from acute abdominal pain. I was told by the wife that the pain had come on shortly after a light meal partaken of by her husband on returning from work, and both she and the patient had confidently diagnosed the case as one of poisoning by the margarine eaten at this meal On examination I found the abdomen somewhat rigid and apparently markedly tender without any specially tender spots Vomiting had occurred without any great relief The temperature was normal and the pulse and respiration, though both increased, were not, I think, very significant of the condition afterwards diagnosed. I do not now remember exactly what increase they showed or what was the ratio but I remember I proceeded to examine the chest rather to satisfy myself that I was not missing anything than because I expected to find the main cause of trouble there. The patient, who was evidently suffering acute pain—all, or nearly all, referred to the abdomen—considered this chest examination a work of supererogation which he was irritably inclined to resent. I was very glad, however, that I made it, as I found fairly well marked signs of pneumothorax on the right side, which helped to clear up what promised to be a difficult and misleading case This patient, I may add recovered after a somewhat protracted illness, and I have no reason to suppose that there was any abdominal disease to account for the severe pain referred to that region This condition of "referred pain" is a possibility which must be constantly borne in mind if one would avoid mistakes Perhaps the most familiar instance of it is that of pain in the knee-joint due to hip-joint disease, but many other examples could be given which are frequently met with by every practitioner

I am Sirs, yours faithfully,
R WHITTINGTON

May 20th, 1902.

SOUTH AFRICAN CIVIL SURGEONS' DINNER

To the Editors of THE LANCET

SIRS,—We shall be much obliged if you will allow us the use of your columns to request all civilian medical men who have served during the recent war in South Africa to do their best to be present at the above dinner at the Hotel Cecil, next Monday, at 7 30 P M Sir F Treves will be in the chair, and the Director-General and Deputy Director-General of the Army Medical Service will be the principal guests. There will be two toasts, those of "The King" and of "The Imperial Forces," so as to leave ample time for the main object of the evening—the renewal of South African friendships and memories. Tickets price 10*s* 6*d* each, may be purchased at the door, but we shall be glad to be informed beforehand of intending diners Medals and orders may be worn.—We are, Sirs yours faithfully,

FRANCIS E. FREMANTLE, } Honorary
C. GORDON WATSON, } Secretaries.

The College, St. Bartholomew's Hospital, E.C., June 4th, 1902.

THE ROYAL NAVY MEDICAL SERVICE AND THE ROYAL ARMY MEDICAL CORPS A COMPARATIVE VIEW

To the Editors of THE LANCET

SIRS,—I have read with much interest your leading article and the new regulations for the Naval Medical Service, both published in THE LANCET of April 26th As the parent of a prospective candidate for one of the services just about qualifying, the following points of difference between the new Army Warrant for the Royal Army *Medical Corps* and the new naval regulations struck me as being worthy of careful consideration.

1. *Article 349*, new Army Warrant, seconds newly-entered officers while holding appointment of house surgeon at a civil hospital and guarantees them the time so spent shall count towards promotion, pension &c. The new naval regulations say, *if* a surgeon has held the appointment of house surgeon before entry he *may* receive earlier promotion to staff surgeon.

2. *Article 352, Army*, gives officers the opportunity of gaining from three to 18 months' earlier promotion on passing their promotion examination with distinction *Navy* No such provision

3. *Articles 356 and 366, Army* Brevet promotion and brevet pay in addition to ordinary pay for a captain in the Royal Army Medical Corps. *Navy* No similar provision.

4 *Article 368, Army* Charge-pay for officers of whatever rank in charge of beds according to numbers *Navy* Charge-pay for inspector generals only Three out of a total of some 500 of all ranks

5. Officers of the Royal Army Medical Corps may be granted full pay sick leave up to one year with possibility of extension. *Navy* Limited to three months, after which half pay

6. Officers of the Royal Army Medical Corps qualifying as specialists to receive 2*s*. 6*d* a day in addition to ordinary pay *Navy* No such provision

7 Staff surgeons employed in London to receive hospital allowances of £53 in addition to lodging allowances of £50 total £103 per annum Major in the Royal Army Medical Corps of equivalent rank is to receive allowances totalling to £160 per annum.

Does the Admiralty really think that with all these substantial differences in favour of the Royal Army Medical Corps candidates of ability will ever be likely to enter the navy as surgeons so long as they can be received into the Royal Army Medical Corps? I notice that the Admiralty is now advertising 30 commissions as surgeons for competition in June. Let it equate the conditions of its service to those of the Royal Army Medical Corps if it really desires candidates to respond

I am, Sirs, yours faithfully,
PARENT

May 17th 1902.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT)

The Plague Epidemic —Disgraceful State of the City of Ahmedabad —The Religious Census of India.—The Prevention of Tuberculous Disease

THE plague epidemic throughout India continues to show signs of declining The total mortality for this week is 16,748 against 17,302 for the previous seven days For the corresponding week of last year the deaths from plague amounted to only 3208. The figures for this week are smaller everywhere but the epidemic may be said to be raging fiercely at Karachi, Bombay and Calcutta, and more especially throughout the affected districts of the Punjab. The figures are Bombay city 488 deaths, Bombay districts 930, Karachi city, 106 Madras Presidency, 11, Calcutta 441, Bengal districts 473, United Provinces 718, the Punjab 12,334 Central Provinces, 98 Hyderabad State 28, Kashmir, 108, and Berar, 18.

I have frequently pointed out the incompetency of certain municipalities in India for the sanitary administration of their towns. The city of Ahmedabad has become so bad that the Commissioner of the district has had to threaten to move the Government to interfere. The mortality has been increasing and is now 77 per 1000 without any epidemic to account for it. The city is overcrowded and dirty, and the paths and roadways are very badly kept up. Accumulations of refuse abound, there is a want of surface drainage, the roads are very irregularly watered, and a great waste of pipe-water goes on. There is an open violation of by-laws regarding dangerous and offensive trades. Encroachments are permitted on the public roads, insanitary dwellings are very numerous, and nuisances abound. The registration of births and deaths is very defective and the taxes are remissly collected. This is a sufficiently strong indictment against the corporation and it is to be hoped that Government will take the administration of the city out of its hands.

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[1] This list will be found on p. 1656.—ED L.

It will probably interest your readers to hear the result of the census so far as the numerical distribution of the chief religions in India is concerned: Hindus, 207,075,277; Sikhs, 2,195,268; Jains, 1,334,148; Buddhists, 9,476,450; Parsees, 94,190; Mahomedans, 62,458,061; Christians, 2,923,241; Jews, 18,228.

The Bombay Municipality some time ago appointed a committee to frame measures for the prevention of tuberculous disease. The following is the report of this committee:—

> The committee have carefully studied the resolutions passed at the general meeting of the British Congress on Tuberculosis on July 27th, 1901, and have considered the subject with special reference to local conditions and to the habits and prejudices of the varied populations of this city. With the conclusions of the Congress, as embodied in their resolutions, this committee are in full accord, and although it would not be possible in this country to give effect to all their recommendations, yet it seems to this committee that it is absolutely necessary to do something in the direction indicated by them to combat so fell a disease as phthisis which is year after year so increasingly conspicuous in the mortality returns of the city. In consultation with the health officer the committee have framed the following suggestions for the prevention of the disease, which they think are of a practical nature and not unsuited to the circumstances prevailing in the city.—
>
> 1. Voluntary notification by medical men to the health officer of every case of tuberculosis coming to their knowledge.
> 2. Facilities to be given for a bacteriological examination of sputum sent by medical men to a health officer to ascertain whether tubercle bacilli are present.
> 3. Instructions to be given how to disinfect a room in which a case of tuberculosis has occurred and died.
> 4. Instructions to be given how to disinfect sputum and to prevent the bacilli spreading the disease
> 5. Disinfection and lime-washing of every infected house at municipal expense, where necessary in the opinion of the health officer, and systematic lime-washing of every common lodging-house twice a year at owner's expense
> 6. Printed instructions in English and the vernaculars to the people, and instructions by male and female visitors as to the precautions necessary to prevent the spread of disease and notices posted as to spitting.
> 7. Prevention of overcrowding in houses, factories, and workshops.
> 8. Ventilation of houses, printing-offices, and workshops, and removal of dust from wool- and cotton cleaning godowns and all trade processes causing pollution of air liable to affect the lungs and predispose to infection.
> 9. Inspection of milk- and meat-supplies and analysis of milk.
>
> The committee are of opinion that at present action on the lines of these suggestions would be sufficient. The effect of these should be carefully watched and further measures can be decided on as they seem necessary.
>
> It will be noticed that suggestion No. 1 is for voluntary, and not compulsory, notification of tuberculosis by medical men.
>
> Suggestion No. 2 will involve expenditure, but the committee think it will be very useful and necessary expenditure.
>
> With regard to suggestions Nos. 3, 4, and 5 disinfection and lime-washing may, so far as possible, be left to the people themselves, not so much on the ground of expense as on the ground of giving no cause for irritation, but rather than that it should not be done at all it may even be done at municipal expense. A discretion must therefore be given to the health officer to do it at municipal expense and by municipal agency whenever he thinks it necessary.
>
> As to suggestion No. 6, the provision of sanatoria will be more a matter for the munificence of wealthy citizens whose attention should be drawn to the great good which institutions of the kind are calculated to do to the suffering poor. The committee hope that the public press, both English and vernacular, will help to keep the matter constantly before the public.
>
> Continuous and persistent action on the lines indicated in the above suggestions will, the committee think, to some extent contribute to check the growing ravages of this disease, which appears to have taken so firm a hold of the many densely crowded sections of this city, such as Second Nagpada, Umerkhari, Chakla, Kamatipura, Kharo Talao, Mandvi, and Bhuleshwar. The committee, therefore, beg to recommend that the Commissioner be asked to take the necessary steps for giving effect to these suggestions, submitting proposals to the corporation in respect of such of them as involve additional expenditure.
>
> D. E. Wacha. Bhalchandra Krishna.
> H. P Dimmock. K. E. Dadachanji.
> May 9th. N. N. Kathak. D. A. D'Monte.

The Plague Epidemic throughout India.

There is again this week a satisfactory decline in the mortality from plague throughout India. The decline is general but in Karachi the disease is raging with great intensity. There were 11,612 deaths in India from plague for the week ending May 10th, as against 15,748 for the previous seven days. For the corresponding week of 1901 there were only 2592 deaths. The chief districts affected are Bombay city with 391 deaths; Bombay districts, 583 deaths; Karachi, 122; Madras Presidency, 13; Calcutta, 280; Bengal districts, 337; United Provinces, 417; the Punjab, 9192; Mysore State, 70; and Kashmir, 212. In the two cities of Calcutta and Bombay the outbreaks are now rapidly declining. In neither city, however, has the outbreak attained the same intensity as did those of last year. In Calcutta the outbreak has been much more prolonged. There has been no further development in Eastern Bengal. It is satisfactory to find that the mortality in Bombay apart from plague is coming down to its normal level.

May 15th.

MANCHESTER.

(From our own Correspondent.)

Manchester Royal Infirmary.

It appears as if the board of management of the Manchester Royal Infirmary were committed to rebuilding on the present site. At the meeting of the board on May 26th the chairman, Sir J. Forbes Adam, said that it would be remembered with regard to the rebuilding of the infirmary that the plans were passed subject to certain alterations and that they were referred back to be dealt with by the sub-committee. The sub-committee had been working with the architects and the plans, finally changed and with all the suggestions carried out, would be ready on June 17th. The Coronation festivities would cause some delay and it would probably be the third week of July before the trustees' meeting would be held. The trustees will probably be guided by the board as to the decision which they will come to. The plans are not yet made public and they cannot therefore be criticised, but the site is there for anyone to see. It comprises in all 19,580 square yards, or 22 yards more than four acres. On this restricted plot of ground buildings are to be erected giving superficial area and cubic space sufficient to accommodate 457 patients. In addition to the patients there is at the present time a household of more than 140 persons, and when the number of patients is nearly doubled the staff of officers, nurses, and servants must be largely increased, so that probably 700 people will be lodged in the infirmary. This is a high number per acre. The pungent winter fogs cause much suffering and injury to patients with diseases affecting respiration and discomfort to others. A little further from the centre, though there may be fog, it is less charged with acrid, irritating particles and gases. Immediately surrounded as the present wards are with streets and noisy traffic all day and a good part of the night there is no quiet freedom from jarring sounds.

City Electrical Generating Station.

A new generating station is in course of construction in Manchester. It is situated in Bradford, one of the industrial suburbs, and the first completed portion was opened by the Lord Mayor on May 27th. The site has an area of 8½ acres—considerably more than twice that of the infirmary site—and when finished the station will be one of the largest of its kind in the world, providing accommodation for machinery of 70,000 horse power. The cost is expected to be at least £1,000,000. In accordance, therefore, with a law that seems almost to be universal it will probably be half as much again. The first municipal electrical works in Manchester were established in 1893 with machinery for generating 3000 horse power.

Small-pox.

Many cases of small-pox have recently been notified to the medical officer of health of Derbyshire. A navvy, lately working at Bamford and now living in Chapel-en-le-Frith, has been attacked, and it is feared that he may have communicated the disease to some members of the great colony of navvies now engaged on the preliminary work in connexion with the Derwent Valley Waterworks. In 1893 the authorities had an immense amount of trouble through small-pox spreading among the navvies employed on the Dore and Chinley Railway Works when Chapel-en-le-Frith was the seat of the epidemic. There are said to be 10 cases at Ilkeston, two at Ripley, and several at Chesterfield. Two cases at Derby are traceable to tramps, in regard to whom the authorities just now have to be especially vigilant. Manchester has fortunately been free from small pox since the present epidemic began.

Manchester Sewage

Manchester has so long suffered from the sins of its forbears as regards its sewage and from the reproaches of the Mersey and Irwell Joint Committee that it is a consolation to receive the slightest commendation and encouragement. At the meeting of the committee on June 2nd Mr Tatton, the chief inspector, reported that six acres of bacteria beds which were dealing with about 2,000,000 gallons of sewage daily had been completed and that a beginning had been made with 20 acres of beds to be similarly constructed. It was expected that by the end of the summer there would be temporary provision for the treatment of another 4,000,000 gallons by means of 13 acres of filters which would ultimately serve as storm water filters Mr Tatton thought that fair progress had been made. The corporation has applied to the Local Government Board for powers to borrow nearly £400,000 to cover the cost of works at Flixton. It is to be granted an extension of time again for six months.

Prosecutions of Butter-dealers

A wholesale butter dealer in Manchester had to pay a fine of £20 the other day for selling the cheapest form of margarine as "creamery butter" It was certified to contain 80 per cent. of fat which was not butter and about 11 per cent. of water In another case a dealer was fined 5s and costs for selling butter which was certified to contain 20 per cent. of water

The late R. Charnley Smith, M D St And., D Sc Edin., J P

Dr R. Charnley Smith died on May 30th, in his sixty eighth year For many years he had lived and worked in an industrial neighbourhood in Manchester, he was devoted to his profession but yet found time not only to cultivate his classical and literary tastes but to give his services to Manchester for several years as a member of the school board, a member of the city council, and a justice of the peace. The chairman of the magistrates on June 2nd paid a warm tribute to his memory

June 3rd

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS.)

University of Wales.

THE three constituent colleges of the University of Wales are in Aberystwith, Bangor, and Cardiff, and the offices of the registrar are at present at Aberystwith, the court of the University hitherto having been unable to decide where they should be permanently located, some members of the court advocating the claims of one collegiate town and others those of the remaining while a few members were of opinion that the offices should not be in a collegiate town at all but in some part of Wales centrally situated and readily accessible. An almost unanimous decision was arrived at on May 30th to erect suitable buildings at Cardiff, the corporation of which town offered a free site and a contribution of £8000 towards the building fund. The proposed site is in Cathays Park—an estate situated in the very centre of the town which has been acquired by the corporation from the Marquis of Bute and is to be used exclusively for public buildings. A new town hall and law courts are now being erected and other portions of the park are being rapidly allotted.—The annual extra-collegiate meeting of the University of Wales was held at Shrewsbury on May 30th under the presidency of the Deputy Chancellor (Dr Isambard Owen). It was reported that the newly appointed Chancellor the Prince of Wales, had sent a donation of £100 towards the Fellowship fund. Dr Isambard Owen was unanimously re-elected senior deputy chancellor and Sir Lewis Morris junior deputy chancellor

Cardiff Medical Society

The annual meeting of the Cardiff Medical Society was held on May 29th when Dr Richard Prichard, medical officer of health of the Llandaff and Dinas Powis Rural District Council, was elected president for the next session. Dr C. Theodore Williams, consulting physician to the Brompton Consumption Hospital, subsequently gave an address upon the Hygienic Treatment of Pulmonary Tuberculosis Dr Williams described with the aid of lantern slides and photographs various sanatoriums which he had visited in Germany and elsewhere, with especial reference to their situation, surroundings, arrangements for open-air treatment, &c. He advocated moderately heavy feeding but stopping short of the vomiting point, moderate and graduated exercise in certain cases, and all possible time spent in the open air, especially in the prone position but with the head and thorax sufficiently raised to permit of ready expectoration. He also laid great stress upon the necessity for having a strong man at the head of a sanatorium with sufficient influence and authority to enable him to see that his instructions were strictly carried out. In view of the keen interest which is being taken in the subject in South Wales at the present time Dr Williams's lecture was most opportune and his account of the great good accomplished at the sanatoriums which he described ought to hasten on the erection of the proposed institution for Glamorganshire and Monmouthshire In the evening the members of the society and their friends dined together

Bristol Port Sanitary Authority Report of the Medical Officers of Health

Quite nine-tenths of the annual report of Dr D S. Davies and Mr J C. Heaven addressed to the Bristol Port Sanitary Authority is concerned with the question of the introduction of plague by rats. The key of plague prevention in their opinion, is the extermination of rats, and although supervision of infected persons and articles must necessarily be maintained on ordinary lines of intelligent control they consider that there is not one tithe of the danger involved in the arrival of a plague patient at a non infected port that there is in the arrival of a vessel with infected rats in the hold It is recommended that all merchant vessels, and especially those engaged in the grain trade, should be periodically fumigated to destroy rats without introducing the question of infected ports at all. If the vessels arrived practically free from rats the risk of infection would be very materially lessened. It appears that in Hamburg for some years past rats have been destroyed on all incoming ships and after discharge any ship giving rise to suspicion is fumigated with sulphur by the authorities. The report gives a brief account of the outbreaks of plague at Glasgow in 1900 and in Liverpool, Hull, and Cardiff in the following year, and in more detail the experience of Bristol in January, 1901, when six dead rats, subsequently found to be infected with plague, were found on a ship 15 days out from Smyrna. A portion of the cargo of grain had already been discharged before the ship was certified as infected when the holds were twice subjected to sulphur fumigation and 226 rats were destroyed The 117 men known to have had any connexion with the unloading of the vessel were kept under observation for 14 days from the last exposure to infection, two assistant medical officers being appointed to carry out this duty No case of human plague resulted. Incorporated in the pages of the report is the resolution passed by the Associated Chambers of Commerce at the meeting held at Nottingham in 1901 and which contained a recommendation that the captains of vessels loaded at plague-infected ports should be ordered to destroy rats on board ship before loading cargo and should take precautions to prevent rats getting on board during the time that cargo is being loaded.

Vaccination Questions.

At the meeting of the Andover Board of Guardians held on May 23rd a proposal was made to publish in the list of paupers the names of those persons who had been re-vaccinated at the expense of the ratepayers. One of the guardians however stated that he had recently inquired from the Local Government Board upon the matter and was informed that this would be an illegal act, that the guardians would throw themselves open to action for injunctions and damages and would be surcharged the cost of publishing the lists The Local Government Board also stated that persons who accepted free vaccination could not be classed as having received outdoor relief.—At the meeting of the Honiton (Devon) Board of Guardians held on May 24th it was stated that the public vaccinator for Sidmouth had recently vaccinated two children belonging to a tramp at his surgery instead of at the residence of the parent, which was a common lodging house The auditors of the Local Government Board had disallowed the fees The public vaccinator stated that the reason he performed the operation where he did was for cleanliness. The guardians decided to appeal against the surcharge.—At the meeting of the Okehampton (Devon) Board of Guardians held on May 24th it was reported that several residents whose names were mentioned at the previous meeting had sent the fees for revaccination. The guardians resolved that the names of all who had been revaccinated at the cost of the ratepayers should be read at their next meeting.—At a meeting of the Gower (Glamorganshire) Board of Guardians held on May 27th the chairman said that the medical officers in some cases vaccinated their own children at the cost of the ratepayers. The guardians decided that the list of persons who had been revaccinated should be scrutinised by a committee. —At a meeting of the St. Thomas's Board of Guardians (Exeter) held on May 30th it was decided to submit several questions for the consideration of the Local Government Board. Amongst these the guardians desired to know if a public vaccinator had a right to refuse to accept payment from persons revaccinated; when several hundreds of patients in lunatic asylums were revaccinated whether the public vaccinator was justified in refusing to accept a less sum than the full fee for revaccination at the home of the patient; and whether the full fee was payable in cases where the public vaccinator revaccinated several people living in one house, including the servants. It was mentioned that at Exmouth, out of 410 cases of revaccination 407 persons were operated upon at their own homes; and at Budleigh Salterton, out of 109 cases only nine persons had been revaccinated at the surgery.

June 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

THE annual report and financial statement of the Royal College of Surgeons in Ireland for the year ending April 5th, 1902, was submitted to a meeting of the Fellows held on May 31st. The President, Mr. Thomas Myles, in explaining the chief features of the account made some interesting remarks. The prospects of the College from a money point of view had changed for the better, the burden of debt caused by the amalgamation scheme having now completely disappeared. The Council had, moreover, during the past year made many purchases for the library and commenced the development of the museum by a special grant to the curator. Since the last report many of the Fellows and Licentiates have received honours and distinctions for their services in the South African war. Two had received the honour of C.B., five that of C.M.G., one that of C.I.E., three the D.S.O., and one the Victoria Cross.—The annual meeting for the election of the President and Council took place on June 2nd with the following result: Mr. Lambert Hepenstal Ormsby was elected President in succession to Mr. Thomas Myles, whose term of office has terminated, Mr. Arthur Chance was elected Vice-President, while a quite unusual number of changes took place in the *personnel* of the council. Mr. Myles has resumed his place on it and no less than five new members have been elected: Mr. Thomas Donnelly, Mr. F. T. Newell, Mr. J. D. McFeely, Mr. William Taylor, and Mr. H. W. Oulton.

The Irish Medical Association.

The annual general meeting of the Irish Medical Association was held on June 3rd in the hall of the Royal College of Surgeons, Stephen's-green. Dr. F. P. McLoughlin of Strangford, Vice-President, occupied the chair at the commencement of the proceedings, giving place later to Dr. J. Cranny, the newly elected President, who delivered an address.

Royal Medical Benevolent Fund Society of Ireland.

The annual meeting of the Royal Medical Benevolent Fund Society of Ireland was held on June 2nd in the hall of the Royal College of Physicians, Dr. Walter G. Smith being in the chair. Sir J. W. Moore read the annual report, the adoption of which was moved by Sir Philip Smyly and seconded by Sir Thornley Stoker. It appeared that £1330 had been given away in grants, while the receipts in subscriptions during the year only amounted to £450.

College of Science in Dublin.

On May 28th in a discussion in the House of Commons on the second reading of the Public Offices (Dublin) Bill as to whether the new College of Science should be built on the north or south side of the city of Dublin, a very strong protest was made by the north of Ireland members against the selection by the Government of the city of Dublin in which to build a college of science. Their view was that to spend £250,000 for a college in a place where, according to them, it would be little used would be a mistake. Such a college taught technical subjects and matters connected with manufactures of all sorts of articles in Ireland, and according to Mr. G. W. Wolff, M.P., one of the members for Belfast, should be placed in Belfast. At the Royal Commission on Technical Education in 1886 Dr. W. K. Sullivan, President of Queen's College, Cork, said: "The people of Dublin who have been crying out for technical education lately do not seem to know that they have had in their midst for the last 20 years one of the most complete polytechnic schools in Europe. If it has not done so much good as it might have done it is the fault of the people of Dublin." The Government is wise in trying to make the scheme of technical education in Ireland complete by establishing a college of science, but strong arguments are forthcoming for locating such a college where technical instruction is most in demand and where manufacturing industry is greatest. The county council of the city of Belfast has passed a resolution that facilities for all grades of technical instruction should be furnished for Belfast on a scale at least equal to that provided for Dublin.

Small-pox in Belfast.

I regret to report an increase in the number of small-pox cases in Belfast. The original cases were taken to the Union Hospital and it is said that 16 cases have occurred there and four in all have been admitted from the city. It is contrary to all modern ideas that a place like the Union Hospital, in the heart of the city and with the adjacent workhouse close at hand, should be the only hospital for cases of a disease like small-pox, which needs such thorough isolation and constant supervision. The Public Health Committee has arranged to erect a temporary hospital at Purdysburn at the cost of £1600 (it should have been done long ago) and it has appointed a sub-committee to take into consideration the erection of additional huts if necessary. It has also arranged to utilise the hospital at the Twin Islands for the contacts, where these people are to be sent overnight, bathed, disinfected, and vaccinated, and sent out, it is hoped, freed from infection. It would be wiser to keep them for a fortnight until the period of incubation had passed.

Belfast Union Workhouse Medical Expenditure.

During the week ended May 29th Dr. J. Smyth, medical inspector of the Local Government Board, has been conducting an inquiry in the board-room of the Belfast Union Workhouse relative to the expenditure on medicines and medical and surgical appliances in the Belfast workhouse and the several dispensary districts of the Belfast Union during the half year ended March 31st, 1902. A variety of evidence has been put forward and it will be some time before the result is known, but on the last day of the inquiry the inspector stated that he had taken an opportunity of seeing the Nurses' Home and had been surprised to find that one item, sugar, supplied to the nurses had been supplied in such enormous quantity that the supply in the week before had not been consumed and that two stones remained, and that the whole of the supply for the week which was passed at the date of his visit was still untouched and that pile after pile of articles unconsumed remained heaped upon the shelves. This he regarded as a serious question as regards the training of nurses in the Belfast Workhouse, as the nurses see in their own home an object lesson of what is undoubtedly extravagance. What he saw, the inspector stated, did not impress him either as good or economical administration. The head of the nurses' home said the work expected from her was excessive, as when she came first there were only 40 nurses, now there are 91. The inspector having spoken of the help which he had received from the clerk of the union, the master of the workhouse, and the medical officers, said the decision as based on the evidence would rest with the Local Government Board.

Cork Medical and Surgical Society.

The annual meeting of this society was held on May 28th. There was a very large attendance of members. The following officers were elected for the session 1902–03:—President, Dr. P. T. O'Sullivan; vice-president, Dr. J. Cotter; retiring president, Dr T G Atkins, honorary secretary, Dr. D J O'Connor; honorary treasurer, Dr P J O'Brien, council, Dr W A Cummins, Dr O Y Pearson, Dr N H Hobart, Dr T B. Moriarty, Dr J Giusani, Mr E. Murphy, and Dr H R. Townsend The financial statement showed a large balance to the credit of the society, the number of members being the largest on record

June 3rd.

PARIS

(FROM OUR OWN CORRESPONDENT)

Chloroform in Heart Disease

AT the meeting of the Academy of Medicine held on May 20th M. Huchard summed up the important discussion which he has been so ably conducting It has led to the conclusion that administration of chloroform is admissible in cases of senile heart and also when the heart is the subject of valvular lesions. Cardiac intermittence and syncope during the administration of chloroform are not, in most instances, the effect of cardiac disease, even aortic insufficiency is not a cause of syncope. Among 100 deaths under chloroform there are not 10 in which the heart is at fault. Consequently cardiac disease, short of being in the stage of asystole, is not a contra indication to the use of chloroform. Purity of the chloroform and skill and attention on the part of the anæsthetist have much to do with the obtaining of a successful result and the importance of the part taken by the administrator has induced M Huchard to ask for the appointment of special anæsthetists. Extreme irritability in the chloroformed patient might be the means of giving rise to reflex shock and the method of administration selected is of very great consequence. M. Gosselin caused chloroform to be inhaled in small doses mixed with air M. Richelot commenced the inhalation with an inhalation of bromide of ethyl. M. Laborde recommended the preliminary injection of morphine, atropine, and sparteine, or painting the mucous membrane of the upper respiratory tract with cocaine, morphine diminished nervous excitability and the patient became unconscious more easily, but atropine might appear to be dangerous. The superiority of ether over chloroform was not altogether proved. At all events ether was absolutely contra indicated in pulmonary affections. Sédillot's aphorism might, in fact, be modified to the effect that the careful administration of chloroform, with attentive watching of the effects produced, was not dangerous for a patient who had been properly prepared. M Laborde expressed the opinion that atropine was an important constituent in the prescription which he had given for the subcutaneous injections designed to prevent chloroform accidents,[1] for atropine was an antidote to morphine and had an influence on the motor action of the pneumogastric. M Le Dentu, on the other hand, was apprehensive as to the possible effects of preventive injections in connexion with surgical shock, especially in operations of long duration. M. Championnière said that on trying the system recommended by M Laborde he had been caused so much anxiety by the respiratory syncope which occurred that he would never repeat the attempt. To this M. Laborde replied that these trials had been made with solutions containing atropine in such a small quantity that its effects were inappreciable.

Treatment of Small-pox

At the same meeting of the Academy of Medicine M. Landouzy read for M. Barbary a communication in which the author stated that he had treated eight cases of undoubted small pox by isolation in a room in which only red light was permitted and by the adoption of the following aseptic and antiseptic measures. In the morning, in the course of the day, and in the evening the whole body was washed with a solution of corrosive sublimate of the strength of 1 in 200, a warm solution of the strength of 1 in 4000 being also vaporised twice a day over the face The eyes, nose and ears were also washed gargles were used, and the mouth received attention. Morning and evening, a considerable time after the vaporisation the face and other parts on which the eruption existed were painted with a mixture consisting of five grammes of salicylate of soda, 10 grammes of cherry laurel water, and 10 grammes of alcohol. Copious enemata of a boiled watery solution of boric acid were given every morning The medicines taken internally were a teaspoonful of *sirop phéniqué* twice a day and a *cachet* of 20 centigrammes of salol and 25 centigrammes of hydrobromate of quinine twice a day when the patient's temperature seemed to require it. Milk was given every two hours alternately with coffee or eau de Vichy (Célestins). Under this system of treatment adopted by M. Barbary the eight patients recovered rapidly, their temperature fell at an early stage, there was no suppuration, there were no complications, the disease ran a very rapid course, and when desquamation was completed there was no marking of the face.

Bilateral Ureteral Catheter

At the same meeting of the Academy of Medicine M. Guyon presented, on behalf of M. Cathelin, a graduated bilateral ureteral catheter (*diviseur vésical*) by means of which the urine from each kidney could be collected separately in the bladder

Centenary of the Internat

The French hospital appointments which correspond approximately with those of house physician and house surgeon in England were originally created on Feb 25th, 1802, and are known collectively as the Internat des Hôpitaux, those who perform the duties being called *internes*. Now that the *internat* has completed the hundredth year of its existence an opportunity for holding centenary celebrations presented itself, but the *fêtes* in question did not take place until May 24th and 25th, dates considerably later than the actual anniversary It was at first intended that they should be held in April, and the committee of management had the agreeable expectation that the President of the Republic would take the chair, but the appointed date unfortunately coincided with a general election to the Chamber of Deputies, a period during which the Chief of the State and the Ministers make it a rule not to appear in public in an official capacity The date was therefore altered to May 24th and 25th, but once more the hopes of the committee were disappointed for M Loubet was then in Russia. M Waldeck Rousseau consequently presided at the *fêtes* The proceedings of the first day opened with a formal meeting in the great hall of the Trocadéro where official speeches were delivered. At night there was a grand banquet attended by 700 *internes* or former *internes*, many of whom had come specially to Paris from the country and from abroad, the entertainment winding up with a musical evening On May 25th, at 10 A M, a mass in memory of the *internes* who had met their death in the performance of their duty was celebrated in the Cathedral of Notre Dame by the Cardinal Archbishop of Paris in person. A small monument erected in the court of the Hôtel Dieu in memory of these victims to duty was unveiled at 2 P M on the same day The monument, which had been executed by the chisel of the sculptor Denis Puech consists of a bas-relief of moderate size placed against the wall of a corridor and represents an *interne* engaged in performing tracheotomy on a child suffering from diphtheria whose head is supported by a sister of charity Notwithstanding the talent of the artist the general effect of the design is lifeless, and is suggestive not so much as a work of art, as of an illustration intended for a surgical text book. In the evening there was a gala performance at the Opéra Comique there was a gala performance at the Opéra Comique Theatre in aid of the benevolent fund maintained by the *internes* The cost of these celebrations was borne by the former *internes* who opened a subscription list for the purpose and were presented with memorials of the proceedings in the form of a silver medal and a book recording deeds of heroism and devotion to duty performed by *internes* The general idea underlying these anniversary *fêtes* was very touching and it is certain that the whole medical profession would have entered heartily into the spirit of them if the organisers had not rapidly lost sight of the original intention and allowed the proceedings to degenerate into a public glorification of what might be called the caste of the medical men who had in their time been *internes* They are very proud of the title "*ancien interne*," and in the competition engendered by the overcrowding of the medical profession in the present day they try to flourish it before the general public in the hope of obtaining more recognition than their fellow practitioners. The plain truth is that the *interne* who exists only in France is neither more nor less than a student admitted to act as assistant to the physician or surgeon in charge of a hospital ward and to attend to the patients in the absence of his principal In each hospital there are several of them, who in turn one at a time about once a week remain on the premises all night in readiness for emergencies. In the absence of the physician or surgeon and in cases of urgency the *interne* may perform some minor operations of which tracheotomy is one that formerly entailed some risks. These duties continue for four years, the remuneration is scanty, and the appointments are awarded in accordance with an annual competition, the candidates who come forward being five or six times as numerous as the vacancies, but as in all medical competitions at the present day favouritism is not always and entirely excluded. On the whole, it does not appear that the duties of an *interne* involve much more danger than falls to the lot of the students who are not *internes* and who every year lose some of their number by death from typhoid fever, diphtheria, tuberculosis, dissection wounds, &c. This being so, it was a little annoying to hear the *internes* lauded as if the good qualities which are the common property of the medical profession were concentrated in them and on that account the profession in general took no more than a languid interest in the *fêtes*, whilst the public celebration, presided over by a Cabinet Minister and occupying much space in the newspapers, seemed to betray a hankering after advertisement. This did not escape the notice of certain journals, and even of a portion of the non-medical press, the result being that while the ceremony at the Hôtel Dieu was in progress Professor Guyon, after having in the course of his speech mentioned the names of the *internes* who had died during their period of office, went on to say with graceful tact that it must not be forgotten that in the ranks of the medical men who did not belong to this particular class there were many who had greatly distinguished themselves and were not less imbued with the spirit of self sacrifice. A non-medical journal has even proposed that as a fitting pendant to the monument raised to the memory of the *internes* it would be desirable to have another monument commemorating all the medical men who had died victims to professional duty.

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[1] THE LANCET, May 24th 1902, p. 1504

June 3rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Anæsthesin.

THE ester of para-amidobenzoic acid, which has received the name of "anæsthesin" and is prepared by Dr. Ritsert at the Höchster Farbwerke, is recommended as an efficacious local anæsthetic and as a substitute for orthoform. Experiments on rabbits have shown that it is not dangerous even in considerable doses but that doses which are very large and altogether in excess of those employed in practice will produce hæmoglobinuria. In some clinical observations published by Professor von Noorden in the *Berliner Klinische Wochenschrift* it is mentioned that anæsthesin is especially efficacious in cases of gastric irritation and that patients suffering from gastric ulcer may take from three to five decigrammes (from five to eight grains) 10 or 15 minutes before food to prevent vomiting. The largest daily dose as yet employed was 2·5 grammes (38 grains). Given in tabloids it relieved the cough in bronchitis; in laryngitis more benefit was derived from inhalations of a 10 per cent. solution than from any other local anæsthetic, cocaine included. In the form of suppositories it gave great relief in tenesmus and hæmorrhoids and also in tenesmus of the bladder. Ointments containing anæsthesin were very useful in pruritus and intertrigo, and it produced beneficial effects when applied to ulcers as a dry powder. Oberstabsarzt Dr. Dunbar has written in the *Deutsche Medicinische Wochenschrift* recommending the new remedy for use in surgical practice; he gave subcutaneous injections of a solution containing 0·25 part of hydrochlorate of anæsthesin in 100 parts of water and found that the anæsthesia thus produced was sufficient for the performance of a variety of operations. Anæsthesin may eventually be applicable in ophthalmic practice.

The "Practical Year" of Medical Study.

Recent legislation with respect to medical education provides that every student after having passed the State examination shall, previously to becoming qualified, spend a year in practical work at a hospital or other medical institution. The Government medical department has now issued regulations for the distribution of this class of students among the various hospitals, the proportion of students to patients being one student to each 25 patients in university hospitals, one student to each 37 patients in municipal and other public hospitals, one student to each 50 patients in private hospitals belonging to religious corporations, one student to each 60 patients in ophthalmic hospitals, one student to each 100 patients in sanatoriums for consumptive patients, and one student to each 120 patients in lunatic asylums. The managing bodies of hospitals desiring to receive students for the "practical year" have to make application to the Government department which will decide whether the hospital shall be permitted to do so, for it is expressly laid down in the regulations that only those hospitals are eligible where (1) the physicians and surgeons are competent and willing to instruct the students in the practical work of a medical man; and (2) where an opportunity is afforded of conducting chemical and microscopical investigations. Hospitals requiring a fee from the students will not be registered as places where the "practical year" may be passed. The number of vacancies at the eligible institutions offering to receive students for the "practical year" is said to be much in excess of the demand; students will therefore have no lack of opportunities of obtaining the requisite instruction. As regards the ultimate net advantages of this extension of the medical curriculum, a great deal will depend on the particular methods of instruction selected. If the young men have to spend their time in writing clinical reports of cases, as they do in some of the large hospitals, they are not likely to derive much real benefit from their "practical year."

June 2nd.

Obituary.

GEORGE FOWLER BODINGTON, M.D. DURH., M.D. GIESSEN, M.R.C.P. LOND., F.R.C.S. ENG.

WE greatly regret to have to record the death, in his seventy-third year, of Dr. George Fowler Bodington, which occurred recently in Paris, where he had made his home since his retirement from practice. The eldest son of Mr. George Bodington, surgeon, of Sutton Coldfield, whose work as a pioneer in the out-door treatment of tuberculosis is now well recognised, George Fowler Bodington was educated for the medical profession at Queen's College, Birmingham. After taking the Membership of the Royal College of Surgeons of England and holding the post of house surgeon at Queen's Hospital, Birmingham, he visited, as a ship's surgeon, Natal and India. He spent some time practising his profession in the back settlements of Pietermaritzburg, where his fees were paid in elephants' tusks, of which he brought away some hundreds of pounds' worth as the fruits of about eight months' work. At that time the elephant still roamed the forests of Natal; life there suited Bodington's hardy frame and adventurous disposition and perhaps he may have sometimes regretted that he did not stay where he would have been certain to make his mark. However, he returned to England, married, and settled in practice at Kenilworth in partnership with the late William Bodington, F.R.C.S., his uncle. In 1866 he moved to Middlesbrough-on-Tees and thence to Saltburn, where he remained until called to take the management of a prosperous private asylum established by his father at Sutton Coldfield, near Birmingham. Brought into contact with the vivid medical life of that great city, Dr. Bodington became an active member of its various medical societies and afterwards bore a leading part in establishing the Birmingham Medical Institute of which he was one of the early presidents; he was also president of the Birmingham and Midland Counties Branch of the British Medical Association in 1876. He was at this time full of activity, taking an immense interest in all that made for social and political progress and in particular he associated himself with the late Mr. Dalrymple in the movement to obtain legislation for the care and control of inebriates. But meanwhile events happened of considerable importance: he lost his first wife and married again, while the asylum owing to the falling in of the lease had to be transferred to Ashwood House, Kingswinford, in Staffordshire. Unfortunately, the second Mrs. Bodington never enjoyed good health at Kingswinford, and after several years of trial Dr. Bodington decided to sell the asylum and to seek elsewhere in a more congenial climate a home for his family. After wandering for a year or two he

The Goulstonian Lectures

ON

SOME ABNORMAL PSYCHICAL CONDITIONS IN CHILDREN.

Delivered before the Royal College of Physicians of London on March 4th, 6th, and 11th, 1902,

BY GEORGE F. STILL, M.A., M.D. CANTAB., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN FOR DISEASES OF CHILDREN, KING'S COLLEGE HOSPITAL; ASSISTANT PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

LECTURE I.

Delivered on March 4th.

MR. PRESIDENT AND GENTLEMEN,—The particular psychical conditions with which I propose to deal in these lectures are those which are concerned with an abnormal defect of moral control in children. Interesting as these disorders may be as an abstruse problem for the professed psychologist to puzzle over, they have a very real practical —shall I say social?—importance which I venture to think has been hardly sufficiently recognised. For some years past I have been collecting observations with a view to investigating the occurrence of defective moral control as a morbid condition in children, a subject which I cannot but think calls urgently for scientific investigation. It has long been recognised that such a deficiency may occur in association with those disorders of intellect which are ordinarily recognised as idiocy, imbecility, or insanity, and I suppose no one doubts the morbid nature of the moral defect in these cases, whether it be regarded as dependent upon the intellectual failure or not. But there are other cases which cannot be included in this category—children who show a temporary or permanent defect of moral control such as to raise the question whether it may not be the manifestation of a morbid mental state, but who nevertheless pass for children of normal intellect; it is this condition in particular which seems to me to call for careful observation and inquiry. The importance of some more widespread knowledge of these morbid states, if such they be, is very great, and although some of them persist into adult life, at no other period are the opportunities for investigating them so favourable as in childhood; for in early years the influence of environment has not yet become so varied and complicated as to be altogether beyond our gauge, and it is possible to obtain a more or less accurate and detailed history of the whole life of the individual, a point of extreme importance when the question of a congenital deficiency arises, as it will do in connexion with these cases: moreover, if there be any question of a morbid failure in the development of a mental process it can best be studied in the child, who is still at the age when, as we shall see, such development should be in progress. Whilst, therefore, I propose to consider generally the occurrence of defective moral control as a morbid condition in children, my particular object in this general survey is to determine what evidence there is on which we can base an answer to this question: Is diminution or defect of moral control in children ever the manifestation of a morbid mental state, apart from any such general disorder of intellect as is ordinarily recognised as imbecility, "feeble-mindedness," or insanity? and if so, under what conditions does it occur? It is obvious that such a disorder, if it exist, cannot be studied apart from its clinical phenomena, although some light may be thrown upon it by the consideration of the physical diseases or gross anatomical lesions which are associated with it in certain cases.

MORAL CONTROL IN THE NORMAL CHILD.

It is perhaps hardly necessary to define what is meant by "moral control." For the psychologist it is "the control of action in conformity with the idea of the good of all," and such a definition is at any rate sufficiently comprehensive for my purpose and may serve to correct the misapprehension which is apt to arise in consequence of the popular use of the terms "moral" and "immoral" to connote some sexual relation. The moral control to which I refer has a much wider significance, and its defect in any individual case may have, and indeed often has, no concern whatever with sexual relations; at the same time I would point out that such a definition will cover, not only such activity as is concerned with the good of others, but also with the good of self—in other words, the moral control which I wish to consider is not only the altruistic but also the self-regarding.

Moral control can only exist where there is a cognitive relation to environment. I use the term "cognitive" for lack of a better to imply that capacity for reasoning comparison on which moral control is necessarily based: the term "conscious" would imply too little, the term "intelligent" would imply too much. Out of this cognitive relation arises a consciousness of the relation of every volitional activity on the part of the individual to the good of all and this we may call moral consciousness. Moral control is the control of activity in conformity with this moral consciousness. The capacity for reasoning comparison may be regarded as an intellectual capacity and moral consciousness, inasmuch as it is concerned with more complicated relations, must require a higher degree of this capacity. To this extent moral control also is dependent on intellect; but inasmuch as volition also is concerned in moral control, and volition can hardly be regarded as an intellectual process, it would seem that intellect is not the only factor concerned therein, although it is an essential factor. To this point I shall return again when we come to consider the mental pathology, if I may so say, of defective moral control.

Moral control, it is obvious, is not an attribute of the newly-born child, for the infant only gradually comes into that cognitive relation which must precede the development of moral consciousness; moreover, moral control, as already pointed out, involves volition, and therefore cannot precede the earliest date at which activity ceases to be merely instinctive, reflex, or impulsive, and becomes volitional, a date which is extremely difficult to determine but certainly cannot be placed earlier than some weeks, or possibly months, after birth. Volition, in so far as it is concerned in moral control, may be regarded as inhibitory; it is the overpowering of one stimulus to activity—which in this connexion is activity contrary to the good of all—by another stimulus which we might call the moral idea, the idea of the good of all. There is, in fact, a conflict between stimuli, and in so far as the moral idea prevails the determining or volitional process may be regarded as inhibiting the impulse which is opposed to it. Now volition, as I have already pointed out, does not appear until some time after birth and the gradual and comparatively slow development of inhibitory volition, especially in regard to those forms of activity which are most instinctive and almost reflex in character, such as the expression of the emotions, is a matter of everyday observation, especially to those who have the opportunity of studying children.

Corresponding with this gradual acquirement of inhibitory volition in the normal child we recognise as a matter of general experience a certain rough proportion between the degree of stimulus which can be successfully opposed and the age of the child. I shall not attempt to define this in more accurate terms, for it is practically impossible to do so; but perhaps I may be allowed to illustrate my point by a simple example. An infant, aged 17 months, had been given a key to play with; he was sitting quietly on his mother's knee looking at the key which he held in his hand, when I gently took the key away from him and offered instead a sheet of white paper. The infant burst into passionate cries, bounded up and down on his mother's lap, beating the air with his fists, and when the paper was proffered beat it angrily aside. Here was a little ebullition of rage which was perfectly normal in a child of that age on provocation of that magnitude, but the same ebullition in a child, say of 12 years, on exactly similar provocation would have been altogether abnormal. My object in drawing attention to this point is to emphasise the fact that in considering the possibility of a morbid defect of volition as a factor in any case of defective moral control in a child, we must take into account not only the age of the child but also as far as possible the degree of the stimulus.

The possibility of moral control, as already pointed out, is the outcome of combined cognition, moral consciousness, and volition; but inasmuch as these are only gradually perfected or more fully developed as the child grows settled eventually in British Columbia where he purchased a farm and carried on medical practice, but it is doubtful whether these ventures were altogether successful. However, the advance of civilisation in these western regions rendered a large lunatic asylum a necessity of the province and of this Dr. Bodington was appointed medical superintendent in 1895. His success in this work is well attested by the following extract from the report of his successor: "It was apparent that to bring about the required changes would entail an immense amount of work and Dr. Bodington felt constrained through the advance of years to relinquish the labour to younger hands and seek well-earned rest and retirement in the land of his birth surrounded by the members of his family and his friends. In this connexion I can truthfully testify that no greater general sorrow has been witnessed throughout the institution than that occasioned by the departure of the one who had taken the helm at a very trying time, and had safely piloted the hospital through some difficult passages, giving to it his best energy and utmost attention, though never in robust health, and having already arrived at that period of life when men hope to be able to forget labour and worry. Dr. Bodington's resignation was accepted by the Government, who voted him a retiring allowance for his faithful services, which terminated on Feb. 28th, after six years of most arduous toil, during the greater part of which he was alone in the charge of the institution."

Dr. Bodington came to England last year to visit his relatives and to renew acquaintance with old friends. He eventually settled in Paris, where his eldest son, Mr. Oliver Bodington, occupies an important position in Anglo-American legal and commercial circles. His death occurred after a very short illness but his state of health had not been satisfactory for some time past. Dr. Bodington was a man of magnificent physique and fine presence, a delightful companion, and an enthusiastic man of letters. His second wife died some years ago, but he has left a large family of children settled in Europe and in Canada.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Louis Secretan, Professor of Internal Medicine in the University of Lausanne, at the age of 49 years.—Dr. Nicolas Kalindéro, Professor of Clinical Medicine in Bukarest.—Dr. Theodor von Kezmarsky, Professor of Midwifery and Gynæcology in the University of Budapest. To him is largely due the great amelioration which has taken place in the conditions under which labour has now for many years been treated both in hospital and in private practice in Hungary. He was only 60 years of age.—Dr. Clymer, formerly Professor of the Diseases of the Nervous System in the Albany Medical College.—Dr. W. D. Middleton, Professor of Surgery in the Iowa State University.—Dr. Franz Scholtz of the General Hospital, Vienna, at the age of 82 years.—Dr. Guido von Török, a well-known Austrian military surgeon who was Billroth's assistant from 1877 to 1880. His age was 52 years.—Dr. Karl Skrzeczka who succeeded Casper in the chair of Forensic Medicine in Berlin. He was 69 years of age and had lived in retirement for the last four years.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations and having conformed to the by-laws have been admitted Members of the College:—

John Acomb, Yorkshire College and General Infirmary, Leeds, Charles Umpherston Aitchison, Oxford University and London Hospital; Evett Gordon Allport, Melbourne University and Guy's Hospital; Edward Whyte Aiment and Albert Maurice Amsler, St. Bartholomew's Hospital; James Vere Arkle, University of New Zealand and St. Thomas's Hospital; John Hilton Ashton, Owens College and Royal Infirmary, Manchester and Edinburgh; Sidney Marshall Banham, University College Hospital; Joseph Barnicot and Guy Douglas Barton, B.A. Camb., Cambridge University and St. Thomas's Hospital; Eric Bayley, Charing Cross Hospital; John Menlove Bennion, Cambridge University and St. Bartholomew's Hospital; William Benton, L.S.A. Lond., Charing Cross Hospital and London Hospital; Edward Bigg, B.A. Camb., Cambridge University and Guy's Hospital; Thomas Henry Bishop, Edinburgh and Durham University; Charles Edgar Blackstone, Middlesex Hospital; Arthur de Visme Blathwayt and Frank Elliott Bolton, University College Hospital; Frederick John Borrie, University of New Zealand and Middlesex Hospital; Leonard Bousfield, B.A. Camb., and Christopher Victor Bulstrode, B.A. Camb., Cambridge University and London Hospital; Gerald Lantsbery Bunting, Oxford University and Westminster Hospital; Philip Burnett, M.D., C.M. McGill, McGill University, Montreal, and St. Mary's Hospital; Harry Hendy Butcher and John Corbin, St. Bartholomew's Hospital; Marcus Woolf Cohen, B.A. Lond., Guy's Hospital; Horace Arthur Cutler, B.A. Camb., and Hugh Davies-Colley, B.A. Camb., Cambridge University and Guy's Hospital; Oswald Joseph Stanley Damian, St. George's Hospital; Augustus De Morgan, St. Mary's Hospital; Archibald Donald, M.B., M.S., D.P.H., Glasgow University and King's College Hospital; Hugh Reginald Dutton, Middlesex Hospital; John Evans, Guy's Hospital; Edgar Leonard Farncombe, B.A. Oxon., Oxford University and St. Bartholomew's Hospital; Tom Bower Fawley, University College, Sheffield, Yorkshire College, and General Infirmary, Leeds, and Guy's Hospital; Wilfrid Stephen Fox, M.A. Camb., Cambridge University and St. George's Hospital; Charles Edward Gaitskell, Guy's Hospital; Laurence Unthank Geraty, St. Bartholomew's Hospital and University Colleges, Dublin and Sheffield; Thomas Gibson, St. Thomas's Hospital; Douglas Gray, Charing Cross Hospital; William Harrington Gray, London Hospital; George Walters Greene, B.A. Camb., Cambridge University and London Hospital; Richard Griffith, Cambridge University and London Hospital; William Hackney, M.D., C.M. Trinity, Toronto, London, Ontario, and University College Hospital; Alexander Ritchie Hall, M.D., C.M. McGill, McGill University, Montreal, and University College Hospital; Langton Fuller Hanbury, St. Thomas's Hospital; John Joseph Hanley, Cork, Massachusetts, and Boston Universities; George Francis Innes Harkness, University College Hospital; William Henry Harwood-Yarred, B.Sc. Lond., St. Thomas's Hospital; James Gilkinson Higgins, St. Mungo's College, Glasgow; William George Hopkins, St Mary's Hospital; Norris Norman Allen Houghton, Guy's Hospital, Joseph Louis Howard, M.D. Cooper Medical College, Vienna and St. Mary's Hospital; Trevor Howell, University College, Cardiff, and St. Bartholomew's Hospital; Goldwin William Howland, B.A., M.B. Toronto; Adrian Russell Fortescue Hubbard, Charing Cross Hospital; George Frederick Humphreys and Percy Douglas Hunter, Guy's Hospital; Osburne Ievers, St. Mary's Hospital; John Jenkins, University College, Cardiff, and University College Hospital; Charles Percival Johns, B.A., M.B. Queen's University, Kingston, Canada, and University College Hospital, Edward Alfred Jones, M.B. Toronto, University College and Middlesex Hospital; Guy Hannah Kirby, Mason College, Queen's, and General Hospitals, Birmingham; Robert Hammersley Lee, King's College Hospital; Aaron Levy, B.A., M.D., C.M. McGill, McGill University, Montreal, and St. Bartholomew's Hospital; Alfred Edward Arthur Loosely, B.A. Oxon., Oxford University and St. Thomas's Hospital; George Edward Loveday, B.A. Camb., Cambridge University and St. Bartholomew's Hospital; George Harvey Low, St. Bartholomew's Hospital; John Knowles Lund, Mason College, Queen's and General Hospitals, Birmingham, and Owens College and Royal Infirmary, Manchester; James McBryde, B.A. Camb., Cambridge University and St. Bartholomew's Hospital; Frederick William Marlow, M.D., C.M. Trinity, Toronto, and University College Hospital; George Maw, University College Hospital; Arthur George Hay Michel, Charing Cross Hospital; William Percival Miles, St. Bartholomew's Hospital; Frank Morgan, Westminster Hospital; Ratanji Mancherji Nanji, L.M.S. Bombay, Grant Medical College, Bombay, Arthur Charles Nash, Guy's Hospital; Courtney Llewellyn Nedwill, B.A. Camb., Cambridge University and St. Bartholomew's Hospital; James Hardie Neil, M.B., Ch.B., New Zealand; Arthur Carr Osburn, Guy's Hospital; Leslie Johnston Paton, B.A., B.C., M.B. Camb., Glasgow and Cambridge Universities and St. Mary's Hospital; Drury Pennington, B.A. Camb., Cambridge University and St. George's Hospital; George Pereira, M.B., Ch.B. Edinburgh, Edinburgh University and St. Bartholomew's Hospital; Eric McLeod Perkins, London Hospital; William Pettigrew, University College Hospital and University College, Sheffield; David Jonathan Phillips, M.D., C.M. Canada, McGill University, Montreal, and London Hospital; Lawrence Pick, St. George's Hospital; Arthur Frederick Pilkington, St. Mary's Hospital; Charles James Pinching, B.A. Oxon., Oxford University and Guy's Hospital; Aubrey Keatinge Halliday Pollock, St. Bartholomew's Hospital; Robert Maurice Ranking, Cambridge University and St. Bartholomew's Hospital, Hugh George Rashleigh, Guy's Hospital; George Augustus Keppel Hart Reed, St. George's Hospital; Owen William Richards, M.A. Oxon., Oxford University and Guy's Hospital; James Riddell, M.B., B.S. Melb., Melbourne University and King's College Hospital, Henry Naunton Robson, St. Thomas's Hospital; Cecil William Rowntree, L.S.A. Lond., Middlesex Hospital; Arthur Reginald Schofield, London Hospital; Charles Newton Sears, St Thomas's Hospital; Walter Moray Shand, M.B., Ch.B. New Zealand, St Bartholomew's and Charing Cross Hospitals; Henry Finch Skrimshire, Cambridge University and Charing Cross Hospital; Herbert James Slade, St. Bartholomew's Hospital; Frank Wybourne Smith, Guy's Hospital; Robert Howard Newby Smith, London Hospital; James Arthur Smyth, University College Hospital; Robert Archibald Slater Sunderland, St. Bartholomew's Hospital, James Templeton, St. Mary's Hospital, William Edward James Tuohy, Guy's Hospital; Godfrey de Bec Turtle, Cambridge University, King's College Hospital, and Royal Infirmary, Newcastle; Harold Upcott, St. Thomas's Hospital; Arthur Beaumont Waller and George Stafford Ward, London Hospital. Noel Everard Waterfield, St Bartholomew's Hospital; Eugene Christopher Whitehead, Westminster Hospital; Owen Thomas Williams, B.Sc. Lond., University College, Liverpool; Reginald Cameron Wilmot, St. Bartholomew's Hospital; Herbert Pattison Wiltshire, B.A. Camb., Cambridge University and Guy's Hospital; William Wingate Wingate-Saul, M.A. Camb., Cambridge University and St. Bartholomew's Hospital; Guy Theodore Wrench, Guy's Hospital; John Henry Wroughton, St. Bartholomew's Hospital, and Bransby Yule, University College Hospital.

University of London.—At the M.B. examination in May the following candidates were successful:—

First Division.—Walter Fedde Fedden, St. George's Hospital, and Percival George Harvey, St. Bartholomew's Hospital.

Second Division.—Oswald Lacy Addison, University College; Frederick Cecil Edgar Atkinson, St. George's Hospital; Thomas Aubrey, University College, Bristol, and St. Bartholomew's Hospital; Edward Walter Bain, London Hospital; Hugh Barber, Owens College and Guy's Hospital; Percy John Cammidge, St. Bartholomew's Hospital; Ernest Philip Chennells, University College; Edward Murray Clarke, London Hospital; Hector Alfred Colwell, St. Bartholomew's Hospital; Agnes Emma Dunnett and Eric Evans, London (Royal Free Hospital) School of Medicine for Women; John Evans, Guy's Hospital; Edward Fow Fisher, London Hospital: David Forsyth, Guy's Hospital; John Gay French, St. Mary's Hospital; Frederick Goulburn Gibson, Guy's Hospital; Archibald Douglas Hamilton, University College, Liverpool, and St. Thomas's Hospital; Arthur Charles Haslam, St. Thomas's Hospital; Stanley Hodgson and Norris Norman A. Houghton, Guy's Hospital; Francis Musgrave Howell, St. Bartholomew's Hospital; William Henry Jones, London Hospital, Frederick Samuel Longmead and William Sydney Page, St. Mary's Hospital; Rees Phillips, Middlesex Hospital, Herbert Dean Pollard, London Hospital; David Thomas Price, St. Mary's Hospital and Bristol Medical School; Morgan James Rees, Guy's Hospital; Philip Savill, University College, Emily Gertrude Stuart, London (Royal Free Hospital) School of Medicine for Women, George Orissa Taylor, London Hospital; Vere Godsalve Ward, St Bartholomew's Hospital; and Lucy Wellburn, London (Royal Free Hospital) School of Medicine for Women.

N.B.—The foregoing list, published for the convenience of candidates, is provisional only, and is not final until the reports of the examiners shall have been confirmed by the Senate.

University of Cambridge.—Mr. F. G. Hopkins, Emmanuel College, is to be appointed Reader in Chemical Physiology. Emmanuel College has generously offered to contribute £100 a year to his stipend —Among the recipients of honorary degrees on June 10th will be Principal Rücker of the University of London; Sir Harry Johnston, discoverer of the okapi; and Dr. Bell, director of the Canadian Geological Survey.—On May 26th the following were admitted to medical degrees:—

Bachelor of Medicine.—H. T. Hodgkin, King's; A. de W. Snowden, Christ's; and F. E. Wood, Downing.

Bachelor of Surgery.—H. T. Hodgkin, F. D. Nicholson, and G. E. St.C. Stockwell, King's, C. V. Bulstrode, Trinity; G. E. Loveday, B. Spearman, and R. Spearman, Caius; A. de W. Snowden, Christ's; H. C. Butler, Emmanuel; and W. W. Jeudwine, Selwyn.

Mr. L. Doncaster has been appointed Assistant Superintendent of the Zoological Museum. The examiners for the Final M.B examinations are Dr. Isambard Owen, Dr. L. Humphry, and Professor W. S. Greenfield in Medicine; Dr. M. Handfield-Jones and Dr. G. E. Herman in Midwifery; and Mr. C. T. Dent, Mr. Ward, and Mr. E. Owen in Surgery.

Royal College of Surgeons in Ireland.—At a meeting of the Fellows held on June 2nd for the election of President, Vice-President, honorary secretary, and council for the ensuing year the following were elected:—President: Lambert H. Ormsby. Vice-President: Arthur Chance. Honorary Secretary: Sir Charles Cameron. Council: Sir Philip Smyly, H. R. Swanzy, E. H. Bennett, Sir Charles Cameron, Austin Meldon, J. B. Story, Sir W. Thomson, C. B Ball, T. Myles, J. Lentaigne, R. D. Purefoy, H. G. Sherlock, R. B. McCausland, R. H. Woods, T. Donnelly, F. T. P. Newell, J. D. McFeely, W. Taylor, and H. W. Oulton.

Aberdeen University Medical Society.—A meeting of this society was held on May 30th when Dr. Angus Fraser delivered an address, entitled, "A Retrospection." He reviewed in detail the great advances in the various branches of science made during the last 100 years. Commencing with the discovery of such elements as oxygen, nitrogen, and hydrogen about the end of the eighteenth century, he pointed out the great original inventions made in most branches of science by Englishmen. Reviewing the science of medicine in particular, he showed that it was chiefly in this country that the original discoveries were made which had advanced so much the science of medicine, although they might have been worked out in detail by other nations. In support of this he instanced the discovery of vaccination by Jenner, of ether by Morton, and of chloroform by Simpson. With regard to the works of Virchow and Koch on Cellular Pathology and Bacteriology respectively, he suggested that theirs was not work of an original kind, but that they elaborated the fundamental principles laid by Goodsir of Edinburgh and Villement and Pasteur of France. In concluding, Dr. Fraser referred to the great advance of Japan, not only in the commercial but also in the scientific world. A hearty vote of thanks was accorded to Dr. Fraser for his interesting and illustrative paper.

Royal Institution.—An extra Friday evening discourse will be delivered at the Royal Institution on June 13th at 9 o'clock, by Mr. G. Marconi, on the Progress of Electric Space Telegraphy.

Cottage Hospital for Tredegar.—At a meeting held on May 30th it was decided to erect a cottage hospital for Tredegar, upon a site of land given by Lord Tredegar, at a cost of £2000.

Donations and Bequests.—Mr. and Mrs. Pearson, Johnston Lodge, Laurencekirk, have given £600 to the Royal Hospital for Sick Children, Aberdeen, for the endowment of a cot to be named the "Pearson Cot."

Cardiff Seamen's Hospital.—At a recent meeting of the building committee of this institution it was reported that the sum received up to the present towards the new hospital amounted to £13,806 The committee decided to invite the Marquis of Bute to lay the memorial stone of the new building in August next.

Bristol Lunatic Asylum.—The Bristol Lunatic Asylum, where there is accommodation for 950 patients, has now been entirely lighted by electricity for a whole year and the cost during that period was £99 less than was that for gas during the previous year.

Bequest for a Nurses' Home.—The late Miss Mayzod Rowland, who died at Neath on May 25th, has left the sum of £2000 to build a home for the Queen's nurses at Neath or to be invested and the proceeds applied to the general purposes of the Neath Nursing Association. Miss Rowland also bequeathed £200 to the Porthcawl Rest and a like sum to the Children's Convalescent Home at Tollington Park, London.

Death of a Medical Man after Cycling.—An inquest was held at Langdon Hills, Essex, on May 30th, on the body of Mr. J. S E. Cotman, M R.C.P., L R.C.S. Edin., of The Minories, London, E.C., who was found on the greensward by the roadside at Langdon Hills on the evening of May 27th. The deceased gentleman, who was 54 years of age, went for a short bicycle ride to Langdon Hills, and was found lying by the roadside. He complained of a pain in the chest and asked the distance to the nearest railway-station. He died later. The cause of death was heart failure and exhaustion from excessive heat.

Nottinghamshire Sanatorium for Consumptives.—The Nottinghamshire Sanatorium for the Treatment of Consumption, on Ratcher-hill, Sherwood Forest, near Mansfield, was formally opened on May 30th by the Duke of Portland, in the presence of a large and representative gathering. The sanatorium is intended for the treatment of patients with limited means, and although it has been opened free from debt the income for its maintenance has to be provided. It is estimated that the expenses will amount to 30*s.* a week, or £75 a year, per patient, which with only 14 patients means £1000 a year, or for 20 patients £1500 a year. The committee hopes that there will be a large number of annual subscribers of one guinea (or more) who will thus become members of the association and form its governing body.

Robbery at a Coroner's House.—At West London Police-court on June 2nd Thomas King, aged 27 years, described as a furniture dealer, and Richard William Greenwood, aged 24 years, a labourer, were charged with being concerned in stealing an Indian necklet, a pair of gold sleeve-links, two gold bracelets, and other articles worth £30 from the house of Dr. F. J. Waldo, Holland-park, W. Dr. Waldo stated that on Sunday afternoon he was sitting in the drawing-room with his wife when he heard shouts and the cook cried out, "There's a man in the house." He immediately ran out of the room and pursued King through the grounds at the back of the house and while jumping the garden-wall close to the man's heels he caught his foot in the ivy and fell. He jumped to his feet and continued the chase. Finally he caught the prisoner in Lansdowne road where King made a show of resistance, but a constable arrived and took the man into custody. Police-constable Ingate said that while he was engaged with King Greenwood came behind him, dealt him a couple of blows, and threw him to the ground, saying "That's my pal." The whole of the stolen property was found in the coat-pocket of King Mr Lane, the magistrate, ordered a remand.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. R. U Wallace, M B. Lond , M R.C.S. Eng , has on his return to practice in Hackney received from his friends an illuminated address and a cheque for £700.

TROWBRIDGE COTTAGE HOSPITAL.—The Trowbridge (Wilts) Cottage Hospital has recently received a bequest of £1000 from the late Sir W R. Brown, a legacy of £500 from the late Mr T E. Exley, and a gift of £500 from Dr T. Jarvis Bennett.

RABIES.—In August, 1900, a boy and a man residing in the Llandilofawr district of Carmarthenshire were bitten by a rabid dog and were under treatment at the Pasteur Institute for nearly three weeks. Neither patient appears to have suffered any ill-effects until May 27th when the man, who was 66 years of age, was taken suddenly ill and developed symptoms of rabies, dying in great agony on the following day

THE LATE DR. EDWARD LONG FOX.—At a meeting held on May 29th it was decided to establish a memorial to the late Dr. E. Long Fox who had practised in Bristol for 43 years and who died on March 28th. Included in the memorial will be a tablet to be placed in the cathedral, an annual lecture at University College, Bristol, upon some subject connected with medical science and to be called "the Long Fox Lecture," and the partial supporting of a medical missionary student at University College, Bristol.

LITERARY INTELLIGENCE.—The following books will shortly be published by Messrs. J and A. Churchill the seventh edition of the Diseases of Children, by Dr J F Goodhart and Dr G F Still, with about 100 pages more than before and the page enlarged to the library form , the second edition of a Manual of Bacteriology, by Dr R. T Hewlett, Professor of Pathology and Bacteriology in King's College, London, much enlarged and with many new illustrations , the fourth edition of Volume II. of Fagge's Textbook of Medicine, under the editorship as hitherto of Dr P H. Pye Smith, F R.S , the second series of Clinical Lectures on Surgical Subjects, by Mr Christopher Heath , a new work by Dr A. T Schofield entitled, "The Force of Mind or the Mental Factor in Medicine" , and the fourth edition of the Schott Methods of the Treatment of Chronic Diseases of the Heart, by Dr W Bezly Thorne.

Parliamentary Intelligence.

HOUSE OF COMMONS

WEDNESDAY MAY 28TH

State of the Sewers at Westminster

MR. JOHN HUTTON asked the First Commissioner of Works whether he had had his attention called to the condition of the sewers in the neighbourhood of the Houses of Parliament and whether he could make any statement upon the subject.—Mr AKERS DOUGLAS replied: No complaints have reached me lately Some years ago attention was called to the unsatisfactory state of the sewers in the neighbourhood and a committee of the House of Commons reported on the need for improvements. The County Council considered, on representations from the Office of Works, methods for ventilating the metropolitan main sewer and the Council communicated with the vestry as to altering the district sewers under the charge of that body I think that very little has been actually done but some of the inlet ventilators in the street were altered My honourable friend is no doubt aware that as a result of an inquiry by a committee in [illegible], the drains of the Houses of Parliament were completely cut off from all risks from the public sewers.

The Hanworth Small pox Hospital.

Sir FREDERICK DIXON HARTLAND asked the President of the Local Government Board whether he had yet received the report of the two officers of the department whom he instructed to visit the site of the proposed small pox hospital at Hanworth Middlesex; and whether he was now prepared to take steps to prevent the danger to London which its erection above the intakes of three of the water companies might cause.—Mr WALTER LONG replied: Two officers of the department have visited the site of the hospital referred to and have made a report to me on the subject I understand that there is no fear of pollution of the sources of supply of the water companies provided that the cesspools on the site are emptied regularly and their contents are not allowed to overflow or soak away into the soil. I may add that as I am advised, there is no scientific evidence to prove that small pox infection can be conveyed by water, though no doubt any such risk should, if possible, be avoided.

FRIDAY, MAY 30TH

Lamp Accidents

Mr RITCHIE, in reply to a question by Mr H. C. RICHARDS, said that he was considering whether it might not be possible to institute some inquiry with special reference to the facts of the recent cases of death by burning

Home Office Affairs Lead Poisoning &c.

At this sitting of the House there was a long debate on the affairs of the Home Office and Mr RITCHIE in the course of his reply said that with regard to laundries he was not by any means satisfied with the present condition of the law Last year the Government did its best to amend the law and the House was familiar with the circumstances in which the Government was compelled to abandon its proposals. But he was not indifferent to the subject and he took immediate steps to communicate with the institution laundries and to obtain opinions from them which might afford guidance A great many replies had been received and, on the whole, they were favourable to an amendment of the law He had also been in negotiation with some of those who were most difficult upon the last occasion when legislation was attempted and he was hopeful that the Government might be able to propose soon—though, of course, not this session—some legislation which while not giving all that might be desired, would go a long way in the right direction He hoped that it would be possible to deal satisfactorily with the question of hours, the fencing of machinery and sanitation and if that were done it would be a great advance. Every one of the institutions with which he had communicated not only did not object to supervision in matters of that kind but many of them expressed a strong desire for supervision. In these matters no religious difficulty arose at all He felt strongly on this subject and he should not rest content until the law had been placed on a more satisfactory footing No doubt there had been a very marked improvement in respect of lead poisoning and it was clear that the operation of the law was leading to very satisfactory results The number of cases had been reduced from 457 a few years ago to 165 in 1901. Exemptions had been asked for by 33 manufacturers and he believed that applications were now coming in from 60 additional manufacturers, so that at present there were nearly 100 manufacturers who had seen their way to do something in connexion with this subject for the sake of some other advantages which were offered to them. In the fruit preserving trade the department had issued an order dealing with the lifting of heavy weights by young persons. He would seize every opportunity to give effect to the undertaking which he had given in connexion with this question Hon members should remember that the subject could not be dealt with by one order dealing with every trade, but the department had taken advantage of every fresh order in connexion with trades to impose conditions with regard to weight-carrying As to phosphorus-necrosis he thought the right hon baronet the Member for the Forest of Dean (Sir Charles Dilke) would not deny that what he called the revival of this disease was very small The number of cases had diminished in a remarkable way In 1898 there were 21 cases; in 1899 eight in 1900 three and in 1901, four What the right hon baronet called "a revival" must be the increase from three to four His hon friend the Member for Stoke (Mr Coghill) had asked him whether he would direct an inquiry into the general state of trade in the Potteries He did not think that the Home Office was the department to direct an inquiry If an inquiry were to be made, but he had heard now for the first time that the state of trade in the Potteries was so bad as to call for any exceptional treatment. If his hon friend would communicate with the Board of Trade he thought that he would find that they had much more information on the matter than they had at the Home Office With regard to the subject of experiments on living animals which had been raised by several members Mr RITCHIE said that as to the argument that animals suffered intense pain after recovery from the anæsthetic he was assured that that was not so because life was destroyed before return of consciousness. It might become necessary to appoint additional inspectors but it would be absolutely impossible to ensure that an inspector should be present at all operations for that would require an army of inspectors. No certificate was given except under every precaution that the operation would be conducted by a properly trained person for an adequate scientific object All possible means were taken to avoid causing animals unnecessary pain; the inspectors were most humane men and so generally were the operators. He did not know that there had been any convictions for cruelty under the Act.

MONDAY JUNE 2ND

Experiments on Living Animals

Mr BANBURY asked the Home Secretary whether he would state how many of the 9598 animals experimented upon under certificates A and A+E and A+F had been under the personal observation of the inspectors and in the case of animals experimented upon under these certificates which had not been under the personal observation of the inspectors what was the guarantee besides the word of the operator himself that the provisions of the certificates had been obeyed whether he would state at how many of the 1176 experiments on living animals in 1901 done under licence alone an inspector was present, and what was the guarantee, other than the word of the operator himself that the provisions of the licence as to anæsthesia were obeyed in the cases where an inspector was not present; also at how many of the experiments done under B and B + EL, numbering together (22) was an inspector present; and when experiments were performed under these certificates without the presence of an inspector what was the guarantee besides the word of the operator himself that the provisions of the certificates as to anæsthesia were obeyed; and whether he would state in how many experiments done under certificates A, A + E and A + F pain ensued before the main result of the experiment had been attained and who was the authority that decided whether or not pain did ensue —Mr RITCHIE replied Very few of the experiments under the certificates indicated or under the licences alone have been witnessed by an inspector but a very large number of the animals experimented upon have been seen and carefully examined by the inspectors and in no case have they found that an animal has been unnecessarily kept alive in pain. The licensee is, of course, responsible for carrying out the conditions of his licence and certificates and the additional guarantees are that the inspectors can judge whether the licensee is in the habit of obeying the conditions by the number which they see and in which they find the animals in a proper state and by the fact that whenever they find an experiment going on the provisions of the law with regard to anæsthesia are obeyed. Further guarantees lie in the character of the persons to whom licences are granted and the eminent persons who recommend them and in the fact that such experiments must be performed in registered places which are under the control of responsible authorities, and that all applications are carefully scrutinised before registration is granted

In the course of the sitting Mr. Banbury brought in a Bill to amend the Cruelty to Animals Act, 1876.

Cancerous Cattle.

Sir James Joicey asked the Home Secretary whether his attention had been called to a recent case at the Leicester County Court, before His Honour Judge Wightman, when a statement was made by one of the meat inspectors of the Leicester Corporation that in cases where cancer occurred in an animal (presumably local) he only condemned the part of the animal affected as being unfit for human food but passed the remaining part of the carcass; if so, whether, considering the increase of cancer in the United Kingdom, he would make regulations, or ask the local authorities to do so, to ensure in such cases the condemnation of the whole carcasses of animals in any way affected by cancer.—Mr. Walter Long, replying to the question, said: I have seen a short newspaper report of the case referred to. I am advised that the course adopted would appear to have been sufficient, and it does not seem to me that there is any need to ask local authorities to take action of the kind suggested. I have no power to make regulations on the subject.

Tuesday, June 3rd.

The Holding of Inquests.

Sir John Leng asked the Attorney-General whether his attention had been called to the holding of an inquest on a man, aged 70 years, who died lately in his own house at Mapplewell after being ill for more than three years suffering from cancer; if he would explain why an inquest was held in this case; and whether he would promote legislation to prevent inquests being necessary in such cases.—Mr. Ritchie replied. I find on inquiry that an inquest was held in this case to explain the reason of the deceased man's having a dislocation of the hip, complicated by fracture of the thigh bone, and that it was only after very careful attention to the medical evidence at the inquest that the jury were enabled to return a verdict to the effect that the death was purely natural, and that the injuries to the bones were the result of the cancerous growth and were not due, as had appeared possible, to a fall or external violence of some kind. Under these circumstances it seems impossible to say that the coroner did not properly exercise the discretion given him by the Act

Medical Provision in Orkney.

Mr. Cathcart Wason asked the Lord Advocate if his attention had been called to the fact that a petition from the island of North Ronaldshay, praying that telegraphic communication should be established with the mainland, was refused consideration by the Post Office owing to the extensive nature of the work; and whether, seeing that the population of the island was over 400, that there was no medical officer there, and that medical or surgical attendance could only be procured after considerable delay, he would consult with the Northern Lighthouse Commission, the Scotch Fishery Board, and the Congested Districts Board as to the establishment of communication by heliograph, semaphore, or pigeon post.—The Lord Advocate, in reply, said that the Secretary for Scotland was not prepared to initiate action in the direction indicated by the honourable Member. He would, however, be happy to consider any scheme for facilitating communication that might be laid before him by those interested.

Vaccination Exemptions.

Mr. Corrie Grant asked the Home Secretary whether he was aware that Mr. E. Dew made application to the Spelthorne Sessions, Staines, on Monday, May 5th, for an exemption certificate on the ground of conscientious objection to vaccination; that, four of the magistrates being in favour of granting the certificate and four against, it was refused; and, seeing that under the circumstances two of the magistrates who were in favour of granting the certificate could have signed the certificate, whether he would state what action he proposed to take.—Mr. Ritchie replied. I am advised that where a majority of the justices sitting in petty sessions are not in favour of granting a certificate of exemption from vaccination it would not be proper for any minority to grant the certificate unless the other justices present abstained from adjudicating in the case. There is no action which I can take in the matter.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

Bean, Harold Knowles, M D, C.M., B Sc. Edin., has been appointed Government Medical Officer at Wallsend, New South Wales.

Brook, T. S., M R C S., L R C.P. Lond., has been appointed Medical Officer to the Petersfield Union.

Burritt, B. H., M.B Syd., has been appointed a Member of the District Board for Old age Pensions at Dubbo, New South Wales.

Claremont, Claude C., M.D., has been appointed Physician to the Royal Portsmouth and Gosport Hospital, vice J. Watson, appointed *Consulting Physician.*

Cole, Robert Hodgson, M.B. Durh., has been appointed a Coroner for Victoria.

Colmer, Ptolemy Augustus, M.R.C.S. Eng., L.R.C.P. Lond., L S.A., has been appointed Medical Officer and Public Vaccinator to No. 2 District, Yeovil Union.

D'Ombrain, Ernest Arthur, M.B. Melb., has been appointed Public Vaccinator for the South-Western District, Victoria.

Ercole, Quinto, M D., Ch.D. Bologna, has been appointed Government Medical Officer and Vaccinator at White Cliffs, New South Wales.

Elvins, Henry, F. H., M B. Melb., has been appointed Medical Officer of Health, *pro tem.*, for the Borough of Clunes, Victoria.

Eyre, J. W. H., M.D., has been appointed Bacteriologist to Guy's Hospital.

Floyer, F. A., B.A., M.B. Cantab., M.R.C.S. Eng., L.S.A. Lond., Civil Surgeon attached to Connaught Hospital, Aldershot, has been appointed a Government Medical Officer in the British Central African Protectorate, to proceed to Zomba.

Freemantle, Francis E., M B, B Ch. Oxon., has been appointed Medical Officer of Health to the Herts County Council.

Green, Reginald, M D., D Hy. Dunelm, has been appointed Medical Officer of Health and Medical Officer to Infectious Hospitals for the Kings Norton and Northfield Urban Council.

Holcroft, W. F, has been appointed Medical Officer for the North Molton and Molland Districts by the South Molton (Devon) Board of Guardians.

Lamb, William, M D., C.M. Edin., M.R.C.P. Lond., has been appointed Honorary Surgeon to the Birmingham and Midland Ear and Throat Hospital, vice Dr. Charles Warden, resigned.

Lynch, Peter, L R.C P. Edin, has been appointed Public Vaccinator for the Metropolitan District, Victoria.

McGee, William, L.K Q C.P., has been appointed Officer of Health for the Shire of Phillip Island and Woolamai, Victoria.

Macquarie, Charles Nicol, L.R.C.P. Edin, has been appointed Medical Officer of Health for the Shire of Omeo, Victoria, and Public Vaccinator for the North-Eastern District, Victoria.

Mahomet, Archibald, M.B., Ch B. Aberd., has been appointed House Surgeon to the Paddington Green Children's Hospital.

Morris, F. H., M D. St. And., has been re-appointed Medical Officer of Health to the Wellingborough Rural District Council.

Owen, Frederick James, M D. Melb, has been appointed Public Vaccinator for Needham District, Victoria (Acting), during the absence of Dr. Esler.

Reid, Matthew Alexander, M.B. Edin., has been appointed Acting Officer of Health for the City of Richmond, Victoria, during the absence on leave of Mr. Branson.

Symons, William Henry, M.D. Brux., L.R.C.P. Lond., M.R.C S., L S.A., D P.H. Oxon. and Durh., has been re-appointed Medical Officer of Health for Bath.

Tighe, John M., L.R.C.P. Edin., has been appointed Medical Officer of Health for the Shire of Yarrawonga, Victoria, during absence on leave of Dr. O'Sullivan.

Wilson, Geoffrey R, B.C. Cantab., has been appointed House Physician to the Paddington Green Children's Hospital.

Worthington, Sidney, M.D. Lond., F.R C.S. Eng., has been appointed Honorary Physician to the Chesterfield and North Derbyshire Hospital and Factory Surgeon for the Chesterfield District.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Ayr District Lunacy Board.—Medical Superintendent. Salary £500, with house, coal, gas, &c.

Brighton, Hove, and Preston Dispensary.—House Surgeon. Salary £160 per annum, with apartments, coals, gas, washing, and attendance.

Bristol City Lunatic Asylum.—Medical Assistant, unmarried. Salary £140 per annum, increasing to £160, with apartments, board, and washing.

Central London Sick Asylum at Cleveland-street or Hendon.—First Assistant Medical Officer. Salary £120 per annum, with board and residence at Hendon.

Central London Throat and Ear Hospital, Gray's Inn-road.—House Surgeon (non-resident). Honorarium at rate of 40 guineas a year.

City of London Hospital for Diseases of the Chest, Victoria-park, E—Second House Physician for six months. Salary at rate of £30 per annum, with board, washing, and residence.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—Resident Medical Officer. A salary, with board, residence, and laundry.

Fisherton Asylum, Salisbury.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

Forres Leanchoil Hospital, Morayshire.—Medical Officer. Salary £60 per annum.

Glasgow, St. Mungo's College, Medical Faculty.—Notman Chair of Physiology

Great Northern Central Hospital.—Pathologist and Curator. Salary 50 guineas per annum.

Hartlepools Hospital.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

Hereford County and City Asylum.—Senior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing. Also *Junior* Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

Isle of Man Lunatic Asylum—Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

Kensington Dispensary and Children's Hospital.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, coals, gas, and attendance.

Leicester Infirmary—Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

LONDON HOSPITAL, Whitechapel, E.—Surgical Registrar. Salary £100 per annum. Also Assistant Surgeon.

LONDON TEMPERANCE HOSPITAL, N.W.—Assistant Resident Medical Officer for six months. Honorarium at rate of 60 guineas per annum, with board, residence, and washing.

NORFOLK AND NORWICH HOSPITAL.—Second Assistant House Surgeon for six months. Honorarium £20, with board, lodging, and washing.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Assistant Physician.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried Salary £160 per annum, with apartments, attendance, light, and fuel.

PARISH OF FULHAM INFIRMARY, St. Dunstan's-road, Hammersmith, W.—Second Assistant Medical Officer for six months. Salary £80 per annum, with board, apartments, and washing. Also Locum Tenens for ten weeks, with remuneration at rate of £4 4s. a week, with board, apartments, attendance, &c.

ROYAL DENTAL HOSPITAL OF LONDON, Leicester-square.—Lecturer on Dental Anatomy.

ROYAL EAR HOSPITAL, SOHO.—House Surgeon. Small honorarium.

ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES, Northampton.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with board, apartments, and washing.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck street, Cavendish-square, W.—Resident Medical Officer. Salary £150 per annum, with apartments, attendance, coal, and light.

SALOP AND MONTGOMERY COUNTIES LUNATIC ASYLUM, Bicton Heath, near Shrewsbury.—Medical Superintendent. Salary £850 per annum, with unfurnished house, fuel, light, &c.

SOMERSET AND BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, and washing.

STAFFORDSHIRE COUNTY ASYLUM, Stafford.—Junior Assistant Medical Officer, unmarried. Salary £150, rising to £200, with apartments, board, &c.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House Surgeon. Salary £120 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

SUSSEX COUNTY HOSPITAL.—Second House Surgeon and Anæsthetist. Salary £70 per annum, with board and residence.

WILTS COUNTY ASYLUM, Devizes.—Assistant Medical Officer, unmarried. Salary £160 a year, rising to £190, with board, residence, attendance, and washing.

Births, Marriages, and Deaths.

BIRTHS.

CARLIER.—On May 26th, at Elvetham road, Edgbaston, Birmingham, the wife of Professor E. Wace Carlier, M.D., F.R.S. Edin., of a son.

COPEMAN.—On June 1st, 1902, at 57, Redcliffe-gardens, S.W., the wife of Sydney Monckton Copeman, M.D., F.R.C.P., of a daughter.

HEWETSON.—On May 27th, at Edmund-street, Birmingham, the wife of John T. Hewetson, M.D. Edin., F.R.C.S. Eng., of a son.

MURRAY.—On June 2nd, at Ravenscourt-park-crescent, Llandrindod Wells, the wife of John Murray, M.B., C.M. Glasg., of a son.

REISSMANN.—On April 29th, at Knutsford, Glenelg, South Australia, the wife of Charles Reissmann, M.A., M.B., M.R.C.P., of a daughter.

REYNOLDS.—On June 4th, at Highcroft, Shepherd's Hill, Highgate, N., the wife of Austin Edward Reynolds, M.R.C.S. Eng., of a son.

SMITH.—On May 30th, at 229, High-street, Watford, the wife of G. Francis Smith, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

MARRIAGES.

CODD—LEESON.—On June 3rd, at Sutton Coldfield Wesleyan Church, by Rev. John Codd (father of the bridegroom), assisted by Rev. W. R. Dent and Rev. R. S. Armsby, B.A., John Alfred Codd, M.D., B.Sc. Lond., of Wolverhampton, Honorary Assistant Physician, Wolverhampton General Hospital, to Jennie, daughter of Mrs. Leeson of Sutton Coldfield and the late J. H. Leeson of Moseley, Birmingham.

HENDERSON—BRAMWELL.—On June 3rd, at St. Cuthbert's Church, Colinton, Midlothian, by the Very Rev. the Dean of Edinburgh, J. Hossell Henderson, Advocate, youngest son of the late George Henderson of Leghorn, Italy, and nephew of the late W. J. Ford, 17, Grosvenor-crescent, Edinburgh, to Mary, daughter of Byrom Bramwell, M.D., F.R.C.P.E., 23, Drumsheugh-gardens, Edinburgh.

LOW—ASHBY.—On May 31st, at St. Mary's, Staines, by the Rev. S. T. Wood, Vicar, assisted by the Rev. John Salway, cousin of the bride, Vincent Warren Low, M.D., B.S., F.R.C.S., of 27, Queen Anne-street, W., eldest son of Edward Low, Esq., of Staines, to Mabel, eldest daughter of John Ashby, Esq., J.P., of Staines.

DEATHS.

COTMAN.—On May 27th, suddenly, John Sell Edmund Cotman, M.R.C.P., L.R.C.S. Edin., L.S.A.

DOWN.—On May 28th, at 6, Ellison terrace, Streatham-common, George Down, M.D., M.R.C.S., L.S.A., late of Kensington and formerly of Kennington, aged 83 years.

GIBBON.—On June 3rd, at Abbey Hill, Bury St. Edmunds, Laura, the dearly loved wife of the Rev. Canon Gibbon, aged 77 years.

RODGERS.—On May 27th, at Corporation road, Cardiff, Florence Emily, the beloved wife of J. H. Rodgers, L.R.C.P., L.R.C.S. Edin.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

POLLUTED WELLS.

To the Editors of THE LANCET.

SIRS,—I shall be glad to know through THE LANCET what jurisdiction a medical officer of health has over a well which *is polluted and in his opinion the origin of an outbreak of enteric fever in a dwelling-house?* 1. Must the medical officer of health have the water *analysed* before condemning and closing the well? 2. Have the *rural district* council "power" to prevent the inmates of the house and neighbours *using the water* for drinking purposes *without first having the analyst's report on the water?* 3. In case of urgency has the medical officer of health discretionary powers to close a polluted water supply which in his opinion is the immediate cause of an outbreak of enteric fever without first notifying to the rural district council of his intention, where the *district* council meet only once a month, or must he conform to Section 70, Public Health Act, 1875?

I am, Sirs, yours faithfully,

June 1st, 1902. M. O. H.

*** 1. If our correspondent cannot persuade the owner or *occupier* to close the well he must put the facts before the clerk to the rural district council with a view to having a closing order applied for. The magistrate *may*—but it does not follow that he shall—order the water to be analysed or he may at once order the well to be *closed*. 2. The rural district council has no power other than through a magistrate's order. 3. Our correspondent should proceed as suggested under answer No. 1, and, if necessary, immediately inform the clerk who is then responsible for taking the consequent legal measures. In a matter of urgency the clerk would call a special meeting of the rural district council or sanitary committee.—ED. L.

THE LOCUM-TENENT AND COTTAGE HOSPITAL APPOINTMENTS.

PAX writes: "There is a small cottage hospital in a country town, where the patients are treated gratuitously by the medical men in the neighbourhood elected by the governors. In the event of one of these gentlemen being absent from home would his locum-tenent take his place as a matter of course without consent of the governors?" We think that it would be the best course for the locum-tenent to take the place of his principal automatically. Presumably the principal takes care, for the sake of his patients and himself, to be replaced by a competent man. The governors could hardly be expected to go into the *pros* and *cons* of a man's suitability to hold a temporary post at the hospital.

THE LAW FUND.

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON.

THE following additional subscriptions have been received by Dr. Paramore, 2, Gordon-square, W.C.:—

	£	*s.*	*d.*		£	*s.*	*d.*
Dr. Philip Frank	2	2	0	Dr. Surtees Sumner ..	0	10	6
Mr. J. A. Peters	0	5	0	Dr. Stacey Wilson ..	0	10	6
Dr. James Bremner	0	10	6	Dr. Thomas Marshall .	0	10	6
An Ounce of Help is Worth a Ton of Pity	1	1	0	Mr. Ambrose Greet ...	0	10	6
				Dr. William Travers ...	1	1	0

SAM BROWNE BELTS FOR VOLUNTEER MEDICAL OFFICERS.

To the Editors of THE LANCET.

SIRS,—Volunteer medical officers will find the authority for wearing them (1) Volunteer Regulations, paragraph 917, p. 150, "As for officers of Royal Army Corps of corresponding rank." (2) Dress Regulations, appendix viii., p. 110, "Worn by officers of all branches of the service."

I am, Sirs, yours faithfully,
P. B. GILES, Brigade-Surgeon Lieutenant Colonel,
S.M.O. I., V.A.S. I.

Bletchley, June 3rd, 1902.

A CASE FOR DIAGNOSIS.

IN an "Account of the Author, from the Hand of a Surviving Sister," which is prefixed to the first volume of poems (1810) by the Rev. James Hurdis, D.D., Professor of Poetry in the University of Oxford, the circumstances of the author's death are thus described: "On Saturday, Dec. 19th, 1801, he went to Buckland in Berkshire and on the day following performed the whole of Divine service at that church. On the Monday evening he was attacked with a violent shivering, similar to that of an ague fit. On Tuesday he was unable to rise from his bed, complaining of great inability and heaviness upon his eyes, which prevented him from opening them. Every medical assistance was procured but to little effect, as he expired, apparently in a sound sleep, on the Wednesday evening, in his thirty-eighth year." It is a pity that no indication of the line of treatment adopted is given, but at that time bleeding was customary and was doubtless practised in this case. It certainly seems strange that a healthy young man should die "in a sound sleep" after an illness of only 48 hours In a letter to the poet Cowper, of which a copy is given in the "Account," Dr Hurdis himself alludes to the death of another sister in the following terms: "I watched by her nine-and thirty nights. I have seen my amiable and affectionate Catharine gradually put to death by a disease at once painful and lingering She had suffered extremely, and for nearly a week before her death had only short intervals of sense, in which she was unable to articulate her wants In the evening on which she died her senses returned, and she acknowledged us all, *rewarding us with many thanks for our attention to her.* She was then seized with a difficulty of breathing and slight convulsion, which did not appear very alarming to me, because I had seen her recover from the same symptoms before. I was the only person in the room when these began to abate, and she seemed to fall into a sound sleep, breathing without difficulty. I sat beside her, looking in her face, and the ease with which she slept soon inclined me to nod I almost fell from my chair more than once, and being apprehensive that I might disturb her if I persisted I went into the next room, to lie down upon a mattress which was on the floor. I met my eldest sister at the door, and desired her to give me notice when I was wanted I had scarce laid myself down when she came and informed me that her breath had ceased. I returned immediately into the room and was witness to two slight efforts made by nature to recover the action of the lungs, which not being attended with success she gave up the contest without deranging a single feature. The eyelid was still closed, the hand reclined upon the side of the easy chair, into which she had been partly raised from the bed, and not one attitude of the composure in which I left her had been disturbed "

FOREIGN EYE CLINICS

To the Editors of THE LANCET.

SIRS,—I should be glad if you could tell me where I could obtain information respecting fees, cost of living, &c, at the different "eye clinics" in Germany and Austria. Is a knowledge of each language a necessity? If any reader of THE LANCET would oblige with a brief summary of his personal expenses and experience it would be deemed a great favour I am, Sirs, yours faithfully,

June 2nd, 1902. THECLA W-ALBUM.

THE INJECTION OF COCAINE AND THE MORPHIA HABIT.

To the Editors of THE LANCET.

SIRS,—I have a patient who has contracted the morphia habit. He injects daily seven or eight tabloids of morphia sulphate (one-eighth of a grain) and atropia sulphate ($\frac{1}{300}$th of a grain). I should be glad to hear if any of your readers have tried to counteract the habit by the injection of cocaine and, if so, what doses would they advise?

I am, Sirs, yours faithfully,

May 30th, 1902. F. G B.

WANTED—A HOME

To the Editors of THE LANCET

SIRS,—Can any of your readers inform me of a home or institution suitable for a feeble-minded girl, aged 18 years, belonging to parents of the working-class? I am, Sirs, yours faithfully,

B. BROWN, M.R C S. Eng, &c.

3, London road, Bromley, Kent, June 2nd, 1902.

THE "Y" FUND.

SURGEON GENERAL H. S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from Dr. L. G. S Molloy (Blackpool), Dr. J A. Rigby (Preston), Dr. J. Gordon Black (Harrogate), Dr. W A. Elliston (Ipswich), Dr. H. Townsend, Mr S. Chard, Colonel Warburton, I M.S. (retired), Lieutenant-Colonel C K Powell, I M S (retired), Major A. Coleman, I M S, and the following officers of the Royal Army Medical Corps: Colonels J J Macnamara and A. W. Duke; Lieutenant-Colonels W W. Kenny, O'B. White, J. Barrye, W. Donovan, C.B, Ward, F P. Nichols, and G A. Hughes, D S O, Majors R. H Penton, D S O, J V. Salvage, J. W. Cockerill, Barnett Wilson, E. M Hassard, A. B Cottell, and J. M. Irwin, and Captains H W. H. O'Reilly and J D Alexander. The fund now amounts to £224. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington gardens terrace, Hyde Park, London, W

THE PREHISTORIC REMAINS RECENTLY ACQUIRED BY THE BRITISH MUSEUM.

To the Editors of THE LANCET.

SIRS,—I do not think that the inference drawn by Mr R Henslowe Wellington in his letter appearing in your issue of May 3rd, p 1293, with reference to the reconstructed burial in the British Museum is warranted by the facts I have recently had an opportunity of seeing the prehistoric cemetery in the Girga province here, which is being excavated with the most minute care and accuracy by Dr G. Reisner of Harvard University and his assistants, and I do not think there is any doubt whatever that the bodies were actually laid on their sides for burial, either in mats or baked clay coffins, and that this position is not due in any way to gravitation If this were so it would be difficult to account for the regularity with which the bodies in this cemetery are found on the left side. I may say that the site shows no signs of having been disturbed and many of the bodies are almost perfectly preserved (not by artificial means), though the date of their burial may be put at somewhere before 3000 B C.

I am, Sirs, yours faithfully,

Kolosua, Upper Egypt, May 23rd, 1902. A. T. WHITE.

◆

B. T. R—1 By the provisions of Section 4 (2) of the Notification Act, 1889, it is enacted that "the local authority . shall pay to every medical practitioner for each certificate duly sent by him in accordance with this Act a fee of 2*s*. 6*d*. if the case occurs in his private practice, and of 1*s*. if the case occurs in his practice as medical officer of any public body or institution.' The parish cases referred to by our correspondent would come under the 1*s* group. He would find a copy of the Infectious Disease (Notification) Act, 1889, useful for purposes of reference. 2. (*a*) There is no provision for the payment out of the public funds for the revaccination of children under 10 years of age, and our correspondent will, we think, find this *proviso* in his contract with the guardians (*b*) Similarly the contract will show that the fee for revaccination at the home of the patient is not the same as that for revaccination performed *elsewhere* than at the home of the person revaccinated. (*c*) As a public vaccinator cannot, in his official capacity vaccinate or revaccinate persons resident outside his vaccination district the guardians have no power to pay for such vaccination The clerk is, we think, right on every issue and we should counsel B T. R. not to press the matter further He should make himself quite familiar with his contract and procure for reference "Shaw's Manual of the Vaccination Laws," published by Shaw and Sons, Fetter-lane, Fleet-street

K I.T—It is a very usual, but a most irregular, practice for relieving officers to procure an informal certificate from the medical attendant of a person alleged to be of unsound mind before they remove the patient to the workhouse, so that this may, if necessary, be shown in justification of the removal. This is a practice which all medical men should be aware of and studiously avoid, for such a certificate is not covered by law and they run great risks of an action at law by the patient after recovery or by his friends. If it was a certificate of this kind which our correspondent gave he can claim no fee—indeed, he may think himself fortunate if he escapes the action at law to which we have referred. If, on the other hand, the certificate he gave was on the form prescribed by the Commissioners and at the request of a justice of the peace conveyed to him through the relieving officer, he will be fully entitled to such fee as the justice orders and the guardians have no option but to pay.

Locum Tenent—We do not think any time can be stated when the proceeding would be unobjectionable A locum tenent should never return to a locality where he has been doing the work of other medical men in return for a salary Whatever his real idea may be, it must always appear that he has returned in the hope of detaching patients from a previous employer. Our correspondent will understand that our reply is based upon the general question, he has mentioned no particular circumstances.

S. W, M D—Our correspondent will find the information he seeks in a work entitled "Clinical Hæmatology," by Dr J C Da Costa, jun; published by Rebman, 129, Shaftesbury avenue. By the word "hæmatology" is understood "the science of the blood, its nature, functions, and disorders."

Degree.—Any man possessing a doctorate given by a recognised university is a "doctor." Medical men are sometimes styled "doctor" because they happen to possess such a degree and sometimes because it is the time-honoured and popular method of addressing them.

Spero and other correspondents who have written to us on the subject of the proper "kit' for medical officers in the Yeomanry and Volunteer corps will find their questions answered under the heading of "The Services" on p 1642 of our present issue

Public Vaccinator is thanked for sending us the newspaper cutting The subject of vaccination fees is at the present moment under the consideration of the President of the Local Government Board

J. C L—No.

During the week marked copies of the following newspapers have been received:—*Hong Kong Daily Press, Allgemeine Medicinische Central-Zeitung, Il Policlinico Aberdeen Free Press, Rivista Medica de San Paulo Echo, Bristol Mercury, Liverpool Daily Post, La Caducée, Hong Kong Weekly Press, Times of India, Reading Mercury, Local Government Chronicle, Hertfordshire Mercury, Windsor and Eton Express, Sunday Magazine, Kensington News, St James's Gazette Ibero-Americana de Ciencias Médicas, Pharmaceutical Journal, Manchester Guardian Dublin Evening Telegraph, Southampton Echo, Coventry Herald, Belfast News, Birmingham Daily Mail, Scientific American, Literary Digest (New York), &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 5th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
May 30	29 65	E.	0·19	79	68	49	51	52	Overcast
" 31	29 66	SSE	0·20	117	70	52	58	61	Cloudy
June 1	29·72	S.E.	0·02	109	68	61	57	63	Cloudy
" 2	30 05	S	0·03	118	74	57	53	57	Cloudy
" 3	30 03	S.E.	0·41	113	78	54	55	58	Cloudy
" 4	30 00	W	0·22	88	65	57	56	58	Cloudy
" 5	30 05	S.W	0·11	113	65	55	56	59	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (9th).—London (2 P.M.) St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.) Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.) Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.).

TUESDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) Guy's (1.30 P.M.), Middlesex (1.30 P.M.) Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (11th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.) National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.), Cancer (2 P.M.) Throat, Golden-square (9.30 A.M.).

THURSDAY (12th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.) St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.) Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.) Throat, Golden-square (9.30 A.M.)

FRIDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.) St Thomas's (3.30 P.M.), Guy's (1.30 P.M.) Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.) Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.) Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (14th).—Royal Free (9 A.M.) London (2 P.M.) Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.) Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.) Throat, Golden-square (9.30 A.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.) the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily

SOCIETIES.

TUESDAY (10th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussion on Mr T J Tonkin's paper on Some General and Etiological Details concerning Leprosy in the Sudan, and on Mr J Hutchinson's paper on Leprosy in Natal and Cape Colony Papers:—Mr H. Gilford: An Account of a Disease which is characterised by Conspicuous Delay in the Processes of Growth and Development—Ateleiosis.

WEDNESDAY (11th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Demonstration of Cases of Interest.

THURSDAY (12th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Instruments and Specimens will be shown by Mr H. Smith and others. Paper:—Dr. H. Snow: Is there any real Deciduoma Malignum.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—Cases and Specimens will be shown by Mr N T Yarr Mr J H. Parsons, Dr L. Buchanan, Mr M. S. Mayou, Mr A. Lawson, and Mr W T H. Spicer Papers:—Mr W. C. Rockliffe: (1) Further Note on a Case of Secondary Carcinoma affecting both Eyes; (2) Notes on a Case of Leprous Ulcer of the Cornea.—Dr A. Bronner: Notes on Two Families with Congenital Microphthalmos and Cataract.—Dr L. Buchanan: Keratitis, Evidence of the Proliferation of the Corneal Corpuscles.—Major H. Herbert, I.M.S.: Colloid Degeneration of the Conjunctiva.

FRIDAY (13th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11 Chandos-street, Cavendish-square, W.).—4.30 P.M. Prof. Fuchs (Vienna): Keratitis. (Bowman Lecture.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr T. C. Fox: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital Hammersmith-road, W.).—5 P.M. Mr Baldwin: Treatment of Injuries

TUESDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Sir W Broadbent: Clinique (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road W.).—5 P.M. Dr J A. Moullin: Antiflexion of Uterus, Dysmenorrhœa, and Sterility

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Ormerod: Anterior Poliomyelitis.

WEDNESDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr P J Freyer: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road W.).—5 P.M. Dr Cole: Dementia and Paralytic Dementia.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr Kidd: Bronchiectasis.

THURSDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road W.).—5 P.M. Dr Davis: Medical Anatomy and Physical Diagnosis.

THE HOSPITAL FOR SICK CHILDREN (Gt Ormond-street, W.C.).—4 P.M. Mr H S. Collier: Demonstration of Selected Cases.

CHARING CROSS HOSPITAL.—4 P.M. Dr Murray: Demonstration of Medical Cases. (Post Graduate Course.)

FRIDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr R. Lake: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr Reece: Chronic Poisoning by Minute Doses of Lead and Arsenic.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor"

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS. not used.

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Letters, each with enclosure, are also acknowledged from—

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Presidential Address

ON

THE ANNUAL VARIATION OF PUERPERAL FEVER COMPARED WITH THAT OF SOME ALLIED DISEASES.

Delivered at the Opening of the Session of the Hunterian Society

BY A. L. GALABIN, M.D. CANTAB., F.R.C.P. LOND.,

OBSTETRIC PHYSICIAN TO GUY'S HOSPITAL.

GENTLEMEN,—In selecting a subject for a short address on the commencement of my duties I have chosen one which is connected with my own speciality but is related also to general medicine and surgery—namely, the variation in prevalence of puerperal septicæmia in different years as compared with that of certain allied diseases—erysipelas, general septicæmia and pyæmia, scarlet fever, and acute rheumatism. The method I have followed is not a novel one but is in the main that adopted by Dr. G. B. Longstaff in his work, "Studies in Statistics," published in 1891. In this work is a table, which I have reproduced in part in my "Manual of Midwifery," showing, by the graphic method of curves, the variations of the above-mentioned diseases, as well as several others, for the 25 years 1855–1880 in England and Wales. I now present to you two diagrams (Figs. 1 and 2) showing the variations of these five diseases. One refers to England and Wales and includes 19 years—1881–1899—commencing after the end of those years tabulated by Dr. Longstaff. The other refers to London and includes the 20 years 1881–1900. The figures are taken from the reports of the Registrar-General, but these, unfortunately, are published only a long while after the date referred to. Thus the annual report for 1900 is not yet published and I cannot therefore carry the statistics for England and Wales further than the end of 1899. By using, however, the short annual summary of weekly reports I am enabled to carry the statistics for London to the end of 1900 and so complete the 20 years. These annual reports of the Registrar-General have thus only a retrospective interest in any bearing they have upon medicine or surgery, for a warning nearly two years after date of any existing or threatened epidemic prevalence of disease is too late to be of service. In the weekly reports too many diseases are grouped together to furnish information as to the prevalence of any one except a very few zymotic diseases. It appears a great pity that there cannot be given at least in the quarterly reports as much information as to the prevalence of particular diseases both in England and Wales and in London as is now to be found for London only in the short annual summaries of weekly reports.

The following is the plan which I have adopted in constructing the diagrams. The curves by their ordinates represent the percentage above or below the mean of the mortality of the disease in question for any given year. This is the method of representation followed by Dr. Longstaff, and before him by Buchan and Mitchell in the *Journal of the Scottish Meteorological Society* for 1874 It avoids the difficulty which would otherwise exist in comparing the curve of a disease having a high mortality with that of one having a comparatively very low one and allows the relative variations of each to be readily seen. I have not, however, taken the figures from the mortality of the different diseases per 1,000,000 living, as given in the Registrar-General's reports, according to the estimated population. I have taken the actual number of deaths for each year and first reduced each of these to the percentage above or below the mean and embodied them in curves. The mean, as corrected for population, is there represented as a slightly ascending diagonal line for each of the 10 years 1881–1890, 1891–1900, according to the results of the censuses in 1881, 1891, and 1901. It is then easy to see in this preliminary diagram the percentage of mortality in each year above or below the corrected mean. Thus a second diagram is constructed in which the mean is reduced to a horizontal line, as in the figures before you. This method ought to be somewhat the more accurate, since of late years each census has shown that the estimated population has been put too high both for England and Wales and for London.

The uppermost curve on each diagram represents the annual rainfall in inches at Greenwich. This is an inverted curve, the ordinates being drawn from above downward, so that each elevation of the curve represents a minimum and each depression a maximum rainfall. The reason for inverting the curve in this manner is that it is found that, on the whole, a minimum rainfall generally corresponds to a maximum mortality from the diseases in question, and a minimum rainfall to a maximum mortality, a result which may at first sight appear surprising as regards acute rheumatism. It must be admitted, however, that this relation is by no means clear or decisive in the 20 years under consideration. A dry year in 1884 is associated with a slight maximum in two only of the curves—that of erysipelas and that of septicæmia. A dry year in 1887 is associated with a maximum in three curves—puerperal fever, erysipelas, and scarlet fever; a less extremely dry year in 1890 with a slight maximum in four curves—puerperal fever, erysipelas, scarlet fever, and rheumatic fever. The most marked association is that of the dry year 1893 with an isolated maximum which is the most prominent feature of four out of the five curves throughout the whole 20 years, that of septicæmia being excepted, and which is more developed in London where one would expect the association with rainfall at Greenwich to be closer than in England and Wales. In observing more particularly the peculiarities of 1893 it is notable that it followed another year, 1892, which was dry though less extremely so; and that in one of its quarters, April to June, there occurred the minimum quarterly rainfall of the whole 20 years—namely, 1·47 inches. There was also a second period of drought, less extreme, for eight weeks in August and September and a large proportion of the whole rain of the year fell in six weeks, the eighth, ninth, twenty-eighth, forty-first, forty-second, and forty-sixth weeks of the year, only one of these lying between the beginning of March and the end of September.

Thus far there appears a distinct association of dry seasons with maximum mortalities of the five diseases. But since 1893 there have been two dry years, 1895 and 1898, occurring singly, and not associated with any maxima of these diseases but rather with minima. But in these years the rain has been more distributed. Thus while in 1893 there were only 27 days on which rain fell in the four months March to June, in 1895 there were 45 and in 1898 57. In the diagram constructed by Dr. Longstaff for the preceding 25 years, 1855–1880, there appears a much closer correspondence between maximum mortalities of these diseases and minima of a curve constructed by adding together the percentages above or below the mean of the amount of rainfall and the number of days in the year on which rain fell. The conclusion is that there is a connexion between unusual dryness and excessive mortality of these diseases, but that this connexion has not been apparent since 1894, having probably been overbalanced by other causes of improved mortality.

The meteorological character of the seasons might increase the prevalence of disease either by promoting the growth of pathogenic microbes outside the body or by facilitating their diffusion or conveyance. It appears inconceivable that a dry season can, while it lasts, promote the growth of microbes outside the body, or even help to preserve them alive, though it can be readily understood that damp ones might do so. If very dry periods therefore promote the spread of microbic diseases the probable conclusion is that they do so by aiding the dissemination of microbes in the form of dust. An example may be cited tending to show the occasional importance of dust conveyance of contagion even in the case of enteric fever, which is generally water borne—namely, the recently reported case of Bermuda. In Bermuda, enteric fever had long been very prevalent, so long as the dry earth system of latrines was in use. On the change of this system to that of water-borne sewage the prevalence of the disease was greatly diminished. It is obvious that the water-borne sewage would increase, rather than diminish, the risk of contamination of water, while the dry earth system might promote the conveyance of contagion by dust.

In order to test whether the effect of drought on the spread of disease is immediate and direct I have constructed a diagram (Fig. 3) showing the weekly variations of the

FIG. 1 (ENGLAND AND WALES).

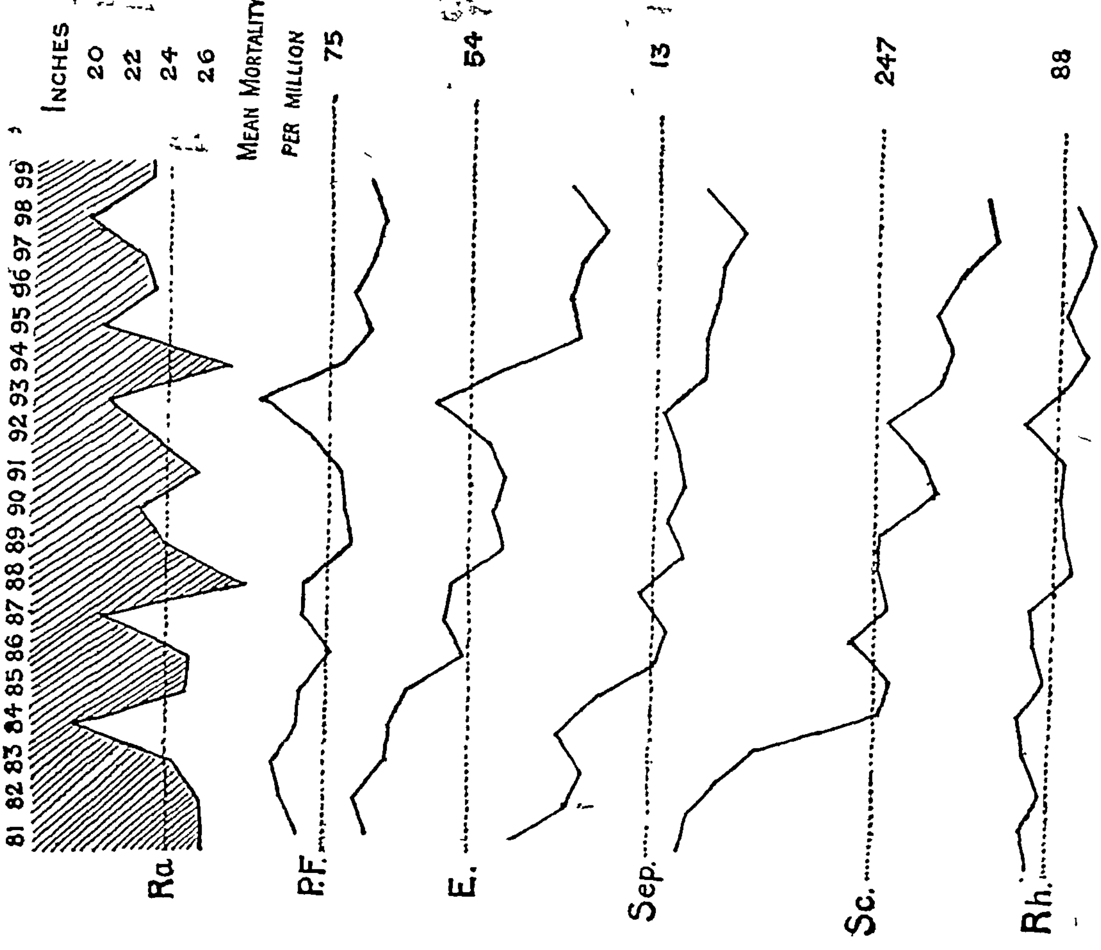
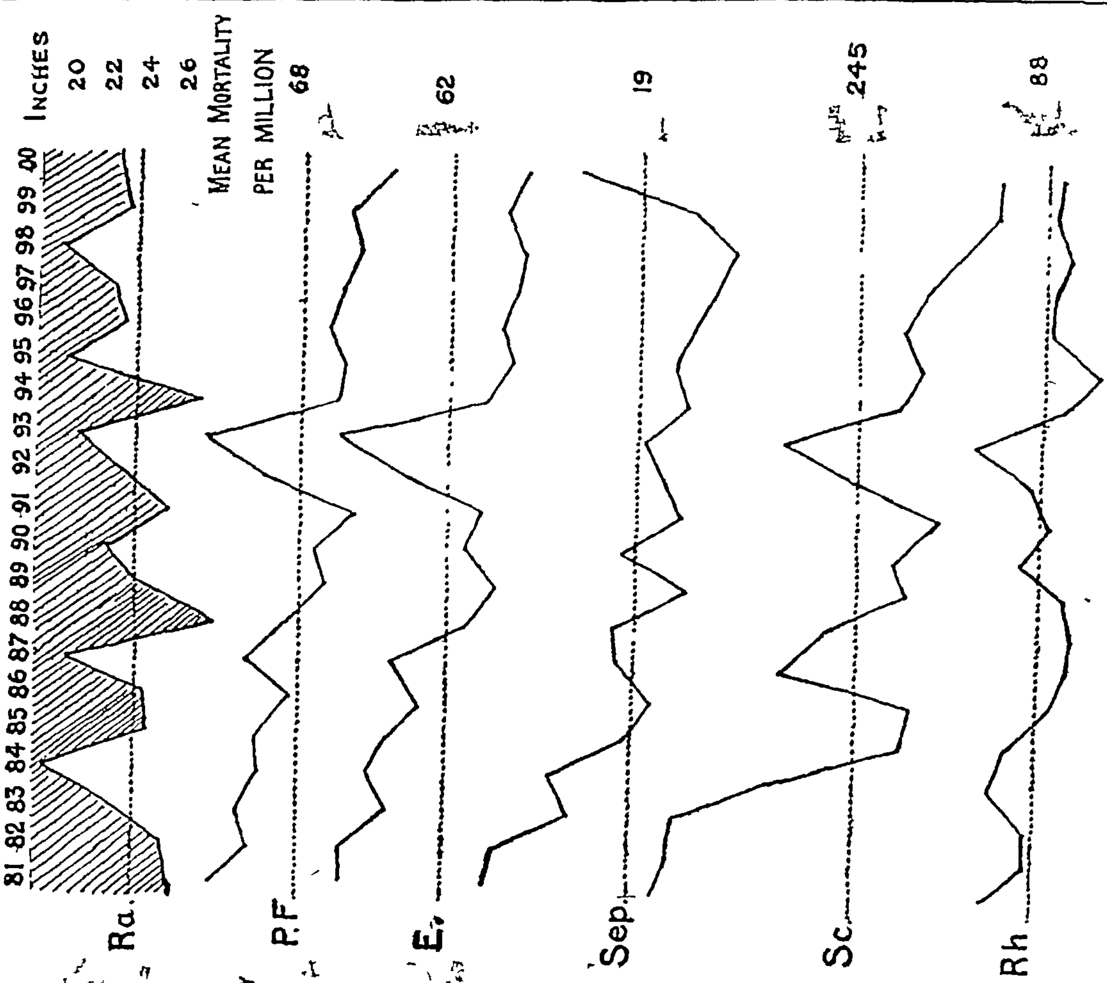


FIG. 2 (LONDON).



Ra., Rainfall at Greenwich (inverted curve). P. F., Puerperal fever. E., Erysipelas. Sep., Septicæmia and pyæmia. Sc., Scarlet fever. Rh., Rheumatic fever with rheumatism of the heart.

older, it is evident that the further development of moral control must also be a gradual process. The capacity for such development is present, we may reasonably assume, in the normal infant at birth, and so far there is an analogy, not to say connexion, between moral control and general intellectual acquirements; moreover, both are largely dependent on training and environment for their increase. This gradual growth of moral control in the normal child is a point to be remembered when we come to consider how far defective control is to be regarded as a morbid manifestation, for it follows that a degree of moral control which may be perfectly normal in a very young child may be altogether below the average for a child a few years older. Further, we must recognise that the development of moral control varies considerably in different children at the same age; such variation is no doubt in part the result of environment, but partly also, it seems possible, the result of differences in the innate capacity for the development of such control. To this important point I shall refer more fully hereafter; here I will only say that whilst the degree of development of moral control in children at various ages falls in the large majority of cases within a limited, albeit ill defined, range of variation which we arbitrarily recognise as normal for the age, there are children in whom moral control falls so far below this standard that the question may well be raised whether in such cases the defect is not the manifestation of some morbid psychical condition. In seeking the answer to this question it will, I think, be best to consider, first, defect of moral control in association with general impairment of intellect, for here, at any rate, it will be allowed that the moral failure is a morbid phenomenon.

DEFECT OF MORAL CONTROL ASSOCIATED WITH GENERAL IMPAIRMENT OF INTELLECT.

Morbid defect of moral control in children is most often seen in association with idiocy or imbecility and this association calls for special attention, as it is here that the relation of moral control to intellect can be studied most easily, inasmuch as grades of intellectual capacity are here more easily discernible and therefore more readily available for comparison; moreover, it will, I think, be seen that it is in idiocy or imbecility that we can most easily discriminate between certain differences in the causation of moral defect. In the lowest grade of idiocy moral control is necessarily an impossibility. The drivelling idiot who recognises no one, does not distinguish his food, and is little more than a mere automaton stands in little or no cognitive relation to his surroundings and *a fortiori* lacks that higher form of reasoning comparison which we call moral consciousness. Here, therefore, the absence of moral control is complete. Such cases are of interest chiefly as exemplifying one cause of failure of development of moral control; they have otherwise little bearing on the question before us and need not detain us further. I may, however, point out that in considering cases with any degree of general impairment of intellect caution is required in accepting absence of activity as evidence of moral control; the idiot of low grade does not steal nor, perhaps, does he behave spitefully, but this is not to be attributed to moral control but to the absence of stimulus owing to the fact that he is not in cognitive relation with his environment; and going further one may say that where there is a cognitive relation only to a limited portion of environment to that extent stimulus is limited and the corresponding activities will be absent. For instance, the idiot whose intellectual impairment is such that he has no appreciation of the value of money and does not distinguish it from other objects and has no pleasure even in mere acquisition does not steal, whilst a higher grade idiot who knows the use of money or takes a delight in mere acquisition does steal. To contrast two such idiots as showing in the former case moral control and in the latter its defect would be entirely fallacious; the absence of stealing in the former is due to the absence of stimulus—that particular idiot is, so far as money is concerned, cut off, if I may so say, from his environment.

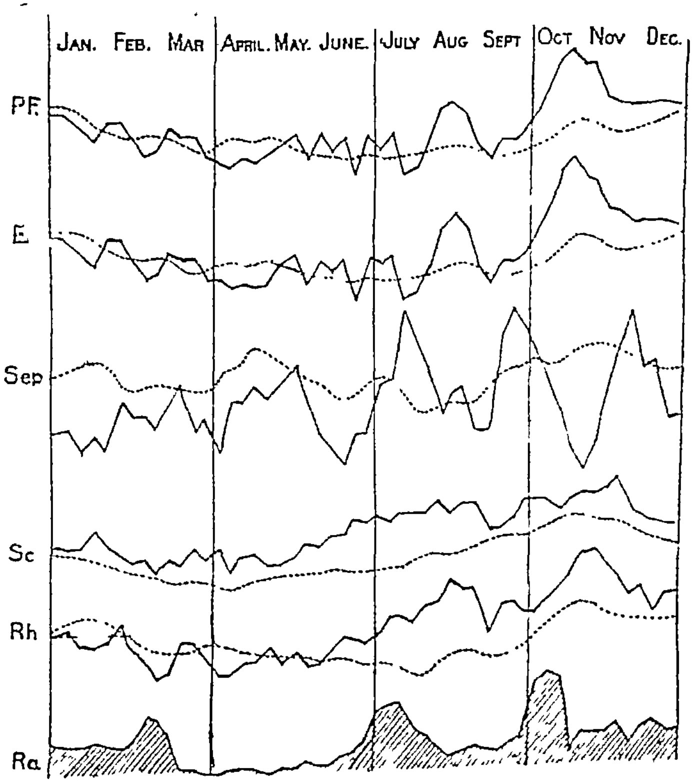
With this caution we may turn to the consideration of idiots of higher grades, and the first point which calls for attention is the frequency of defective moral control in these children. Of 90 consecutive imbeciles from three to 12 years of age under my own observation 23 showed a lack of moral control which was quite unnatural for the age of the child. It must not, however, be supposed that any one of these children showed every possible manifestation of moral deficiency; indeed, with a morbid defect of moral control from any cause, while it is probable that there will be several manifestations, it is quite unusual for all the possible manifestations to be present. Lack of moral control may be shown in many ways, and it will be convenient to have before us a list of those qualities which in their corresponding activities make up the picture of morbidly defective moral control, as it is seen not only with general impairment of intellect but also, as I shall show, with other conditions in children. These qualities are—(1) passionateness; (2) spitefulness—cruelty; (3) jealousy; (4) lawlessness; (5) dishonesty; (6) wanton mischievousness—destructiveness; (7) shamelessness—immodesty; (8) sexual immorality; and (9) viciousness. The keynote of these qualities is self gratification, the immediate gratification of self without regard either to the good of others or to the larger and more remote good of self. Some of these qualities, it will be observed, are natural to children at a certain age and to a certain extent; it is their persistence in a degree unusual for the particular age and not corresponding to the influences of environment which constitutes their abnormality in these children. Of the 23 cases which I mentioned 20 showed an abnormal degree of passionateness which in most of the cases was associated with other manifestations of defective moral control, but no one of these was so frequent as passionateness which in two of the cases appeared to be the only manifestation. This predominance of passionateness amongst the phenomena of defective moral control in children with general impairment of intellect is, I think, worthy of notice, for we shall find that not only in these children but also in many of the various conditions under which morbid diminution or defect of moral control occurs passionateness is the commonest of all its manifestations, and, as I shall show, this fact may throw some light on the psychical defect in these cases.

Next in order of frequency is spitefulness or cruelty which was a noticeable feature in 12 out of the 23 cases—I mean by this the wanton infliction of pain or discomfort on others; in my own observations I have somewhat arbitrarily restricted the term "spitefulness" to this tendency when it referred to infliction of pain or discomfort on other human beings, whereas when it was displayed towards the lower animals I have distinguished it as cruelty. Such cruelty was less frequent than spitefulness, it was noted only in two of the cases, but this may have been because there was less often opportunity for its display.

As a third prominent characteristic of deficient moral control not only in imbecile children but also in those whom I shall consider later, with no obvious intellectual deficiency, I may mention lawlessness. I have no figures to show its actual frequency, which, however, I fancy is very considerable. By lawlessness I do not mean, of course, the occasional or even frequent failure to conform to law—whether it be nursery law, school law, or the law of the land—which in greater or less degree is natural to children, but a reckless disregard for command and authority in spite of such training and discipline as experience shows will render a healthy child law-abiding to a certain roughly definable degree varying with the age. The other manifestations were all less frequent, and as I shall have occasion to illustrate them by actual cases I need say little about them here. By jealousy I mean, of course, not the mere emotion but its uncontrolled expression. Shamelessness and immodesty I have placed together as near akin to one another, for both are emotional qualities concerned with the relation of self to others. The essential element in both is an emotional shrinking from exposure to others, whether the ground of such shrinking be fancied or real, and this implies not merely the lowest and simplest form of cognition but also a capacity for reasoning comparison with regard to more complex relations which must approach, if it does not actually reach, the level of moral consciousness. As might be expected, therefore, in imbeciles of low grade both shame and modesty are often lacking, and I would add that it is by no means uncommon with impairment of intellect in children to meet with a curious absence of shyness or reserve, which may be included under the heading immodesty and which may have similar results so far as violation of social custom is concerned. In the idiot of low grade such a condition scarcely attracts notice, for the inability to discriminate between persons or between the different relations of the particular idiot to those persons is sufficiently explained by the profound intellectual deficiency; but in the child who is only slightly backward five diseases in London for the remarkable year 1893, in which four of them showed a high maximum of mortality. The numbers are reduced to percentages above or below the mean; and to render the curves more continuous I have adopted what is known as Bloxam's method. Instead of taking the mortality of each single week as the ordinates of the curve I have taken the mean mortality of each consecutive three weeks. This method tends to eliminate casual variations when the number of cases under consideration is not great enough to eliminate them. The continuous lines show the weekly variation of the five diseases in 1893; the dotted lines the mean weekly curves calculated from the 10 years 1883–1892. It will be seen that the scarlet fever mortality is above the mean of the season throughout the whole year. The chief excess occurs through the second half of the very dry period and two months following, a great part of these being also a period of drought. But, on the contrary, the excessive mortality of puerperal fever, erysipelas, and rheumatic fever does not occur in the dry period but forms an excess of two normal rises—one in August and the other at the end of October. Each of these culminates from two to four weeks after a heavy rainfall. It would seem, therefore, that in scarlet fever drought may directly promote contagion by the spread of dust, but that in septic diseases and rheumatism the effect only appears after an intervening rainfall and lapse of time. This would look as if it implied a growth of microbes outside the body following their dissemination, for the interval is too great to be simply due to time occupied in the development of the disease, especially since the greatest maximum of mortality did not occur till the end of October.

Comparing the mean death-rates per 1,000,000 living in England and Wales for the five diseases, the number for puerperal fever is 75, for erysipelas 54, for septicæmia and pyæmia 13, for scarlet fever 247, and for rheumatic fever, including rheumatism with affection of heart or pericardium, 88. In estimating the mortality of puerperal fever it must be remembered that it is limited to one sex and to a comparatively small number of years in the prime of life. Among the relatively large number of deaths from scarlet fever a great proportion occurs in children. It is a notable fact that the mortality of puerperal septicæmia is nearly six times as great as that of all other forms of septicæmia and pyæmia together. For London the mean death-rate of puerperal fever is 9·3 per cent. lower than for England and Wales; of erysipelas, 14·7 per cent. higher; of septicæmia and pyæmia, 46·1 per cent. higher; of scarlet fever, 0·8 per cent. lower; and of acute rheumatism, identical. The specially high excess in London for septicæmia and pyæmia is probably connected with the large proportion of patients who come to London for treatment in hospitals and other institutions. It cannot be taken as showing any excess of septic microbes in London, much less any inefficiency in antisepsis on the part of London surgeons. The lower rate for puerperal fever in London, as contrasted with the higher rate for the other septic diseases, is satisfactory for obstetric practice in London. The death-rate in England and Wales

FIG. 3.



P. F., Puerperal fever. E., Erysipelas. Sep., Septicæmia and pyæmia. Sc., Scarlet fever. Rh., Rheumatic fever with rheumatism of the heart. Ra., Rainfall at Greenwich. The continuous lines denote the weekly mortality in 1893. The dotted lines denote the mean weekly mortality of the ten years 1883–1892. The numbers have been adjusted by Bloxam's method for the construction of the curves, and reduced to percentages above and below the mean.

appears to be raised by that of remote country districts where medical aid is difficult to obtain and uninstructed midwives are more employed.

The curve of mortality for puerperal fever (Figs. 1 and 2) shows a decided downward tendency, like that of the other four diseases, and this is the more satisfactory since no decided tendency of the kind was shown for any of them in Dr. Longstaff's diagram for the preceding 25 years. It begins at 16 per cent. above the mean for England and Wales and 40 per cent. for London. It finishes at 22 per cent. below the mean for England and Wales and 50 per cent. for London, the lowest point reached. This last result, however, was attained in 1900, for which year the figures for England and Wales are not yet available. Since 1888 it has never been above the mean except for the remarkable rise beginning in 1892 and culminating in 1893, which is more or less common to all the curves but especially marked in puerperal fever, in erysipelas, and, in London, in scarlet fever. Its relation to the exceptionally dry early summer quarter has already been noted. In puerperal fever the rise is more marked in London, where it reached 44 per cent. above the mean, as compared with 34 per cent. for England and Wales.

Since it was formerly a controverted question whether puerperal septicæmia is ever epidemic it is of interest to note that its degree of variation is fairly comparable with that of the other four diseases. It is considerably less than that of scarlet fever, reaching only 44 per cent. above the mean in London, as compared with 108 per cent. for scarlet fever. It is somewhat less than that of erysipelas and septicæmia but decidedly greater than that of rheumatic fever, which for England and Wales does not rise more than 20 per cent. above the mean, though in London in the notable year 1893 it rose 38 per cent. above the mean. The mean death-rate for puerperal fever is greater than in the preceding 25 years—75 as compared with 63 per million living, but this appears to depend, partly at any rate, upon a change in the practice of the Registrar-General. Since 1881 it has been the custom, when any woman's death is returned as due to septicæmia or peritonitis, to send a letter to the certifying practitioner inquiring whether there has been recent parturition. In the first year of this practice 14 per cent. of deaths were added in consequence to the heading of puerperal fever. The numbers, therefore, are strictly comparable throughout the years recorded in my tables but not with previous years.

As regards the curve of erysipelas its most marked feature is its close resemblance, almost amounting to identity, to the curve of puerperal fever. Almost every deviation in the one is represented in the other, except that a small secondary maximum, which in erysipelas occurred in 1882, is deferred to 1883 for puerperal fever, both in London and in England and Wales. Further, in those respects in which the curve of erysipelas for London differs from the curve for England and Wales, it is followed by the curve of puerperal fever for London, so that the latter corresponds much more closely to the curve of erysipelas for London than to the curve of puerperal fever for England and Wales. I would note especially the extra height of the great maximum in 1893 and the pointed instead of square shape of the rise in 1887–88. On the other hand, when the curve of puerperal fever is compared with that of septicæmia and pyæmia, although there is a general resemblance and most of the elevations and depressions correspond, there is a less close resemblance between the relative height of the maxima, as may be noted especially in those from 1888 to 1893. In these respects the curves for septicæmia and pyæmia for England and Wales agree together and differ from the corresponding curves for puerperal fever. The chief difference between the curves of erysipelas and puerperal fever is that the general downward tendency is less in the latter for England and Wales. In London this is only the case up to the year 1886; and afterwards up to the last year recorded the improvement is slightly greater in puerperal fever. A still more remarkable proof of the close relation of erysipelas to puerperal fever will be found in comparing the curves of weekly variations shown in Fig. 3. Not only is the mean curve for 10 years practically identical for the two diseases; but the same is true of the very complicated curve showing the weekly variations in 1893. Every cusp and turn and every date when the curves cross the mean correspond. Even the amplitude is similar, the only difference being that erysipelas varies a very little more widely both in the mean curve and that for 1893. This identity becomes even more striking if the curves are compared with the totally different curve of septicæmia and pyæmia. This resemblance of the curves confirms the evidence of bacteriology as to the close connexion between puerperal fever and erysipelas. I think, indeed, that the inference may be carried somewhat further and that it may be concluded that a variety of streptococcus closely allied to that of erysipelas is more generally concerned in fatal puerperal fever than in other forms of septicæmia and pyæmia, and that the contagion of erysipelas is more dangerous to the puerperal woman than that of any other septic disease other than puerperal fever itself. Associated with the general descent of the curve for erysipelas is the fact that the mean death-rate per 1,000,000 living is only 54 for England and Wales, as compared with 92 for the previous 25 years, during which no decided downward course was manifest. The curve begins for England and Wales at 55 per cent. above the mean and ends at 52 per cent. below it.

The curve for septicæmia and pyæmia shows a general descent rather less than that of erysipelas, beginning at 65 per cent. above the mean and ending at 24 per cent. below it for England and Wales. In London, however, there is a remarkable rise for 1900 to 35 per cent. above the mean, for which I can offer no explanation. The corresponding figure for England and Wales is not yet available; but the curve shows the moderate rise for 1899 which in London, preceded the much greater one of 1900. The mean weekly curve of septicæmia and pyæmia (Fig. 3) has some notable differences from those of puerperal fever and erysipelas. All have maxima in early November and again in January, but in septicæmia and pyæmia the earlier maximum is the larger, in the other two the latter. Again, septicæmia and pyæmia have a high maximum in April which in the other two is represented only by a slight double elevation. The weekly curve for 1893 shows wide oscillations which may be casual variations due to the absolute number of cases being small.

The curve for scarlet fever (Figs. 1 and 2) shows the most marked descent of all, beginning at 106 per cent. above the mean and ending at 60 per cent. below it. The mean death-rate per million is only 247 for England and Wales, as compared with 854 in the 25 years preceding; and from 1885 onward it is only about 168. The main drop took place in the years 1882–85 and was doubtless due to the isolation of patients in fever hospitals. Up to 1891 there is little resemblance of the curve to the three preceding for England and Wales, but more after that date, all having maxima in 1893 and three of them in 1896, three of them minima in 1895 and all of them minima in 1898. In London the curve for scarlet fever has a somewhat greater resemblance to that of erysipelas and puerperal fever from 1886 onward. The more marked epidemic rises in scarlatinal mortality in the preceding 25 years were not accompanied by serious corresponding rises of puerperal fever nor is the drop of scarlet fever in 1882–1885 associated with any equivalent drop of puerperal fever. The extra maximum of scarlet fever in London in 1887 as compared with England and Wales leads to no similar maximum of puerperal fever, but the curve of that disease has a rise only corresponding to that of erysipelas. The mean weekly curves of puerperal fever and scarlet fever are quite different (Fig. 3), scarlet fever rising slowly to a maximum at the end of October and falling considerably before puerperal fever rises to its main maximum in early January. The diagrams therefore give no support to the view formerly held extensively in England that contagion from scarlet fever is an important cause of puerperal septicæmia. Such similarity as exists in the curves may be explained partly from a similar seasonal influence on different microbes, as by a period of unusual dryness. Again, all would admit that scarlatinal throats may be complicated by streptococci; and that thus a septic infection may be carried from a scarlatinal patient to a puerperal woman. There is a further question whether a year in which streptococci are unusually abundant or easily diffused may not increase the mortality of scarlet fever by causing septic complications; and the same consideration would apply also to rheumatic fever. I have no evidence to offer on this point, but some light might be thrown upon it, in the case of scarlet fever, by comparing the mortality with the number of cases notified. The latter has only very recently been included in the returns.

I have included the curve representing rheumatic fever, including rheumatism with affection of the heart or pericardium (but not chronic valvular disease), as a disease allied to puerperal fever, because in the diagram of Dr. Longstaff for the preceding 25 years "rheumatism of the heart" shows a curve closely resembling that of puerperal fever and erysipelas except that it is steadily ascending. Since 1881 rheumatism with affection of the heart or pericardium has been massed together with rheumatic fever in the Registrar-General's returns and the result is shown in my diagrams. The resemblance to the curves of erysipelas and puerperal fever is much less than under the former arrangement. Up to 1891 it is scarcely visible, as in 1887–88 a depression corresponds to the rises in the other curves for London, but from 1892 onward there are three maxima and two minima correspondent, though only one of them, the maximum of 1893, is well marked in all. The mean death-rate per million living is 88, as compared with 46 in the previous 25 years for rheumatism of the heart only. The diminution of similarity produced by the addition of rheumatic fever seems an argument in favour of the view that fatal heart affection in acute rheumatism is often due to streptococcic complications and that thus rheumatism of the heart is more closely allied to septic affections than rheumatic fever in general The curve shows less with variation than the others, but its general tendency is downward, though the improvement is less marked than in the other diseases. What improvement has occurred must be ascribed to general hygienic measures or improved treatment, since precautions against sepsis or infection can scarcely have any scope here. The mean weekly curve of rheumatic fever (Fig 3) has some resemblance to that of erysipelas or puerperal fever Both have maxima in early November and again in early January, but in rheumatism the former is somewhat greater instead of the latter. Both show slight rises in April and in late August and have their minima near midsummer

In conclusion, I think that among the practical inferences to be drawn from the diagrams are the following: 1. That while a satisfactory improvement in the mortality of puerperal fever has occurred for the first time within the last 20 years, a further development of antiseptic midwifery is still required in England and Wales outside London to make the improvement equal to that already attained in other septic diseases. 2. That the relation of fatal puerperal fever to erysipelas is still closer than has been generally supposed, and much closer than that of either disease to septicæmia and pyæmia generally. A consequence of this seems to be that an anti-streptococcic serum derived from erysipelas would be more likely to be useful in puerperal fever than one derived from any other source of streptococci except puerperal fever itself.

An Address

ON

THE TREATMENT OF PULMONARY TUBERCULOSIS BY HYGIENE.

Delivered before the Cardiff Medical Society on May 29th, 1902,

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MR. PRESIDENT AND GENTLEMEN,—The subject which I have chosen for my address is perhaps the one most largely discussed by the medical profession and laity at the present moment and it may be said to interest all classes of the community from the highest to the lowest. My object in choosing this topic is to offer to you some thoughts and reflections arrived at after a considerable experience in the treatment of tuberculosis by hygiene and especially to indicate the best methods of applying this treatment. What I mean by treatment by hygiene is what is usually termed open-air treatment, but I prefer the former title as more comprehensive and, indeed, more correct, and I thus distinguish it from medicinal and climatic treatment

Hygienic treatment was probably first systematically practised by Mr George Bodington of Sutton Coldfield, Warwickshire, whose *régime* for consumptives was admirable and apparently very successful, though either from being insufficiently known or unpalatable it does not seem to have been largely adopted at the time. Later Brehmer founded the first sanatorium for consumptives at Görbersdorf in Silesia, and introduced his system of graduated exercises in the way of walking in combination with regulated foods and an open air life. Brehmer's reason for introducing graduated ascents was that he believed phthisis to be caused by a small heart which he thought might become more developed by such exercises. His views on the etiology of phthisis generally were remarkable. He held that at the bottom of the mischief was the want of food or a small appetite, and that this led to malnutrition, especially of the heart, which was accompanied by an enlargement of the lungs, and that this want of proportion between the heart and the lungs was the true predisposing cause of phthisis Brehmer lived long enough to recognise the actual cause of tuberculosis in the tubercle bacillus, but to the end of his life he insisted on the prominent part played by the small heart and the importance of increasing its dimensions by exercise. This was a mistake on his part, as the small heart is due to that wasting of the organs and tissues which affects the body generally in phthisis and is the result, and not the cause, of the disease. Another point which Brehmer insisted on was that the places chosen for the treatment of consumption should be immune from the disease and he dwelt on the importance of altitude in this respect. But since his time we have learnt a good many lessons about immunity, and one is that sparseness of population has much to say to it and that the prevalence of tubercle depends largely on the density of population. But in spite of all this Brehmer's practice was excellent and he was able to show very satisfactory results Dettweiler, his disciple, carried on his treatment but diminished the amount of exercise and introduced the rest cure, in which patients pass the greater part of the day on couches in the open air, properly protected from rain and wind in *liege-halles* or shelters. This is the system most in vogue in Germany now and it is especially adapted to febrile and advanced cases. Walther at Nordrach modified this system again and claims that he follows more closely in the steps of Brehmer, the chief features of his *régime* being (1) graduated exercise in all sorts of weather and indifference to wet and cold, (2) rest in bed or on the sofa at stated hours and always in the solitude of the bedroom and not in the society of the *liegehalle*; and (3) forced feeding with highly nutritious food three times a day Both these methods combine open-air treatment with a certain amount of stuffing and the great difference between them lies in the quantity of exercise prescribed and of the social intercourse permitted. In both systems careful observation and regulation of every detail of the patient's life are inculcated and it may at once be stated that both systems show a large measure of success

One of the great advantages of the open-air treatment is that it is suited not only to cases of early and limited pulmonary tuberculosis which can be arrested by various measures, but that its benefits are also well shown in cases of extensive tuberculisation with cavities, irritable or quiescent, and above all in pyrexial cases, where owing to the pulmonary changes the pyrexia is often very persistent. In such patients, after all the antipyretics, pharmacopœial and extra-pharmacopœial, have been exhausted, it is found that exposure on a bed or on a light couch by day and by night to the pure air in a shelter or verandah will in time prove effective and the pyrexia will gradually subside. How fresh air of a low temperature affects the thermotaxic and thermogenic nerve centres and thus reduces fever it is not easy to say—whether by soothing the nerve centres or by stimulating and finally exhausting the combustive process I cannot tell, but the fact I have noted in many instances I have known patients with active tuberculous disease accompanied by afternoon pyrexia which had lasted for months placed on couches in shelters and I have observed that in most of these cases the pyrexia has subsided after some weeks in the open air Many of these patients were not in sanatoriums but in their own gardens under the superintendence of a medical man or a nurse. The open air life, whether in an institution or in a private house, at first, and especially in pyrexial cases, causes a feeling of chilliness, but this soon passes off with proper clothing and particularly if the invalid remains in the prone position with the head and thorax sufficiently raised to render expectoration easy. Patients who are chilly in the sitting position can stand an extraordinarily low temperature in the lying position from its more equalising effect on the circulation. Of course, in this treatment draughts, and as much as possible wind, must be avoided, but with suitable windows and well-constructed *liegehalles*, or revolving shelters, these may be successfully guarded against.

The open-air system has been in use at the Brompton Hospital for some months and is very popular with the patients, who come for the most part from the labouring classes, and I noted last winter that whereas they used always to sit round the fire to read their newspapers and books they now prefer places near the open windows. In carrying out this treatment we should remember that pyrexia should at first be treated by the patient lying in bed with open windows and, if the temperature does not fall, that the bed should be moved on to a terrace or covered balcony protected from rain but freely open to the air. If the temperature falls, the patient can be transferred to a couch and in time to the *liegehalle*.

Food.—The dietary is a very abundant one and constant supervision is required to ensure the full amount of food being taken, in spite ofttimes of a failing appetite. All classes of food should be represented—the nitrogenous, the fatty, and the carbohydrate groups—in proper ratios. Some sanatoriums give three square meals a day and allow of no intermediates and in others intermediate meals of milk, bread, butter, cheese, and jam are encouraged in the forenoon and afternoon. In all cases milk is consumed in quantities of from three to five pints a day and butcher's meat with abundant vegetables, and especially potatoes, twice and in some cases three times a day. In most of the sanatoriums the appetite has ceased to be the guide of life and in those of the Nordrach type cramming is carried on even in some cases to the extent of producing vomiting. Most of the patients manage to retain their large meals but occasionally one has to retire from the festive board and on returning somewhat pallid finds an inexorable medical attendant and the plateful has to be finished all the same.

A curious feature is that in highly pyrexial phthisis the digestion of both nitrogen and fats is good, as is shown by Dr. F. W. Goodbody, Dr. N. D. Bardswell, and Mr. J. E. Chapman,[1] for they found that quantities of food which produced illness in ordinary individuals have a favourable effect on consumptives. They observed, too, that even when the patients were far below their normal weight better results were obtained by moderately large diets than by very large diets, and it would appear that by "medium diets one obtained the maximum of absorption and the minimum of amount of labour." So that we may conclude that pushing feeding to the vomiting point is neither judicious nor profitable and that better results may be looked for from more moderate dietaries. The absorption of fats by consumptives is excellent It was observed that when as much as 231·32 grammes were given 96·41 per cent. were absorbed. Food has to be diminished as the disease becomes quiescent and the patient approaches normal weight. It is one thing, however, to fatten a patient and another thing to give him strength and muscle, and it must be admitted that in many cases the gain of weight is more in fat than in anything else—fat which often disappears again after the stuffing ceases, and whilst present in such large quantities greatly impedes the patient's movements and makes him short-breathed. I had an instance of this only the other day. An old consumptive patient of mine entered a sanatorium in this country which had a reputation for good food and after about nine months emerged two stones heavier but hardly able to walk uphill and very short-breathed and puffy. He went to Nordrach, and Dr. Walther pronounced him too fat and put him on graduated exercises. At the end of four months he had lost 10 pounds but could walk five miles and his breathing power had greatly improved. Observation of sanatorium feeding makes one sometimes doubt the existence of the dyspepsia of phthisis, for apart from the quantities of food consumed, which, however, it must be admitted, is plain and well-cooked, the mixtures of drinks are often rather trying to digestion. At Nordrach the patients have the option of taking either wine or beer with their meals, but are obliged to drink a stated amount of milk at the same time, and this curious and weird mixture does not seem to upset their digestion, for they swill down two glasses of milk with the meat and vegetables, and then curdle the mass in their stomachs by mixing it with beer or wine. Truly the abundance of fresh air and exercise works wonders.

Rest and exercise.—The relative proportion of rest and exercise and the kind of exercise prescribed have to be carefully regulated from time to time and suited to the individual and this is one of the principal duties of the sanatorium physician. Let us consider rest first. One excellent rule of all sanatoriums is to insist on one hour's rest before both the midday and evening meals so that the patient may approach the meal not jaded but rested after the walk. We all know by experience the effect of muscular fatigue both on appetite and digestion and it is highly important that a patient should come to the meals with his powers of digestion and assimilation unimpaired. The question of the length of time to be spent in the shelters or *liegehallen* depends on the patient's condition. In cases where any fever is present the patient, when not in bed, spends his whole day in the *liegehalle*, but when the pyrexia has entirely ceased from three to eight or 10 hours are passed there daily. As the nervous and muscular forces increase exercise is introduced and often a course of massage with some hydro-therapeutics or the practice of resisted movements in the recumbent position, are a good prelude to walking exercise, but the principle of rest must never be lost sight of and when the patient is not taking exercise he should be resting in the open air.

The form of exercise most in vogue in sanatoriums is walking, first on the level and next on well-graduated ascents, care always being taken that the ascent, if a long one, should be at the commencement of the walk when the patient is fresh and the descent at the end when he may be getting tired. All sanatoriums should have near them well-graduated walks provided with plenty of seats, so that the inmates may have opportunities of resting. Pine woods are excellent for walking in, as they combine shade from sun and shelter from rain and are useful in winter as well as in summer, which cannot be said of woods of deciduous trees. It is remarkable how consumptives by such graduated walking slowly gain strength and breath and from being so short-breathed that they can only walk half a mile and that, perhaps, with difficulty, by degrees can compass five or even 10 miles and that with comfort. The great point is at first not to attempt a rate of over one and a half or two miles an hour and not to hurry to increase the pace, and a clear sign of over-exertion is the meals not being relished after the walk. In most sanatoriums two walks a day of moderate length are taken, but in some four short walks are preferred. It is not advisable, however, to restrict all patients to walking exercise alone, for to many it is very monotonous and ofttimes a fatiguing exercise, and after all brings into action only a limited number of muscles. Riding, skating, cycling, lawn-tennis, croquet, and, above all, golf, which entails a great deal of walking, may be preferred in some cases.

Sanatorium buildings.—I will now say a few words on the position and structure of sanatoriums and their internal arrangements. Undoubtedly the finest sanatoriums are in Germany where there are two kinds, one for the upper classes in which splendid buildings are installed with a certain amount of luxury, and the second for the working-classes, built by, or under the auspices of, the German insurance societies, in which only the essentials of hygienic treatment are aimed at.

The sanatorium should be placed on gently sloping ground well sheltered to the north and east from cold winds, with a sunny exposure, and for this reason and to avoid damp an elevated site is to be preferred. It should be surrounded by extensive grounds, partly wooded, with fragrant pine groves providing dry shelter and permitting exercise in all weathers, and partly with open spaces which should be carpeted, not with rank grass, but with the crisp herbage of the mountain side, abounding in thyme and other sweet-scented plants. It is not desirable to have many roads from which dust may arise, but plenty of well-planned paths through the woods and over the commons. The soil must be dry and permeable so as to facilitate surface drainage, and the water-supply must be abundant and irreproachable. A farm for milk and poultry is advisable. The erection should face due south and stand on a wide plateau. It should consist of at least three buildings—viz.: (1) the sanatorium proper; (2) the medical superintendent's house, which may also contain the consulting rooms and accommodation for other members of the resident staff; and (3) the administrative block, for the motors, electric light plant, and the laundry and disinfecting apparatus, all of which it is as well not to have near the patients' dwelling-place. The sanatorium proper, if 100 or more patients are to be housed, should be of three or four storeys, the south side of the ground floor being devoted to the *liegehallen* unless it is preferred to extend these in wings from each angle of the building. The northern side or wings should contain the dining-rooms, kitchens, and offices and the other sitting-rooms required for patients should be on the ground floor to the south, keeping the whole of the south frontage of the first and second floors for single bedrooms for the patients, which must be lofty with large windows opening in the French casement fashion on to balconies in which the beds can be run out if required, and a tent may also be arranged from above to protect the feverish patient from sun and wind and rain. The upper portion of the windows should open by louvres and all windows should be furnished with wooden jalousie shutters or blinds. In the interior of the sanatorium everything should be arranged to prevent any accumulation of dust and micro-organisms. The floors should be made of teak or planks covered with plaster-of-Paris and this again with linoleum. All corners, whether in rooms, passages, or staircases, and in furniture, should be bevelled and rounded off, and any cracks between walls and floors filled in with wooden wedges or strips of linen painted over with white enamel. The walls of the rooms should be painted or covered with antiseptic washable paper and cleanliness everywhere rigidly maintained. No carpets, curtains, or hangings are advisable. The sputum should be received into Dettweiler's flasks, containing an antiseptic if the patient be out of doors and when it is not convenient to use the spittoons which contain sawdust and are constantly emptied and the contents burnt. The sanatorium should possess adequate disinfecting apparatus for clothes, cushions, and bedding and a destructor for the sputum. The system of drainage should be complete and in perfect order. Heating in winter is satisfactorily accomplished by radiators and electric heating has been tried with success.

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[1] Vide an admirable paper in vol. lxxxiv. of the Transactions of the Royal Medical and Chirurgical Society.

There should be two sets of *liegehallen* for winter and for summer, the winter one with southern exposure and the summer one facing north in the woodland. The walls of these should be lofty and the shelters spacious with well-fitting blinds in front to afford protection from sun and storm, but open enough to allow of abundance of air at all times. They should be furnished with light bamboo couches covered with mattress and with cushions of horsehair for the patients to recline on, and there should be lockers and tables for books and papers and games and an electric light by each couch. Finally, at the head of the sanatorium should be placed a medical man of decided views, of strong common sense and power of discrimination, and with a large knowledge of human nature, endowed with an inflexible will but possessing a sweet temper and ready sympathy with disease and especially with its chronic manifestations.

In all systems there are some elements which are more essential than others and it seems to me that in the open-air system there is no exception to this rule. The most important factor is that of fresh air, both for prevention and arrest of the disease, and the more one trusts to its influence the more one becomes convinced of its wonderful efficacy. We are sometimes, indeed, tempted to hazard the opinion that it would have been well for mankind if our present sort of houses had never been adopted and if we had continued to dwell in tents or in airy sheds. Nomadic tribes dwelling in tents have generally been healthy and at all events free from consumption. Next in importance to fresh air we must reckon the abundant and forced feeding.

Last of all, though by no means to be neglected, are the precautions against possible infection. When we consider the numberless opportunities of infection from the ever-present tubercle bacillus by inhalation through the air-passages or through the stomach by swallowing we must admit either that the bacilli in entering man and animals encounter serious opposition to their settlement and spread or else that a large proportion of the population is immune to their attack. I doubt the latter conclusion because it is found that robust individuals can become liable to tuberculosis after being placed under the depressing conditions of want, bad air, or unwholesome trades. The first conclusion is more likely to be correct for the trachea, the most probable channel of entry for the bacillus tuberculosis, is well protected by a triple layer of epithelium and the lashing movement of the cilia would tend to expel bacilli entering with dust particles. We must not, however, expect too much from the hygienic treatment of consumption. There are forms of phthisis, such as the catarrhal variety, where hygienic treatment fails to accomplish much and where the help of a warm climate and good nursing are necessary for success. But this treatment is one which is well adapted to the majority of cases of lung tuberculosis, and when combined with good climatic conditions like those of high altitudes it certainly tends to accomplish great things.

GOLD MINERS' PHTHISIS AND SOME OF THE DANGERS TO HEALTH INCIDENTAL TO GOLD MINING IN THE TRANSVAAL.

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WHILE the war in South Africa has taught us as a nation many things of which we were ignorant as regards methods of warfare and has again impressed upon the War Office the important fact that it is disease and not the bullets of the enemy that is responsible for the larger number of deaths of soldiers engaged on active service, it has at the same time, by having liberated many men who were employed in gold mining on the Rand, given us the opportunity of learning that gold mining, as was previously the case with coal getting in Britain, can be very destructive to human life. To the Transvaal mines there have gone from time to time men from the colliery districts of Northumberland. Some of these men have returned to the North of England only to die from phthisis. During the last two years, owing to the closing of the mines and the continuance of the war, miners have returned here in large numbers, many of whom have presented on their arrival the appearance of men broken down in health and who have sooner or later succumbed to pulmonary disease. It has been my fortune to have been consulted by some of these miners, whose lung affection had assumed the characters of a veritable pulmonary fibrosis. Now that the war is over there will in all probability be a rush of miners once more to South Africa. I feel therefore that if attention can be drawn to the need for something being done to alter and improve the methods of mining in the Transvaal, and to the necessity for revising and strengthening the mining regulations of that country, the loss of many lives of miners may by this means be averted.

Gold miners' disease of the lungs is due to the inhalation of dust; it is therefore a malady akin to stonemasons' and steel grinders' phthisis. Like all the pneumoconioses it is slowly developed. The earliest symptoms are cough, especially in the morning, with a little frothy mucous expectoration which is expelled with difficulty, but once this is got rid of cough in the early stages is not a prominent feature during the rest of the day. What impresses itself most upon the patient as time goes on is an increasing difficulty of breathing; he becomes short-winded on the slightest exertion. So long as he keeps quiet the breathing may be perfectly easy, but he has only to perform some muscular act necessitating a little exertion, or to walk in the face of a cold or strong wind, when the breathing becomes difficult, loud, and noisy, as in asthma, but with none, or next to none, of the audible moist wheezing sounds that are characteristic of asthma associated with chronic bronchitis. There is no complaint of pain in the chest, only a sense of tightness. Hæmoptysis cannot be said to be a symptom of the disease. By degrees the appetite is lost and emaciation becomes slowly progressive. There is no rise of temperature until towards the terminal stage of the illness and even then it may not be very marked. There is a tendency for the pulse to be quickened, but there is none of the night-sweating that is so characteristic of tuberculous phthisis. Even when the illness has existed for several months and the patient has lost several pounds in weight he may yet under the influence of change of air take on the effects of the sun, become bronzed, and assume the appearance of a healthy man. He is, however, unfitted for work, for very slight muscular exertion induces a paroxysm of dyspnœa. The dyspnœa is in the early stages out of all proportion to the amount of lung tissue apparently destroyed. Health is only very gradually lost. The disease which is called by miners in the Transvaal the "gold dust complaint on the lungs" may attack any portion of the lung—apex, mid lobe or base—but it has, like the pneumoconioses generally, less predilection for the apex than has tuberculous phthisis. From first to last it is, practically speaking, an afebrile and a painless affection. Like stonemasons' and steel grinders' phthisis, the malady seems to commence as a peri-bronchitis and is followed by an increase of the fibro-connective tissue of the lung. It resembles these diseases in this respect that subsequently it may have a tuberculous lesion grafted upon it.

PHYSICAL SIGNS.

On percussing the chest of a gold miner who is the subject of this disease there can usually be detected distinct dulness, limited in area but well defined. At this spot, if it is in the front of the chest, the breath sounds are louder and coarser than usual and as the disease progresses dry clicking can be heard towards the end of inspiration. The expiratory murmur is prolonged. Over the back of the chest the respiratory murmur is coarser than in health, dry clicking may also be heard as well as exaggerated vocal resonance. Vocal fremitus may be slightly intensified. The physical signs are those of a limited fibrosis of the lung, unaccompanied for the most part by acute pleurisy, for pain, as already stated, is absent. As the disease proceeds there occurs, if the fibrotic patch is in the upper part of the left lung, considerable retraction of that organ, so that an unusually large area of cardiac pulsation is seen and felt; the closure of the valves at the root of the large vessels springing from the base of the heart is more easily felt, and the apex beat is lifted up an interspace or more. The heart is usually excitable even in the early stages, a circumstance that aggravates the difficulty of breathing. In uncomplicated cases the heart's sounds are healthy, but in consequence of the obstructed circulation through the lung the second sound heard over the pulmonary artery is extremely accentuated. It is not until the disease has lasted a considerable time that there is observed any marked difference in the measurement of the two sides of the chest, and it is not until the terminal stage of the malady is being reached that moist râles are heard to any great extent in the lungs. The attacks of paroxysmal dyspnœa are not accompanied by cyanosis, nor is there anything of an approach to early morning asthmatic seizures, obliging the patient to sit up in bed about 4 A.M., as occur in ordinary asthma. Expectoration is not abundant and although I have carefully searched the sputum for tubercle bacilli these are absent in the early stages of the illness even when the physical signs of pulmonary fibrosis are well marked. Gold miners' phthisis is, therefore, at its inception, like all the other pneumoconioses due to dust-irritation, a non-tuberculous disease. Dr. James Anderson of Seaton Delaval, Northumberland, who has seen several cases of phthisis in gold miners returned from South Africa, informs me that hæmoptysis was not in his patients a marked symptom and when it occurred the blood was present only in very small quantity. The disease, he says, bears "no great similarity to the ordinary form of tubercular phthisis with cavity formation ...... consequently the expectoration is not nearly so profuse as in such cases, nor is the rise of temperature ever very marked."

There is a feeling among the gold miners in the North of England who have returned from the Transvaal that men who are the subjects of the disease in question bear residence at the seaside badly. When the war broke out in South Africa many of the miners made their way from the Rand to Port Elizabeth and other places on the coast of Natal, but it is stated that many of these men died, their health having given way rather rapidly. Some of these miners were not known to have been seriously ill at the time and others had been ill for only three or four months. On inquiry as to the fatal termination of these cases having been possibly hastened by an excessive use of alcohol I am informed that several of the men who thus so rapidly succumbed to the malady at the seaside were total abstainers. So far as I can learn there is nothing in the housing of the miners in the Johannesberg district that throws light upon the development and spread of the disease.

THE DANGERS INCIDENTAL TO GOLD-MINING.

There are two risks to health incurred by the men in the act of mining, also a possible danger in the abstraction of gold from the rock by means of what is known as the "cyanide process." In *mining for gold in South Africa* the same steps have to be gone through as in ordinary coal-mining, &c., at home. A shaft has to be sunk before the auriferous ore can be reached. In sinking a shaft large quantities of high explosives—e.g., dynamite and blasting gelatin—are used. After an explosion the air is fouled, partly by nitrous fumes and partly by the dust given off from the mineral débris. The shafts are sometimes very deep—half a mile or more. The poisoned air, therefore, hangs heavily at the bottom of the shaft where progress is being made and this air is with difficulty cleared. Too soon after the series of explosions has occurred that corresponds to the number of cartridges placed in a shaft in process of construction the miners descend into the polluted atmosphere. After a few respirations of the foul air rich in nitrous fume a miner is occasionally seen by his comrades to fall and to pass into a state of deep sleepiness or narcosis from which he quickly recovers if he is taken to the surface and given ammonia to inhale. The face is pale under these circumstances and there is said to be neither cyanosis nor difficulty of breathing. The miner has simply been poisoned by the fumes. On recovery there is complaint of severe headache, just as after nitro-glycerine, accompanied by distaste for the next meal. Unless the affected miners have been given whisky on coming round there is no vomiting.

The sinking of a shaft at a gold mine is regarded as "wet" work. There is a limit to which the depth of mines can be carried so as to be successful from a financial point of view. The deeper the gold mine the higher is the temperature and the greater is the difficulty of ventilation. The increasing rise of temperature as greater depths are reached is due to the heat of the earth, the methods of working, and the decomposition of mineral substances present in carbonaceous and pyritic shales. While in some instances there has been observed a rise of temperature of 1° F. for every 82 feet descended,[1] in other mines the increment is not so regular as to be capable of being stated in terms of proportion. In some of the rand shafts Mr. A. F. Crosse[2] found at a depth of 825 feet a temperature of 66·7° F. and at 1030 feet 70 7° F. The shafts are vertical when they are sunk to strike the reefs in underlay, or inclined when they follow the inclination of the beds. It is easy to understand, therefore, how very polluted the atmosphere must be at the bottom of a deep vertical shaft. In order to secure adequate ventilation of deep gold-mines the Transvaal mining regulations insist upon two shafts being sunk as in British collieries.

It is in the act of mining and not in that of shafting that the danger of pulmonary disease arises. Gold mining is spoken of as "dry" work compared with the shafting, known as "wet" work. It is a very dusty process and is justly regarded by the miners themselves as a fertile cause of lung disease. The rock is often hard and has to be drilled by machinery worked by compressed air. In using the Ingersoll rock drill very large quantities of dust are given off which the men inhale. It is the dry dust given off in drilling the rock that is the cause of the lung trouble in gold miners. A man may work five or six years before he is rendered *hors de combat* by the dust. Gold miners' phthisis, therefore, kills men when they are still comparatively young, usually before they reach the age of 40 years.

In order to extract the gold the crushed rock is placed in huge zinc vats several yards long and many feet deep, into which a solution of cyanide of potassium is pumped. Potassium cyanide slowly dissolves gold. The zinc of the vat gradually displaces the gold in the cyanide so that the gold is subsequently found in a pure metallic state and in a somewhat spongy form adhering to the sides of the vat. Although cyanide of potassium is a powerful poison there has been a remarkable absence of constitutional poisoning due to it. The liquid, however, is capable of causing irritation and sores of the hands if there are any fissures or cracks on the skin.

TREATMENT.

The attention of mining engineers might be directed with advantage to improving the methods of drilling the rock and of ventilating the shafts. If any good by treatment is to be got at all it can only be by affected gold miners renouncing their work in the very earliest stages of the illness and following outdoor employment. Strength must be maintained; good food and fats are desirable; virol and the various emulsions are worthy of a trial. Fowler's solution with nux vomica and iodide of potassium may be given. Until a larger experience of the disease has been gained it would be better to send the patients for change of air, not to the seaside, but inland to fairly high altitudes—say 700 feet or more above the sea level.

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[1] Hatch and Chalmers: The Gold Mines of the Rand, p. 102.

[2] Johannesburg Star, May 10th, 1895.

Newcastle-upon Tyne

EARLY PERITONITIS.[1]

BY WILLIAM HENRY BATTLE, F.R.C.S. ENG.,

SURGEON TO ST. THOMAS'S HOSPITAL.

THE importance of recognising the earliest indications of peritonitis due to disease of the appendix can scarcely be exaggerated, for it may make all the difference between life and death to the patient, the condition being capable of arrest and cure in the early stage and only occasionally so in the later. If all cases of peritonitis due to disease of the appendix showed certain general characteristics resultant on their origin, or if they began abruptly in the same way, it would not be necessary to ask your attention to the subject, for descriptions would be printed in every text-book both on medicine and surgery. But it is not so, and in quite a large number peritonitis is insidious in its origin. The question which always presents itself to those in charge of a case presenting symptoms of appendicitis of a mild type is whether it is better to wait or to have recourse to immediate operation. If we can point to any symptom that will enable us to speak authoritatively in answer then we have gained something in our contest against a disease which presents itself under so many forms. Much depends on the reply to this question.

Many of you have seen the subjects of peritonitis brought to the hospital in the last stage of the disease, for there is hardly a week passes without the arrival of one or more of them. You know the appearance of these cases, their symptoms, and the condition of the abdomen. The disease is usually so advanced that one of the first questions put to their friends is, Why was the case not brought up before? and in most instances the reply is that there had been a serious change for the worse and their medical attendant had then advised them to come to the hospital—they had not known the patient was so ill before that. We know that the friends of patients rarely appreciate the severity of an illness, but it is not only that the friends were mistaken, as they might easily have been, but there can be little doubt that their medical attendant was also deceived by the mildness of the symptoms in some of these cases and the only conclusion we can come to is that the disease must have been most insidious. One has seen these cases in private as well as in hospital practice and the experience is always a painful one. The history is the same—symptoms of a mild attack of appendicitis and then a sudden change for the worse, or the rapid development of some unfavourable symptom, generally four or five days after the commencement of the illness. The abdomen is usually found to be distended and there is no movement during respiration excepting in the thoracic region. The abdominal wall is hard, tenderness is general, and on percussion you find a tympanitic note in front with dulness in the flanks, sometimes there is dulness also over the pubes—this dulness is that of fluid and it shifts with the position of the patient. Thrill is rarely found. If the abdomen is opened you let out a large quantity of very offensive purulent fluid and probably find a perforated or diseased appendix; but whatever further measures are taken you seldom save the life of the patient. He has received such a dose of poison that he cannot recover and death, usually from heart failure, soon ensues.

I have dwelt upon the local aspect of the case because I am strongly of opinion that more lives will be saved if we pay closer attention to the exact progress of symptoms as revealed by accurate abdominal examination. If you inquire when the evidence of fluid first showed you will probably get a very uncertain reply. The fact is, that attention has not been drawn to the necessity of looking for intra-peritoneal effusion, nor has its importance been recognised as it should be. Then, again, the experience which some men obtain in abdominal examination during their course at the hospital is, to say the least of it, imperfect, and they are in consequence not always able to appreciate the difference in note which is caused by an early effusion. I often advise students in the wards to examine the abdomen whenever they have opportunity, as also never to miss a chance of trying for fluctuation in any case where it is suspected. Cultivate the sense of touch. You may point out the presence of dulness in the flanks and receive the reply "Yes there is, I see, dulness in the flanks but that is due to a full colon, and the dulness goes from the side which is uppermost because the full colon falls away by its own weight." It is then pointed out that the dulness in the opposite side is increased in extent by the change of position or it may be that the dulness extends across the abdomen above the pubes when the patient is lying on his back. The appearance of the face is very deceptive. The temperature may be normal or subnormal, as you know, in suppurative peritonitis, but when you have to diagnose the condition from the facies Hippocratica, a rapidly failing pulse, and a distended fixed abdomen, the diagnosis is not of much use to the patient. I have for a long time considered that the detection of the presence of effusion in the peritoneum was of great importance in the diagnosis of peritonitis in its early stage and the patients I show you to-day are proofs of the good result of the treatment which has resulted from that conviction. The three patients formerly in the hospital were brought up by their friends in quite an early stage of their trouble. No opium had been given to ease their pain nor had anything been done calculated to alter the course of the illness. They were ill but the parents were not alarmed at their condition and had not called in medical assistance.

The following is the clinical report of the patient I now show you.

CASE 1.[2]—A girl, aged 14 years, living at home, was admitted into St. Thomas's Hospital, under my care, on Dec. 21st, 1900, with the following history. In May of that year she had been operated on by a surgeon at another hospital for peritonitis, and after her recovery from this condition she was sent to a convalescent home at the seaside. She was there taken with pain in the abdomen and an abscess developed which was opened. From this she recovered satisfactorily. She was taken ill again on Dec. 19th with pain in the abdomen and vomiting there being no constipation. On admission the abdomen was found not to be rigid or distended and it moved well on respiration. She complained of pain under the right rectus and also half way between the umbilicus and anterior superior spine. There was evidence of free fluid in the right flank, but no tumour could be felt. She had vomited in the morning, but now the tongue was clean and moist and she did not feel sick. The temperature was 100·2° F. and the pulse was slightly quickened. There was a scar, the result of the first operation, in the middle line below the umbilicus, and another, the result of the second operation, in the right linea semilunaris, over the region of the appendix. Her expression was good and she did not look ill. The incision on this occasion was made over the rectus on the right side of the abdomen and after displacement of that muscle the peritoneum was opened. A quantity of thin pus having a fæcal odour escaped and more was removed with sponges. The appendix was found with some difficulty and removed; it was bound down by old adhesions. It contained a fæcal concretion of the size of a small hazel nut over which there was a perforation. There was a patch of lymph over one part of the ileum but no general dissemination of it. The vessels of the intestine were also unusually distinct but otherwise there was no change in the appearance of the peritoneum. There were *no* adhesions of intestine or omentum. The wound was closed after a careful cleansing of the peritoneum, without drainage. On the 28th, however, when the stitches were removed it was found that a rise of temperature was accounted for by a collection of pus which was discharging through the outermost of the scars and which had a distinctly fæcal odour. Her progress towards recovery was good after this date and she left well on Jan. 24th, 1901. The recent wound had not suppurated.

I was rather inclined to regard the slight symptoms produced by the perforation of the appendix and the effusion in the peritoneum as the result of lessened sensitiveness of the peritoneum as a consequence of the former inflammatory attacks. This was not a correct view, as Cases 2 and 3 will show. You can see that the scars are all of them without weakness; there is no bulging when the abdominal wall is strained, and the girl, who looks well, has had no illness since she left the hospital.

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[1] Abstract of a clinical lecture delivered at St. Thomas's Hospital.

[2] Vide THE LANCET, Jan. 18th, 1902, p. 145 (Case 5

The history of this second patient is as follows:—

CASE 2.—A youth, aged 15 years, was admitted into George Ward in St. Thomas's Hospital under the care of Dr. H. W. G. Mackenzie on August 2nd, 1901. For about four years the patient had had attacks of pain in the abdomen but had never been kept at home by them for more than two days. He had had about seven or eight attacks altogether; the last one was in the previous March. When returning from work at 6 o'clock in the evening of the day before his admission to the hospital he again felt pain in the abdomen and on arrival home he was unable to eat his supper. He could not sleep and a hot fomentation was applied. In the morning he was a little better and returned to work, but while there he was taken much worse, the pain in the abdomen became very severe, and he was sent up to the hospital in a cab. The patient was a well-nourished lad with flushed cheeks and he complained of pain in the abdomen. On examination the abdomen moved only slightly and in the upper part it was somewhat distended on respiration, and there was general tenderness which was most marked below the umbilicus. The liver dulness was normal. No definite tumour could be made out but there was dulness in the flanks and above the pubes, shifting with position. The chest sounds were normal. The pulse was 112; it was of fair tension and was regular. The tongue was lightly furred but was not dry. The temperature was 100·8° F. The bowels acted the day before admission. I was asked to see the case about 2.30 P.M. I found the patient suffering but little. The expression of the face was good and he smiled pleasantly when answering questions. The pulse was less frequent—about 90—but with the exception of increase in the dulness of the flanks there was little change.

About 18½ hours after the onset of pain the appendix was removed after incision of the rectus sheath with displacement of muscle. On opening the peritoneal cavity free purulent fluid was found which filled the pelvis and extended into both flanks; it resembled thin gruel and was of a dirty yellowish colour, in quantity about a pint or more, and not offensive in odour. There was no lymph. The intestines were not distended, they showed no change in the normal polish, and the only thing unusual was a dilatation of the vessels in the walls of the gut. The appendix after removal was about two inches in length; the last inch was intensely inflamed and contained a few drops of pus. At one spot near the tip the wall was extremely thin, evidently being on the point of perforation. The rest of the appendix towards the cæcum was pale and thickened and contained a stercolith. The peritoneum was sutured over the stump of the appendix, after which the peritoneal cavity was washed out with saline fluid at a temperature of 105° F. A glass drainage-tube was passed into the pelvis. The pulse and temperature gradually fell to normal on the fourth day and as the amount of discharge from the tube was slight it was removed on the sixth day, the stitches being removed on the seventh day. The patient made a rapid recovery and left the hospital on August 20th.

The account of the third patient is very similar to that of the patient in Case 2.

CASE 3.—A boy, aged nine years, was admitted into the Leopold Ward of St. Thomas's Hospital on Oct. 10th, 1901. Some months before the patient had pain in the abdomen and vomiting, but the pain was in the upper part of the abdomen and passed away in a few hours. On the afternoon of the 9th when in school the patient had an attack of pain in the upper part of the abdomen. He went home, when he vomited once. He complained of a smarting feeling and pain lower down on the right side of his abdomen. On the next morning the patient vomited again and his mother brought him up to the hospital in the evening. When admitted his temperature was 101·6° F. and the pulse was quickened—from 70 to 80—but the boy did not appear ill. On examination of the abdomen there was found to be some slight distension but the walls moved well with respiration. Examination with the hand was well tolerated, and the patient did not complain of any pain excepting on pressure to the right of the umbilicus, and then he did not complain much. The right rectus in this region was rather rigid. No tumour could be felt but on percussion there was evidence of free fluid in the pelvis and the right flank. The symptoms were altogether obscure but it was thought best to explore the affected region, the free fluid being regarded as an unfavourable sign.

Operation was performed at 9 P.M. An incision was made through the right rectus muscle and the peritoneum was opened. A quantity of yellowish-white fluid, which was not offensive in odour, at once escaped from the opening and a quantity (from six to seven ounces) was sponged away from the pelvis and outer side of the ascending colon and cæcum. The appendix was lying to the outer side of the cæcum, slightly bound down and curled on itself. It was six inches long and contained a concretion over which there was a perforated ulcer. The appendix was removed in the usual manner and the peritoneum was cleansed with warm saline. A Keith's tube was inserted and a gauze plug placed beside the tube. The peritoneum, the rectus, and the aponeurosis were stitched with silk, while fish-gut was employed for the superficial sutures. No lymph could be seen anywhere, not even about the cæcum; the intestine was not sticky and the only visible change was an unusual distinctness of the vessels in the intestinal walls. The temperature became normal by the 14th. There was no more vomiting or pain. The discharge was slight, so the tube was removed on the 12th. The gauze plug had been taken out on the previous day. The wound was somewhat slow in healing but he was quite well and able to go home on Nov. 12th.

Additional proof of the importance of early recognition of this symptom is afforded by the following case. It resembles the others very closely although the patient was older. Luckily for her she was under skilled observation and her condition was recognised at once and promptly treated.

CASE 4.—The patient was a nurse; she awoke at 1 A.M. on the night of April 30th, 1902, complaining of pain in the abdomen and she was sick. There was at this time no rise of temperature and a dose of castor-oil was given for the relief of the supposed colic. She had been perfectly well the day before and engaged in the wards of the institution in which she was employed. As the day progressed she had continued paroxysms of pain, especially in the right iliac fossa, and about midday the temperature rose to 102° F. It fell towards evening but the pain continued although the bowels were well acted on by the medicine. In the temporary absence of Dr. Donaldson Dr. W. M. Jackson asked Dr. F. Bryan to see her. He agreed that the patient had peritonitis and I was asked to go down. The patient was a young woman, about 24 years of age, pleasant looking, and without the abdominalis facies. She was lying on her back, had a somewhat rapid, thoracic respiration with slight working of the nostrils, and a pulse of 120, which, however, quieted down. The tongue was moist and not particularly furred. Examination of the abdomen showed little movement with respiration. There was a long red firm scar running across from the right kidney region with a curve into the iliac region which was said to have been made at an operation in December, 1901, when she had some disease of the appendix. There was tenderness with some rigidity of muscles, especially in the right iliac region, but tenderness and pain also troubled her on the left side, whilst the tenderness was to some extent general. There was some shifting dulness in the flanks but not above the pubes. When the patient was under chloroform, which was administered by Dr. W. J. Thomas, some thickening was felt in the region of the appendix, but it was a question whether this process had already been removed or not at the former operation. Anyway, the scar resembled that of the incision suggested by Dr. J. R. Morison for this purpose when pus is present. The patient did not know: all that she was able to say on the subject was that the gentleman who operated would be pleased to answer any questions as to what had been done. I thought that this indicated a failure in the attempt to remove the appendix.

An incision was made through the right rectus muscle and on opening the peritoneal cavity pus of an offensive odour came from the region of the right iliac fossa and right kidney. It was thin, a kind of brownish sero-pus, and several ounces came away during the progress of the operation; there was some both in the pelvis (where there were old intestinal adhesions) and in the right flank. The ileum and the cæcum were partly coated with lymph, which was irregularly but not widely [illegible]ied, and there were some flakes on the bowel towards the middle line and pelvis but in no great quantity. The appendix could not be found at first and a fleshy projection near the caput cæci resembling a stump made it appear possible that it had been removed. However, the impression that this was a mistake remained and further search was made. There was no indication of its presence in the iliac fossa, for the peritoneal surface appeared continuous and there was no undue hardness to be felt. For some time it could not be found but finally towards the pelvis a slight bulging which proved to be the apex of the appendix was discovered and the finger carried along it freed it, with some difficulty, from its bed of adhesions and after ligature of its mesentery it was removed, a second ligature being applied to its proximal end. The stump was not invaginated but its mucous surface was sterilised with a drop of pure carbolic acid. The abdomen was then washed out with gauze sponges in holders and the wound was closed, a glass drain being passed into the pelvis. The appendix was the subject of a chronic catarrhal inflammation and presented a large perforation where a portion of the wall had sloughed which easily admitted the finger-tip The tube was removed on the third day but discharge continued for some time from the wound The patient made a satisfactory recovery I may say that the scar resulting from the former operation is a very good one and without any sign of weakness.

The note of Dr Mackay, for which I am indebted to him, was to the effect that the patient had had an attack of peritonitis at Christmas time. At the outset appendicitis could not be diagnosed; with the clearing of distension and effusion, however, Dr. Mackay made out a tumour in the right flank which soon showed signs of deep fluctuation. He suspected peri appendical suppuration and operated, hoping to find an easily removeable appendix. Some foul pus was evacuated but the appendix could not be found without breaking down the adhesions of the abscess cavity and therefore he had to leave it.

This case is a further confirmation of my contention as put forward in a recent paper that the appendix should be excised in the quiet period, if for some reason it is not removed when an abscess dependent on its disease is opened. Experience of other cases since that statement was written has strengthened my feeling on this question.

We have here a group of four cases which presented symptoms of a mild character varying but slightly. Each patient was seized with abdominal pain and each vomited and had a moderate elevation of temperature—in no case was it registered as above 102° F. before operation. The pulse did not in any instance (except in Case 4) exceed 110 when I saw it, nor was the expression of any patient indicative of serious abdominal trouble. Yet in each case there was purulent peritoneal exudation of considerable amount within a few hours of the commencement of the illness and in three of them there was perforation of the appendix, and in the fourth acute inflammation of that structure, with a purulent collection inside it. In all these cases the mildness of the symptoms in spite of the serious condition of the appendix is striking. Inflammation of the peritoneum had already commenced and it is unlikely that it would have become localised

I think that it is very probable that many cases of septic peritonitis have passed through the stage as described in these notes for the patients only to die a few days later because its importance was unrecognised and operative treatment was postponed or neglected. I regard this early effusion as an indication for immediate operation.

Harley-street, W.

THE RELATION OF MENTAL SYMPTOMS TO BODILY DISEASE.[1]

BY NATHAN RAW, M.D DURH., M.R.C.P. LOND.,
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THE relation of mental symptoms to bodily disease is a subject of the greatest importance and interest to us all as practitioners of medicine. It would be impossible for me in one paper to deal with such a comprehensive subject at all adequately, so that I do not propose to speak of actual insanities either as occurring in the course of numerous diseases or as caused by them, but to restrict myself to those temporary mental disturbances observed in association with lesions of various viscera.

Maudsley has said in his "Pathology of Mind" that "it is impossible to be out of sorts physically without being out of sorts mentally," and this we must all admit to be to a great extent true, for our mental well-being depends on the physiological condition of our internal organs, more especially the digestive apparatus, and it is our common experience to observe serious mental disturbance follow visceral disorder We are all acquainted with the "livery" man, in what varying moods we may find him at different periods—at one time so irritable as to be approached only with caution and at another so depressed and dull as by preference to be avoided.

In spite of the importance of the subject very little has been written upon it. A few papers dealing with the mental symptoms in individual diseases have been published but as far as I know no general classification or orderly arrangement of them has been made. My own conclusions are based on an observation of a very large number of insane patients in three large county asylums and also about 26,000 ordinary hospital cases. From this very large clinical field of observation I have had exceptional opportunities of seeing almost every form of mental disorder, temporary and permanent, arising during the course of, or following, serious bodily disease and injury.

One of the most interesting forms of mental disorder is that occurring in visceral disease and which has been so well investigated and described by Henry Head in two papers—the first published in *Brain* in 1893 and the last in the same journal in 1902. The latter excellent and scholarly paper has just been published and I am greatly indebted to it in writing my own paper Adopting the classification of Head we find that mental changes may be produced in the following ways. 1. The circulation to the brain may be so altered either by a disturbed activity of the heart or by the altered condition of the blood. The delirium that accompanies a failing heart may be instanced as an example of a mental change dependent directly on altered vascular conditions 2. Some secretory organ may be attacked by disease, such as the thyroid. In exophthalmic goitre we have evidences of thyroidism with great nervousness and irritability, whilst in myxœdema we have the opposite mental state of depression and hebetude. 3. Disease of excretory organs may lead to the retention of toxic agents in the blood, as, for example, uræmia and jaundice. 4 Poisons circulating in the blood, such as alcohol, may in certain lowered conditions of the body due to visceral disease produce mental changes. 5 "Visceral disease may so lower the patient's resistance that some inherent mental tendency may become manifest as active mental disease." These are the causes of the direct mental effects in visceral diseases and are easily understood, but there are certain diseases of the internal organs which are now known to be accompanied by superficial tenderness of the scalp, the face, and the body, together with radiating pains of the trunk. The pain and tenderness are due to changes in some part of the central sympathetic system caused by disturbance of the internal organ to which sensory sympathetic nerves are supplied. *Head* calls these "reflected visceral pains" and the mental symptoms are indirect for they are associated with visceral disturbances through the mediation of the sympathetic system. We are all familiar with the young anæmic woman with pain in the chest and side, or even with all sorts of patients who complain of tenderness and radiating pains round the trunk and the head, pains which cause much physical and mental distress and which in many cases are accompanied by changes in consciousness. These changes mostly take the form of hallucinations of sight, hearing, and smell and are generally of a temporary nature, disappearing with the disease, but more pronounced mental changes may manifest themselves in the form of varying moods of exaltation, depression, or suspicion. In these moods a patient may have all the symptoms of an insane person for the time being with delusions, but they are in no sense fixed delusions and often disappear as rapidly as they came. The diseases in which these curious mental states are observed are chiefly those of the heart, the lungs, and the stomach, and it is extraordinary in how many cases they will be found in a greater or lesser degree if carefully looked for. It would be impossible in this short paper to enter at all fully into the details of numerous cases of which I have notes, so that I will content myself by describing in a general way the mental state of groups of cases.

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[1] A paper read before the Liverpool Medical Institution on Feb 13th, 1902.

In phthisis pulmonalis the mental symptoms are often very pronounced and they play an important part in the progress and treatment of the disease. The condition generally known as the "spes phthisica" is not, in my experience, commonly seen and is then seen only in those patients who are not aware of the true nature of their affliction. It is common knowledge that many patients attacked by phthisis suffer very little physical pain and inconvenience—in fact, in very advanced cases except for the cough and expectoration they feel fairly well. It is in these cases where the patient has no idea of the terrible nature of his disease and where a cheerful disposition is preserved that this abnormal hope is described. In my experience the very opposite mental state is often present and in the later stages of phthisis depression, fits of moodiness, with irritability of temper and even delusions of suspicion and fear, are not uncommon. In many cases of phthisis there are intense pain and tenderness over the cervical and dorsal areas with superficial tenderness of the scalp, the forehead, and the neck—reflected visceral pains. In some of these hallucinations of vision are present. A patient will tell you that he has seen a dark figure like a ghost at the foot of his bed in the night which disappears and reappears at intervals. In other cases the patient may develop hallucinations of hearing such as "tapping on the wall," voices from the ceiling, or whispers in his ear. Delusions of suspicion and persecution are sometimes noticed and the patient may think that he is being followed or shadowed and that some impending calamity is upon him. I have observed a few cases in which these delusions have entirely disappeared on the arrest of the phthisis and have not again appeared.

In cardiac disease reflected pain chiefly over the left side of the chest, accompanied by superficial tenderness, is common. This pain is generally over the fifth to the ninth dorsal areas, with tenderness of the forehead, the temples, and the vertex of both sides. The patient may suddenly develop hallucinations of smell and will tell you that the food is tainted and that he has a taste of poison in his mouth and on that account will refuse all food. In other cases there is wild delirium or exaltation of feelings with a sense of great physical strength and anxiety to do hard work.

These mental states are more often present during failing compensation and I have frequently seen them entirely pass away with improvement of the patient's physical condition. All these mental symptoms have up to the present been described and classified as hysteria and hypochondriasis, and it is quite a common thing in making one's visit to the wards for the sister to say that so-and-so has been a little hysterical during the night, perhaps screaming out through fear or saying she has seen ghosts or visions.

I do not pretend for a moment to be able to offer any theory on the association of these curious mental states with reflected visceral pain; that they are frequently present is beyond all doubt and it behoves the physician to be on his guard when they appear lest his patient should be treated either as hysterical or as a lunatic instead of as one who is exhibiting mental symptoms requiring sympathy and care. The conclusions of Head are of interest. Under normal conditions the functions of the viscera are outside consciousness—that is, the heart, the lungs, and the stomach, &c., carry on their physiological duties in health without our conscious knowledge. "But a complete change takes place when reflected pains of visceral origin come into existence. These sensations produced by abnormal activity of the viscera crowd into consciousness and usurp the central field of attention. The patient's character appears to be altered. He will become moody, at one time unduly exalted, at another depressed without cause. Reason is displaced and he will have lost control over the expression of his emotions and of his temper." Head concludes his paper in these words: "When the mental states mentioned above appear in consciousness they seem an intrusion from without, an inexplicable obsession that can neither be controlled nor subjected to logical analysis. All such states have since the earliest times been classified as hysteria and I shall be satisfied if I have been successful in relegating to their proper position a small band of symptoms included under that vast and heterogeneous group."

Heart disease.—I have briefly mentioned before the mental symptoms occasionally seen in heart disease associated with reflected visceral pain, but there is a definite train of mental symptoms often associated with valvular lesions, more especially aortic, and also aneurysms. Some writers describe cardiac insanity as a distinct variety of insanity. These mental symptoms, in my experience, are generally observed towards the close of the disease and are very variable. The patient may develop delusions of suspicion and persecution; he thinks that the others in the ward are talking about him and that his food is being poisoned. In heart cases I have known several patients to refuse all medicine on that account. In other cases they are noisy and hilarious with ideas of grandeur and importance. Rarely they are suicidal but several cases are recorded where the patient has thrown himself out of the window or otherwise taken his life. I have for many years been in the habit when lecturing to nurses of impressing upon them the difficulty in nursing the patients in some heart cases. They are especially irritable, suspicious, and ungrateful for all that is done for them and they often take intense dislike to nurses and medical practitioners without any apparent cause. Acute mania sometimes develops in the course of heart disease and I can remember two such patients being sent to the Portsmouth asylum who rapidly recovered on the improvement of the heart. It is not my intention to speak here of palpitation, tachycardia, or other neuroses of the heart, as they do not fall within the scope of this paper.

Kidney disease.—The relation of the brain and nervous system to the kidneys is very close and at present is little understood, but that the kidneys may be stimulated or suppressed in their functions by purely nervous influences cannot be doubted. The surgeon cuts down upon a kidney or ureter for stone but none is found; the result in some cases is a temporary or permanent suppression of urine. In other cases of suppression of urine from bladder or urethral disease the fact of cutting down on the kidneys and incising them will restore their function. What happens we do not know. I agree with Dr. G. Savage that there is no special form of insanity associated with kidney disease but in the later stages of chronic Bright's disease the brain seems to participate, although, perhaps, less than we would expect, until it is violently overcome by the uræmic poison. The patients are often found crying and on inquiry they exhibit marked delusions of fear and suspicion; often they are delirious, restless, irritable, and show mental failure until coma terminates the scene preceded by convulsions. As a great clinician observed, "The idle comments foretell the ending of mortality."

It is, however, to the manifestations of uræmia that I wish especially to draw attention. Without any previous warning a patient may be seized with a violent epileptic attack, the fits being of great severity and rapidly passing into the status epilepticus. During pregnancy or when labour is commencing a woman may suddenly become maniacal and may pass into a condition of eclampsia. The mental symptoms here totally overshadow the bodily ones and it is recognised that the patient is in great danger. In both these dangerous conditions total unconsciousness is rapidly reached and general convulsions are the rule. In the gouty contracted kidney, especially in young adults, acute mania is not uncommon and I can remember the cases of three patients who were sent to asylums as lunatics when suffering from this condition. Commencing with restlessness, headache, and insomnia the patient very rapidly passes into a violent state of mania with delusions of fear and suspicion and often ending in death. In another form of uræmia the first symptom noticed is a hemiplegia or partial paralysis with no brain lesion discoverable post mortem to account for it, and I have seen patients with twitchings, cramps, and hiccough who were quite unable to sleep for several days, the mind remaining quite clear to the end. In some patients the mental distress is pitiable to witness, especially in the dyspnœic form with Cheyne-Stokes respiration or in the condition known as "renal asthma." When a medical man is called to a patient who is irritable, restless, and resistive, with twitchings or even convulsions, or where paralysis or coma is present, he must always have in his mind the possibility of uræmia. It is often impossible to distinguish these cases from cerebral hæmorrhage or poisoning and I have on quite a score of occasions seen cases post mortem whose fracture of the base of the skull or apoplexy turns out to be uræmia and nothing more. I have also had patients sent to hospital and asylum as lunatics who were in the early stages of uræmic poisoning.

Gout.—The exact etiology of gout is unknown but among other theories the nervous one has many adherents. The this lack of natural reserve is often very remarkable and appears to be due to a defect of that higher form of cognitive relation which, as I have said, comes very near to, if it be not as high as, moral consciousness.

The following case may serve to illustrate these points. A girl, aged seven years, whom I saw by the kindness of my friend Dr. F. E Batten, had had epileptiform attacks at intervals of a few weeks since the age of 12 months, associated with right infantile hemiplegia of the same duration. Intellectually the child was evidently defective, though only to a slight degree; she had not learnt to talk until fully three years old, but with only 12 months' teaching she had learnt to read short words and could count readily; she could also write the letters of the alphabet fairly distinctly. She described pictures intelligently and accurately. She was said to be very jealous and if much attention was paid to other children in her presence she would sometimes attack them, pinching them or striking them. Passionateness had been more marked formerly than now; at the age of five years she was said to have been "dreadfully violent"; for instance, one day when her mother was in the garden and she was not allowed to come out she flew into a rage, seized a stick, and deliberately smashed the window, and any such thwarting of her wishes was liable to produce an outburst of passion in which she would fling things recklessly about, including cups and saucers. Not the least striking of the qualities shown by this child was her lack of reserve. On entering my consulting-room she walked straight up to me, a complete stranger, and said, "I want a book"; on receiving a picture-book she exclaimed effusively, "You dear doctor; you dear little doctor," and then proceeded to examine the bookshelves for herself and conversed at intervals in an airy way on various subjects, amongst other things describing a medical man whom she had seen previously as "a saucy doctor." She was also described as very self-willed and although she was obedient to a certain extent it appeared to be almost entirely the obedience of fear, for she was frequently punished for disobedience and had to be reminded repeatedly of the instrument of punishment to obtain obedience.

The heading "wanton mischievousness and destructiveness" calls perhaps for some explanation. At first sight it might be thought that such qualities were hardly related to defective moral control, but I think that a little consideration will show that not only have they a very definite relation to the moral deficiency which we are considering but that in these qualities *par excellence* we can discern the lack of those altruistic tendencies with which moral consciousness is chiefly concerned; and this lack, although it is natural, as I have shown, in the infant, and in a less degree in the young child beyond the age of infancy, may be unnatural when it persists in an older child. Let me illustrate my meaning by a comparison of two children. A healthy boy, aged 18 months, who had passed the age at which he cared to tear up books, paper, or anything he could tear, had recently shown a love of throwing things into the fire, no doubt for the pleasure of watching the weird and dancing flames, and perhaps with an almost unconscious pleasure in the power of arousing the flames at will; his action was, in fact, a method of self-gratification which in its total disregard for the possible injury to others by destruction of property obviously implied lack of moral control, a lack which was perfectly normal at that age. But the persistence of this infantile quality in an older child was accompanied by other evidence of a morbid moral deficiency. A girl, aged seven years, had always been backward but by no means extremely so; it was difficult to judge of her intellectual capacity from school attainments, for her attendance had been very irregular and she was so spiteful that it was necessary to separate her from other children in the class, for she would thump, bite, or pinch them, sometimes so severely as to break the skin. She had learnt to sit up alone at 11 months and to stand alone at 16 months, she had talked at 18 months, so that in these respects she was very little behind an average child. She had fits occasionally from infancy up to the age of seven years; she was well developed; her facies showed nothing suggestive of mental impairment; her head measured 19¾ inches in maximum circumference—that is, nearly one inch below the average for the age. The mother stated that since the age of about five years her mischievousness had given continual trouble. She would tear up books, and other things, and on one occasion had apparently deliberately set the drapery on the mantelpiece on fire and then sat and laughed and clapped her hands. Seen again at the age of 10½ years this girl, although apparently only backward, was as passionate and as spiteful as ever; in fact, the mother said that it was quite unsafe to leave her with other children. She was also cruel to animals—she would take up the cat and dash it down upon the floor with intent to injure it, and if it happened to cross her path she would kick it. Here, I take it, the child's act in setting fire to the drapery was, as in the former case, an act of self-gratification, but the lack of moral control and, no doubt, of moral consciousness shown in this and in her spitefulness and cruelty was altogether unnatural for the age, and that it was part of a morbid state was, I think, evident in the general intellectual deficiency and in the repeated convulsions. I mention this particular variety of mischief—the setting fire to property—because it is sometimes a prominent feature in the manifestations of a morbid defect of moral control in children who show no apparent impairment of intellect and in such cases it has obviously an important medico-legal aspect.

There is one other heading which, perhaps, wants some definition—namely, viciousness. By this I mean a lack of moral control in such things as concern chiefly the good of self—for instance, self-abuse or other pernicious habits. Dr. G. E. Shuttleworth tells me of a girl, aged 12 years, brought up in good position and apparently of normal intellect, who in addition to precocious sexual immorality would, if unable to obtain alcohol otherwise, drink the methylated spirit used for her mother's toilette.

There is no need for me to dwell upon the moral defect in children with general impairment of intellect; my only reason for referring to such cases is because I think they throw some light upon the conditions which underlie a morbid defect of moral control where there is no apparent intellectual impairment. It seems possibl in these children to discriminate between certain differences in the causation of the moral defect. We ca recognise, I take it, with certainty two groups, an probably three groups, of cases all showing defective mora control and yet differing considerably in the psychical condition which is associated therewith. In one group, as have already pointed out, there is absence, partial or complete, of the simple cognitive relation to environment an therefore moral control is impossible; in another th child is, or appears to be, in full cognitive relation wit environment so far as what one may call the simpler o lower form of cognition is concerned, but lacks that highe form of reasoning comparison which I have called mora consciousness. Again, I will illustrate my point by actua cases. A well-grown and pretty child, aged two years an four months, has had fits since the age of eight months an is an idiot of very low grade; he does not distinguis between people and it seems doubtful whether he distinguishes between animate and inanimate objects; he bite anything within reach and as he sat in the out-patient roo he worried the edge of the table with his teeth like a dog Two days previously he had seized his mother's finge between his teeth and had bitten it severely enough to mak it bleed. He has eaten his own fæces, soap, and such thing indiscriminately He is said to be passionate if thwarte in his endeavours. In such a case it seems evident tha there is a lack of the simple cognitive relation, the lowes form of reasoning comparison by which he shoul have distinguished his mother's finger from other objects, and therefore *a fortiori* he lacked that higher form o reasoning comparison by which he should have distinguished the character of his act as contrary to what I have called th moral idea.

Contrast with this another case. A boy, aged nine years, had been brought to me for mental deficiency. He had learnt to walk and to talk at two years but was very backward intellectually. After being at school for three years he could only read words of one syllable. The chief trouble with him however, was his passionateness, spitefulness, and disobedience. Any crossing of his wishes produced an outburst of passion, and he had repeatedly thrown knives at the othe children with little or no provocation and had also throw scissors at his mother. Recently he had stolen a shilling from his mother and after spending part of it brought back the change and gave it to her. The mother, a very intelligent woman, volunteered the statement that he seemed to have "no idea of right and wrong"; he seemed incapable of any sorrow for his misdoings. Subsequently this boy became so dangerous to the other children that it was explosive neuroses and the influence of depressing circumstances, physical or mental, point strongly to the part played by the nervous system in the disease. The extremes of mental action are met with in gout, from maniacal excitement to the most profound melancholia. In acute attacks the patient may be so irritable and bad-tempered as to be unapproachable; in cases of suppressed or retrocedent gout delirium, apoplexy, or coma may suddenly develop and terminate the disease.

Exophthalmic goitre.—In the interesting and complex disease exophthalmic goitre the nervous and mental symptoms are often the most prominent. In many cases the first symptom observed is a sudden change in the mental condition. The patient becomes abnormally irritable, excitable, and fidgety; her moral nature, too, is altered and she is untruthful, spiteful, and suspicious. Delusions of impending danger and suspicion are developed and she has all the appearances of a melancholiac. I have seen three such cases sent to asylum who improved immensely under the influence of nerve sedatives and were discharged quite recovered. I have also seen several cases of exophthalmic goitre where the mental symptoms have been absent and the patient has remained placid and good-tempered throughout.

Myxœdema.—In myxœdema a condition of mental weakness is produced by some alteration in the higher intellectual centres, producing a slowness of perception and conduction. It is, however, to be borne in mind that cases of myxœdema may develop acute attacks of insanity, either mania or melancholia with delusions of suspicion and hallucinations of hearing.

Diabetes.—Although there is no known relation between diabetes and insanity we sometimes see definite mental changes coexisting. As a rule a patient is irritable, fretful, and impatient in the earlier stages. In the later stages he becomes suspicious and distrustful of those around him and may even develop delusions. The condition of diabetic coma is too familiar for description and is often most difficult to diagnose until the urine reveals the disease.

Chorea.—We now come to another condition of which we know but little—viz., chorea. We are familiar with its manifestations but not with its cause. I am one of those who think that fright and sudden mental shock play a most important part in its production. I had a patient under my care two years ago who had three distinct attacks of chorea, all caused by a black dog at home. When this dog was got rid of the patient settled down and has had no further attack. The whole train of mental symptoms in chorea is one of nervous instability and fear. The patient is always in dread of something terrible going to happen and it is only when the medical man and the nurses thoroughly get his confidence that he begins to improve. In the more serious forms of chorea, such as chorea gravidarum, convulsions and coma rapidly ensue and death is common, whilst in a few rare cases insanity follows, and only this week I have sent a boy to the asylum who developed acute mania after an attack of chorea.

Acute infective fevers.—Amongst the numerous acute infective fevers I will only briefly refer to three—viz., typhoid fever, pneumonia, and rheumatism. In typhoid fever we have two distinct phases of mental disorder, one occurring during the acute febrile stage and the other appearing during convalescence. The nervous symptoms in some cases of typhoid fever completely overshadow all others and the patient may rapidly pass into a condition of raving mania most difficult to treat or to control; hence the old name for the disease, "nervous fever." The cause of this is toxæmia due to a most severe general infection in which the nervous system participates. In other cases the patient may pass into a condition of wakefulness with hallucinations of vision and hearing and even delusions, which may terminate in a sleep unto death. The acute stage may pass off and the patient during the third week may pass into a state of profound mental prostration, or a condition of imbecility or stupidity may ensue lasting for several weeks. The other important mental change is one of post-typhoid insanity, caused no doubt by nervous exhaustion and insufficient food, and it must be borne in mind that mania may follow ordinary starvation. In some types of typhoid fever insanity not uncommonly follows, but in my experience of a fair number of cases it always passes off and the patient makes a good recovery. I have made a careful observation of the mental changes during an attack of acute pneumonia. In the early stages the symptoms of wild delirium and even mania with all the symptoms of delirium tremens are due no doubt to the virulence of the poison and especially is this the case for some reason or other in apical pneumonia, especially the right apex. I have seen the worst mental symptoms in cases where only a small part of the apex of the lung was attacked and they are very fatal. The sleeplessness so often distressing to witness is due to cerebral irritation at first and then to cerebral exhaustion. It is to be borne in mind that a patient suffering from pneumonia is liable to sudden frenzy and may attack the nurse or patients or may even throw himself out of a window without any warning. I have never observed insanity to follow pneumonia. Mental symptoms in rheumatic fever are extremely rare, not including those, of course, due to hyperpyrexia. I have seen one patient develop acute mania with insanity which terminated in complete recovery after having delusions of grandeur and importance for six weeks.

I will only briefly mention without description the other diseases in which mental symptoms are common. We are all acquainted with alcohol—I mean clinically. It may in excessive doses produce all the symptoms of true insanity, as in addition to the familiar symptoms of delirium tremens delusions of all varieties may be present together with hallucinations of hearing and vision constituting for the time real insanity. Many hundreds of such cases have been sent to asylums and nearly all recover for a time. Arsenic, as we have seen recently, is capable of producing in association with alcohol a curious train of mental symptoms, chiefly depression and melancholia with delusions of fear and suspicion. They pass away slowly but surely and I have only seen two cases out of over 200 in which permanent insanity has remained.

Time will not permit me to speak of the mental symptoms associated with uterine and sexual disorders or to the temporary insanity which sometimes follows injuries and surgical operations, but I would just like to mention the case of a young woman who was sent to the Mill-road Infirmary as a lunatic of three years' standing, who was suffering from delusional insanity and who said that she was the Virgin Mary and was going to give birth to another Christ and so on. She had a large fibroid of the uterus occupying the whole abdomen and extending under the ribs. This was removed and with it the whole of her insanity passed away and she is now perfectly well physically and mentally.

There appears to be a very close relation indeed between the ovaries in the female and the testicles in the male to the nervous system. A few years ago it was a common practice to remove the testicles for diseases of the prostate, especially in elderly men. The operation was followed in several cases by most disastrous results; acute mania and delusional insanity followed by profound melancholia occurred in three cases under my own observation. The same dire effects follow sometimes in operations on the healthy ovaries and I think that a surgeon should hesitate before removing these organs *when in a healthy state* for any disease whatever.

I have seen three or four cases of raving acute mania with delusions follow the application of atropine to the eye, always in elderly people, with fortunately a good prognosis.

Now what is the object of this somewhat disjointed paper? There can be no doubt that physicians are now more alive to the fact that the mental symptoms arising in the course of a disease are often part and parcel of it and require just as careful treatment as the disease itself. Too often a patient exhibiting mental symptoms is certified and sent to a lunatic asylum when a little time and patience would have cleared the whole thing up. But, it may be said, where is the alternative? General hospitals and private houses are not equipped for the treatment of mental disease and with regard to the hospitals it is no doubt a grave defect.

There is a great want in Liverpool in the fact that there is no reception house or hospital for those suffering from mental disease and temporary insanity, both from the point of view of the patients and their relatives and the education of students. For instance, a man suffering from acute delirium tremens (and these cases are not uncommon in Liverpool) cannot be admitted anywhere in the city but to the workhouse hospital. These patients are the most dangerous lunatics for the time and yet they cannot be certified as legally insane. In the large Poor-law infirmaries and workhouses if a patient develops temporary insanity he is transferred to the mental wards and there he remains in many instances until he is cured, but in a general hospital or private house he is removed to a lunatic asylum, private or pauper, and is equally well cured there; but the question is, was it necessary for him to bear the stigma of having been signed as a lunatic when he was simply suffering from temporary mental aberration the result of bodily disease? There can be no question whatever that an asylum of some sort is the best place for the patient, but he need not be certified as insane, at any rate, until it is seen whether his insanity is likely to be permanent or not. These are the cases which swell up the recovery rate of admissions to asylums, especially those suffering from alcoholic insanity, and I have always very much doubted the recovery rates from organic insanity. I would like to see established in Liverpool, preferably by the corporation, a reception house for mental diseases of all forms where patients might be admitted in the acute stage of the disease and kept under observation for one month, and at the end of that time, if the symptoms had not passed off, either be removed by their friends or then certified for detention in an asylum.

After a long observation of lunatics—and I have personally certified over 2000 patients to asylums—I am firmly convinced that a large number of people are certified as lunatics throughout the country who are simply suffering from temporary insanity the result of, or associated with, some form of bodily disorder or toxic poisoning. These people are not really insane and should not be associated with lunatics. They quickly recover under proper treatment and I maintain that from every point of view it would be to the public advantage for them to be treated in a hospital for mental diseases, with expert physicians in attendance and a clinique of students to study the acute phases of mental disorder, and where the patient and his relatives might be spared the stigma of his having been detained in a public lunatic asylum as a certified lunatic.

Liverpool

THE TREATMENT OF EARLY MENTAL CASES IN A GENERAL HOSPITAL.[1]

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THE classical mistreatment of the lunatic was synchronous with the dominance of the metaphysical conception of the depravity of his volition, and died with its death, perpetuating its cruel existence, however, in the legal definition and procedure that still dare to misjudge man's responsibility by what the lawyers are pleased to call his knowledge. But the modern treatment of the insane, inspired as it is by the modern scientific spirit, is something very different and is ever advancing along lines of progressive reform, so that the phase of development of a community may almost be said to be mirrored by the manner and degree in which it deals with its mentally afflicted.

On looking round we find the following therapeutic details characteristic of the procedure of the most humane and scientific peoples—viz., some provision for early and doubtful cases in the shape of observation wards or receiving houses; the scientific classification of the insane; the separation of the curable in small wards or detached hospitals, furnished with all modern requirements and provided with fully-trained nurses in the proportion of at least one to five; the opening of outdoor departments; the fusion of hospitals and asylums, and the establishment at the latter of a consultant medical, surgical, and neuro-pathological staff; the transference of patients from one asylum to another; the licensing of wards in workhouses and the like for the harmless chronics; the boarding-out of increasing numbers by twos and threes in private families, and the official supervision of all private and individual cases. How far we in Victoria fall short of these signs of progress is known only too well to all who take an interest in lunacy matters, and the practical result with us has been that members of the profession here are often at a loss to know how best to deal with numerous individual cases. Too often, also, pauper lunatics enter the asylum through the doorway of the gaol, whilst some of our criminal insane have never got further than the inside of the gaol hospital. It is little wonder therefore that, wherever practicable, the better class are either treated *sub rosâ* in private establishments or sent out of the colony to better quarters abroad.

It was in view of these unfortunate circumstances and their tacit recognition by the authorities that for some years past I have from time to time attempted to treat some of my insane patients in the wards of Melbourne Hospital. The Government provision was so unsatisfactory and inadequate, there was no receiving house, the very names of Kew and Yarra Bend carried an indelible stigma, whilst by hospital treatment there might be for the students invaluable clinical material that they might otherwise never obtain, and for the patient earlier, and in many respects better, treatment. Most of the advantages of such hospital treatment require simply to be stated to be recognised and admitted:—1. There is no necessity to wait until some unfortunate accident, *lâche*, or crime necessitates the tardily-written certificate. Treatment is thus available much earlier than usual—a point the importance of which to the patient, to his friends, and to the community can scarcely be over-estimated. 2. It places "borderland" and early cases under the same therapeutic conditions that have been found efficacious against the kindred hysteria, cerebrasthenia, and bodily disease generally, and it gives the patient greater opportunity of having the frequent co-existing or causative bodily disease properly and promptly attended to. 3. It does away with the false distinction between mental and bodily disease and it altogether avoids the stigma and disgrace attaching to "lunatic" and "asylum." 4. There is no signing of certificates with its, at times, serious sequelæ to both patients and medical men, and the natural convalescing ground, the home, is much earlier and more readily available.

These are advantages, both fundamental and immense. But the plan has also its limitations and disadvantages. We had, and have, no cells for separate cases; the nursing staff was, and is, not organised for lunacy work or specially trained in lunacy charge; whilst the hospital grounds are too small even for ordinary recreation and the public strain upon our beds, their much greater individual cost, and the restrictions of the law are such as to render it impossible to deal with more than an occasional patient or to keep him under treatment for more than a limited number of weeks. Most, if not all, of these disadvantages, however, seem to me matters of arrangement rather than of principle.

My actual experience may be summarised as follows: 1. Under existing conditions it was found impossible to attempt to deal with maniacal cases. Outside the general wards there was no place for them except the refractory ward and that was fully occupied by the "D.T.'s," the cases of noisy delirium with fever, and the like, and structurally the building itself was quite unsuitable. 2. We were, however, able to observe and to treat cases of early progressive dementia and of early general paralysis (especially those in which the mental symptoms were late in their development) until we were satisfied that the asylum was the proper place for them. 3. The hospital wards have also been excellent observation wards for many doubtful cases in which it was impossible to say definitely whether the mental condition was or was not the outcome of some undercurrent bodily disease but which, under any hypothesis, required skilled treatment forthwith. Under this heading I have thus dealt with cases of disseminated sclerosis; with mental crises; with cases of syphilitic frontal lepto-meningitis and brain tumours; and with the mental phases of utero-ovarian disease, of hypochondriasis, and of doubtful general paralysis It is beyond question that the critical atmosphere of a hospital medical school and the skilled reports and care of highly-trained sisters are of the greatest value in promoting the diagnosis and treatment of these mental conditions. Other cases, also, complicated with epilepsy, in which the epileptic status was frequent, or unusually severe, or in which the amnesia and dementia were becoming marked, or the onset of actual insanity was suspected, could be kept under observation until it was decided what was best to be done and meantime they could be treated to the best of our ability. 4. Cases of actual lunacy, also, in which the condition was undoubted but the necessity or advisability of signing certificates was more or less problematical, have been satisfactorily treated in the wards. Thus I have treated cases of transient mental unsoundness due to inanition, to neglect, or concomitant with phosphuria, until the patients have been discharged cured. I have also treated cases of sudden dementia, stupor attonitus, and other diseases, due to shock, fright, and the like, until they, too, have regained their mental equilibrium. And, most interesting of all, I have taken into the wards a number of cases of actual melancholia and in three at least I had the satisfaction of seeing them rapidly restored to health without any recourse to asylum certificates or treatment.

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[1] A paper read at the April meeting of the Medical Society of Victoria.

One of these cases was that of a female, aged 24 years, of good family, but reduced circumstances, who, from the cheerless nature of her outlook, and some religious self-condemnation, had become morbid, left her home before daybreak, and was found by a policeman half-dressed and wandering near the Yarra. She was speechless, declined her food, and had to be watched and looked after. Her medical attendant suggested asylum treatment, but after careful examination I undertook to try the effect of general hospital treatment. She was admitted into Ward 13 on April 24th, 1901, nursed, dieted, and otherwise treated according to the indications. She soon began to take notice, became interested, slept, ate, and conducted herself along normal lines, until in three weeks she was sufficiently recovered to be restored to her family, both they and she being very grateful for the restoration, and especially for the fortunate avoidance of asylum reminiscences.

The second case was that of a girl, aged 18 years, who had become cataleptic after typhoid fever and who made a good recovery in Ward 13; 12 months later (May 11th, 1899) I was called to see her in a state of melancholic stupor after an acute onset. Here, again, there was no question of the need of prompt skilled atttention and justification even for asylum restraint but I decided to try the hospital before signing a certificate. A good deal of difficulty was experienced in dealing with her in a general ward but by the tact of the sister and the hearty coöperation of the nurses the patient was able to go home some seven weeks afterwards and came to see us a month later thoroughly well both mentally and bodily.

The third case was also one of a young girl, aged 18 years, always somewhat dull, and never rising above the third class at school. Partly from overwork in a factory and partly from excessive religious emotion she had become completely changed, melancholic, delusional, and was recommended by her medical attendant for asylum treatment. I took her, however, into the hospital on June 2nd, 1900. For a few days we had to send her down into the refractory ward, but six weeks later she was able to go away with her mother and was seen several months later as well as ever she was. In all three cases the hospital environment, the nursing, and the going out with different nurses, contributed very largely, in my opinion, to the early and satisfactory result.

This brief summary will suffice to show that the wards of a general hospital can fulfil a very useful function in the treatment of early mental diseases. And it is equally evident that, with some reorganisation and rearrangement, this new and specially valuable utility might be considerably augmented.

No doubt most of the present disastrous hiatus between the onset of mental unsoundness and its asylum treatment would be satisfactorily filled by the establishment of a receiving house, provided that receiving house was large enough to accommodate all suitable cases, was properly equipped, was provided with sufficient ground, and was officered and nursed along the lines of a general hospital. And its usefulness, in my opinion, would be quadrupled if an outdoor department could be added to it and its name and scope widened into that of a hospital for early mental cases. But until such a receiving house is actually receiving patients, and even afterwards, it would also, in my opinion, be a natural and proper part of the usefulness of a general hospital, which is also a medical school, to make suitable provision for the reception and treatment of a certain number of such cases, and it will be an endeavour on my part to bring the matter prominently under the notice of our hospital staff and committee.

Since writing the above I have found strong corroboration of the position therein taken up in the report of a special meeting of the Edinburgh Medico-Chirurgical Society called to discuss the Treatment and Teaching of Incipient and Transient Mental Disorders in the Royal Infirmary of Edinburgh.[2] The meeting was a large and representative one and most of the managers of the Royal Infirmary of Edinburgh were present. Sir John Sibbald introduced the question in a paper which claimed that the early stages of mental disease required just that kind of treatment that a general hospital could best offer, and that the establishment of wards in the Edinburgh Infirmary would best remedy the present defective arrangements. He then enumerated the advantages to be obtained from such a new departure and suggested a time-limit of six weeks, at the end of which asylum treatment might follow in case recovery or death had not taken place. He dwelt also upon the advantage to the medical student in thus becoming duly equipped for one of his most serious future responsibilities. He was supported by powerful speeches by Sir John Batty Tuke, Dr. T. S. Clouston, Dr. J. O. Affleck, Dr. Urquhart, and others, the chairman of the General Board of Lunacy, and the advisor in lunacy to the Glasgow Parish Council, all of whom recognised the extreme importance of the proposal and its educational, preventive, and curative value. Finally, it was unanimously agreed "that this meeting urges strongly on the managers of the Royal Infirmary the propriety of seriously considering the expediency of providing wards within or in the immediate vicinity of the institution for the treatment of incipient, transient, and recent cases of insanity."

Melbourne.

TEMPORARY REMINISCENCE OF A LONG-FORGOTTEN LANGUAGE DURING THE DELIRIUM OF BRONCHO-PNEUMONIA.[1]

BY HENRY FREEBORN, M.B. EDIN.,

WITH REMARKS BY C. A. MERCIER, M.B., M.R.C.P. LOND., F.R.C.S. ENG.

THE patient was a woman, aged 70 years. She felt poorly on the evening of March 6th, 1902, and kept her bed on the 7th. I saw her on the 8th and found her complaining of headache and pain in the shoulders, back, and limbs. Her temperature was 102° F and her pulse was 100, regular, and strong. Examination of the lungs revealed slight bronchial catarrh (the patient was very liable to slight attacks of bronchitis and had to keep her bed for a few days at a time once or twice during every winter). Her condition on the 9th and 10th was about the same; there were less headache and pain generally, the temperature remaining between 101° and 102°. On the 11th the patient had passed a bad night, the respirations were quickened, the cough was troublesome, the pulse was 120, and the temperature was 105°. Examination of the lungs revealed increased bronchitis all over and on the right side of the back at the angle of the scapula increased vocal resonance and fine crepitations. There was no difference in the percussion note on the two sides. The lungs were not again examined thoroughly after this date until about the 20th because the condition of the patient would not allow it. When they were then examined the bronchial catarrh had disappeared all over. On the right side no trace of any patch of consolidation could be found, but on the left side at the back I found dulness over rather a large area with other signs of consolidation. This had quite cleared up three days after. The general condition of the patient remained about the same for two days, the temperature being between 105° and 106°, the pulse at this time being about 120 and strong. On the 13th the temperature fell rapidly to 98°, went up again for a short time in the afternoon to 101°, and fell again in the evening to 97°. On this day she coughed up a little rusty sputum, the only time she did so. At 9 P.M. I arrived to find her apparently dying. The pulse was quite uncountable, weak, and flickering. The nurse said that she began to change an hour before and was getting rapidly worse. Three minims of liquor strychniæ were given subcutaneously. In 10 minutes the pulse could be counted and in 20 it was fairly strong at 110. It was found necessary to repeat this dose every fourth hour and to give brandy and carbonate of ammonia freely until the 16th, on which day she began to improve and her pulse remained strong and slow without the help of the strychnine. On the 16th and 17th the bowels acted very freely six times in 24 hours; this was one reason for discontinuing the strychnine. Two doses of $\frac{1}{100}$th grain of digitalin were given on the 14th in conjunction with the strychnine, but the mixed injection did not act as well as the strychnine alone. The heart did not respond so readily to it, the effect passed off sooner, and the patient seemed more restless after each of these two doses.

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[2] Vide THE LANCET, March 1st, 1902, p. 593.

[1] This paper appears in the Photographic Record of Clinical Teaching and Medical Science, June, 1902.

The chief point of interest in this case lies in the delirium. From the night of March 7th until the evening of the 13th (when the temperature fell suddenly) she was sometimes wandering while awake and continually talking in her sleep, but when spoken to would be perfectly sensible and so long as she was engaged with one of the attendants or doctor would answer questions, &c. When the temperature fell on the 13th she became quite delirious and remained so until the 16th, when she gradually returned to reason. On the night of the 13th and on the 14th she was found to be speaking in a language unknown to those about her. It sounded as if she was repeating some poetry sometimes or carrying on a conversation at others. She repeated the same poem time after time. This language was found to be Hindustani. On the 14th, in the evening, the Hindustani began to be mixed with English and she spoke to, and of, friends and relations of her girlhood. On the 15th the Hindustani had disappeared altogether and she was talking to, and of, friends of a later date in English, French, and German. The patient was born in India, which country she left at the age of three years and landed in England, after five months' voyage, before she was four years old. Up to the time she landed she had been under the care of Indian servants and spoke no English at all, her only language being Hindustani. On her coming to England the ayah was sent back and she then began to learn English and from that time had never spoken Hindustani. She apparently, on the 13th, went back in her delirium to her very earliest days, when she spoke again the first language she ever heard. The poem was found to be something which the ayahs are in the habit of repeating to their children and the conversations were apparently with the native servants, one being recognised as a request that she might be taken to the bazaar to buy sweets.

Through the whole delirium there could be recognised a sequence. As time went on the friends she spoke of were of later date and she took events in their proper order. She apparently began at the beginning of her life and went through it until on March 16th she had reached the time when she was married and had her children growing up boy and girl. It is curious that after a lapse of 66 years, during which time she had not spoken Hindustani, this language of her early childhood should be recalled in delirium. The patient now speaks English, French, and German (one as fluently as the other), but although she knows a few Hindustani words she is quite unable to speak the language or to put one sentence together. She says that she has no recollection (nor had she any before her illness) of ever having been able to speak Hindustani. The evidence that this language really was Hindustani is that she does not know, nor has she ever known, any other language except those mentioned in this paper. A lady who has lived much of her life in India and who speaks the language recognised the poem as one commonly in use amongst the ayahs and also translated some of the conversations which the patient carried on with her imaginary visitors.

Remarks by DR. MERCIER.—This case is a most striking, one may say a most dramatic, instance of a state of things which, in less impressive degree, is by no means uncommon and which, though abnormal, is not irregular. Events of the kind have been recorded before, but no case so complete, so extraordinarily perfect, and so well authenticated, has yet been published as far as I know. The classical instance with which all such occurrences are compared and classed is that of the illiterate maidservant recorded by Coleridge in his "Table Talk" who, while suffering from the delirium of fever, recited for hours in Greek and Hebrew. Many years before she had been in the service of a learned pastor who had been in the habit of reading these classics aloud in her hearing. She was totally ignorant of the languages in question and could not voluntarily reproduce a word of them. Yet in her delirium they boiled up to the surface, and boiled over.

It is to be noted that it was not the forgotten language alone whose memory was so strangely revived in this old lady's delirium. Her whole personality was transported back to her early years, and she lived over again the life of her childhood. She spoke of, *and to*, friends and relatives of her girlhood; she asked that she might be taken to the bazaar to buy sweets. Now this is the rule in certain cases of senile insanity. Perhaps I may be allowed to quote from my book on "Psychology, Normal and Morbid," to illustrate what is meant: "Along with this defect in the formation of structural memories"—and although Dr. Freeborn does not mention the fact I have no doubt that this process was completely defective in the case that he has described, so that when the old lady recovered she remembered nothing of what occurred during this period of her illness[1]—"there frequently goes an excess of those memories that remain from long past experience. Not only are these memories preserved, but they are recalled with exaggerated frequency and vividness. The memories of boyhood, for instance, are not only retained, but they are reproduced with excessive frequency and with a vividness which in middle life was unattainable. We often witness in the dementia of old age that not only are the experiences of the day forgotten, not only are the experiences of youth remembered, but the memories of youthful experiences thrust themselves forward with such vividness and persistence that they become the dominant feature in consciousness, and the old man literally lives his youth over again. To such a degree does this vivid reappearance of memories attain that it sometimes invades the province of perception, and the veteran addresses his grandchildren by the names of schoolfellows of his own who have long been dead, and with whom he has had no dealings since his boyhood. It seems as if structural memories were laid down in the nervous system in strata, the memory of each successive experience overlying the memories of previous experiences; and as if, in senile loss of memory, the removal of the upper layers allowed of an over-activity of those that remain, on the principle, so familiar to neurologists under the name of 'loss of control.'"

That this old lady was not insane in the ordinary use of the term, but was suffering from the delirium of bodily illness, goes to corroborate my favourite doctrine that not only are delirium and insanity the same thing, but that any weakening illness, especially if suddenly weakening, may be, and I should go further and say must be, attended by weakening of mind. If the patient had remained in the same mental condition after her recovery from the bodily illness no one would question that that condition might be rightly characterised by the term insanity. Yet the improvement of the mental condition *pari passu* with the recovery of the bodily illness indicates the dependence of the one upon the other.

The sequence of events in the course of her recovery was most remarkable. She gradually passed through the stages of her life, beginning in infancy and taking them, as Dr. Freeborn says, in their proper order, until, upon her complete recovery, she brought events down to their present date. Nothing so dramatically complete has ever come under my own observation, though I have seen cases in which the period of life lived through again has varied. It is a very common occurrence for persons who have acquired, so completely as to think in it alone, a language which is not that of their childhood, to lose that language in illness or in other stress and to return to the language earliest acquired, even when this had been almost or quite forgotten. I have had under my care during the last year an old lady whose native language is English, but who had subsequently acquired, in the order given, a perfect colloquial mastery of French and Italian and a competent knowledge of German. She is now 76 years of age and finds that she has lost her German, and in a severe attack of bronchitis she lost both French and Italian and was left with English alone. Her health is feeble and her mastery of Italian fluctuates with it. The great interest of the present case is that the language should have been discontinued so very early in life, that the patient had not only forgotten it but had forgotten that she could ever speak it. But, as Coleridge's case shows, the previous ability to speak a language is not necessary for its reproduction, and it is unlikely that the child herself had sung the verses. She probably reproduced them from hearing, as the servant girl reproduced the Greek and Hebrew. The gradual advance in the period of the patient's reminiscences, as her health improved, goes to corroborate, for what it is worth, my hypothesis of the stratification of memories. I do not put it forward as a very illuminating hypothesis, but in this very obscure region even a glimmer of light is grateful.

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[1] Dr. Freeborn says: "This is so."

ROYAL DENTAL HOSPITAL OF LONDON.—This institution has received the sum of £500 from the trustees of Smith's (Kensington Estate) Charity.

THE INFLUENCE OF AGE UPON THE INCIDENCE OF OPTIC NEURITIS IN CASES OF INTRACRANIAL TUMOUR.

By H. DOUGLAS SINGER, M.D., M.R.C.P. Lond.,
SENIOR HOUSE PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE, W.C.

This paper owes its origin to the fact that three cases have recently come under the writer's observation in which symptoms referable to a gross lesion of the brain have led to an erroneous conclusion as to the nature of the disease. In two of these cases the necropsy revealed the presence of a new growth which had been unsuspected during life, whilst in the third case, that of a patient aged 25 years, thrombosis of the middle cerebral artery, due to syphilitic endarteritis, gave rise to symptoms which had been attributed to the presence of a cerebral tumour In none of the three cases was optic neuritis present at any time.

Of the three cardinal signs of intracranial new growth optic neuritis is certainly the most important, and it is customary to attach considerable weight to its presence or absence in any particular case. It is the object, therefore, in this article to investigate a number of cases of intracranial tumour which have progressed to a fatal termination but which have never presented any signs of optic neuritis For this purpose the notes of all cases of cerebral tumour on which a necropsy has been performed at the National Hospital for the Paralysed and Epileptic since 1893 have been examined, and I take this opportunity of expressing my thanks to the members of the honorary medical staff for their kind permission to make use of their cases.

Optic neuritis is generally recognised to occur early and with great intensity in tumours of the cerebellum, while for some unknown reason growths in the pons Varolii, although situated in such close proximity to the cerebellum, are not infrequently unaccompanied by optic neuritis. For this reason the cases have been analysed in classes according to the situation of the tumour in the cerebrum, cerebellum, or pons.

1. *Tumours of the cerebrum.*—Among 74 cases there were nine, or 12·2 per cent., in which optic neuritis was absent. The nature of the tumour in all nine cases was that of a malignant infiltrating growth, either sarcoma or glioma. Two were multiple affecting both hemispheres and of the remainder six were on the right side and one was on the left. All involved the centrum ovale, either frontal, parietal, temporo-sphenoidal, or occipital, and one extended into the crus cerebri. Seven of the patients were males and two were females. The most striking feature, however, was the advanced age of the patients. The youngest was 42 years and four were over 60 years, while the average in the nine cases was 54 years. In four cases atheroma of the vessels was noted in the records, in two the vessels of the brain were said to be natural, but no examination of the general vascular system was made, in the remaining three there was no note of the condition of the vessels although the capsules of the kidneys were stated to have been adherent. The symptoms during life had existed for from six weeks to two years, in seven cases beginning with hemiplegia and in the other two with fits. Headache was more or less marked in four cases, absent in three, and not mentioned in two. Vomiting was noted as absent in five cases, present in one, and was not alluded to in three.

Turning now to the remaining 65 cases, they can be divided into groups thus:—1. Two cases in which during life the presence of optic neuritis seemed to be doubtful, the patients being aged respectively 60 and 64 years (in the latter swelling of the discs was found at the necropsy). 2. Seven cases in which optic neuritis developed while the patient was under observation. Two of these patients aged 50 and 35 years, had hemiplegia for one and two months respectively before the appearance of the neuritis. The remaining five cases appear to belong to a not uncommon clinical group in which for a long time before the onset of definite signs of intracranial growth there are epileptic fits, either general or localised in character The time during which the fits had existed before the appearance of optic neuritis in these five cases varied from two and a half to three and a half years. The ages were 23, 34, 45, 46, and 55 years. 3. Two cases in which the neuritis was of a chronic type, the patients being aged 32 and 41 years. 4. Four cases in which the neuritis was slight, the patients being aged 35, 44, 42, and 62 years. 5. Fifty cases in which optic neuritis was well marked The ages of the patients varied from 12 to 56 years, with an average of 28 years.

2. *Tumours of the cerebellum.*—In 13 cases, with the ages of the patients varying from four to 47 years, 12 showed intense optic neuritis associated with more or less well marked consecutive atrophy The single exception was a man, aged 34 years, with symptoms of 15 months' duration. In this case Mr. R. Marcus Gunn reported that the discs were high coloured but not swollen. The colour, he considered, might be due to the existence of hypermetropic astigmatism. In this case the tumour was small, four centimetres in diametre; it was tuberculous in nature, there was old cavitation of the apices of both lungs and recent tubercles were scattered through these organs. The inter auricular septum was imperfect and there were well marked venous congestion of the abdominal viscera and clubbing of the fingers Consequently we are justified in concluding that in spite of the early age the vessels were probably not normal.

3 *Tumours of the pons Varolii.*—In these cases optic neuritis may apparently be absent at any age. The records include 14 cases, in six of which this sign was not present. The occurrence of papillitis seems to depend largely upon the association of the new growth with hydrocephalus, in four of the cases without neuritis there was no distension of the ventricles, in the other two distension was present but was slight in degree, whereas among the eight cases with marked neuritis there was only one patient, aged four years, in whom the ventricles were not dilated. The ages of the patients in these 14 cases ranged from 18 months to 54 years.

4. *Tumours involving the cerebellum and the pons.*—There were two cases of this nature, in one of which, a patient aged seven years, there was marked optic neuritis, whereas in the other patient, aged 54 years, there was slight swelling of the right optic papilla but none of the left, although symptoms had been present for 12 months.

Conclusions.—Although statistics are sometimes misleading yet a table showing the occurrence or not of papillitis at different ages, given in percentages for the convenience of comparison, shows such striking features that it is worth recording The table does not include cases of tumour in the pons except where there was definite involvement of the cerebellum because there would seem to be some far more important factor involved in the non-occurrence of optic neuritis when this region is the site of the disease which is at present unknown.

Table showing the Percentages of the Occurrence of Optic Neuritis at Various Ages in 88 Cases of Cerebral and Cerebellar Tumour

Age	No. of cases.	Optic neuritis.				
		Well marked.	Late or slight.	Chronic.	Doubtful.	Absent.
Under 30 years	35	97·1	2·9	—	—	—
From 30 to 40 years..	18	76·6	2·2	1·1	—	1·1
" 40 " 50 .. —	21	61·9	4·3	4·8	—	19·0
" 50 " 60	7	28·5	57·1	—	—	14·3
Over 60 years ..	7	—	14·3	—	23·5	57·1

The average age of the nine cases in which optic neuritis was absent was 54 years, that of the 51 cases in which it was well marked was 28 years

These figures are supported by the cases which were published by Dr. S. J. Sharkey and Dr. Byrom Bramwell in connexion with the discussion upon the Localisation of Cerebral Tumours at a meeting of the Neurological Society in 1898.[1] The former mentions two and the latter three cases in which optic neuritis was absent, the patients' ages being 46, 50, 60, 54, and 60 years respectively, giving an average of 54 years.

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[1] Brain, 1898 and 1899.

The above analysis appears to justify the conclusion that *absence of optic neuritis in intracranial tumour, exclusive of those occurring in the pons, is rare in cases under 40 years of age and becomes increasingly more frequent after that period of life.*

This result may be found to have an important bearing upon the mode of origin of optic neuritis in that it would appear *primâ facie* to be in some way dependent for its existence upon the healthy condition of the vessel walls.

Queen-square, W.C.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF STERNAL FISSURE AND FORAMEN.

By WILLIAM BENTON, L.R.C.P. LOND., M.R.C.S. ENG., L.S.A.

DR. WILLIAM BRAMWELL, writing in THE LANCET of April 26th, p. 1177, describes a case of minute peritoneal hernia through a cleft in the xiphoid cartilage. The following case being similar will be of interest.

A young woman recently consulted me for pain behind the breast-bone which she thought was due to indigestion and for years she had been treated for it. The pain was worse when she stooped and she sometimes felt as if something became nipped in between two bones or at other times as if two bones rubbed over each other. I thought of a dislocated rib cartilage and told her I would like to examine her at home. On palpation I discovered a fissure leading down to a foramen in the lower part of the sternum and pressure over this caused the pain which she described as of two bones overriding. She had no symptoms of indigestion and the pain was in no way related to food. Mr. S. J. Wareham (my partner) saw her later with me and we agreed that the pain was probably caused by a protrusion of either pericardium or pleura occasionally getting nipped in the fissure. Her mother told me that the patient had suffered from rickets when she was a child.

Upton Park.

A NEW METHOD OF LOCAL ANÆSTHESIA FOR SURFACE OPERATIONS.

By E. A. CLOETE SMITH, L.R.C.P. LOND., M.R.C.S. ENG.

THE following method of producing local anæsthesia will sometimes be found useful for small operations. A solution is prepared sufficient in relative quantity for the surface to be anæsthetised and having the following proportionate composition: adrenalin chloride, two drachms; cocaine, five grains; and water, half an ounce. Lint four times doubled and folded so as to be of the size required is soaked in this and applied under a similarly shaped positive electrode. A large negative electrode is applied elsewhere and a current of from 15 to 30 milliampères is slowly induced and run for the space of from five to 10 minutes. The surface may then be washed with ether and any superficial operation performed painlessly and without loss of blood.

Westbourne-street, W.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—The annual dinner took place at Pagani's Restaurant on June 3rd. The President, Dr. Douglas Kerr (Bath), occupied the chair and Sir Lauder Brunton, F.R.S., was a guest of the society.—A conversazione was held at 20, Hanover-square on the same evening, at which there was a very large attendance of Fellows and guests. Sir Lauder Brunton gave an address on "Some Health Resorts in the Mediterranean" which was illustrated by magic-lantern slides. Dr. Ivor Murray proposed and Dr. E. Symes-Thompson (the president-elect) seconded a vote of thanks to the lecturer.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

MIDDLESEX HOSPITAL.

A CASE OF ENTERIC FEVER IN WHICH WIDAL'S REACTION REPEATEDLY FAILED, THOUGH A PURE CULTURE OF THE BACILLUS TYPHOSUS WAS OBTAINED FROM THE BLOOD.

(Under the care of Dr. W. ESSEX WYNTER.)

THE value of Widal's reaction in the diagnosis of enteric fever is somewhat diminished by the facts that on the one hand the reaction is certainly sometimes obtainable when no typhoid fever is present and that on the other hand the reaction may not appear although, as in the following case, it has been conclusively proved that the patient is suffering from the disease. At present we are unable to explain these anomalies, but we may reasonably hope that before long pathological chemistry will make the matter clear.

A well-developed, healthy-looking girl, aged 19 years, was admitted into Middlesex Hospital on Feb. 24th, 1902. This was her first illness and though feeling ill and unable to do her work for a fortnight she had not taken to her bed. The preliminary symptoms had been giddiness, loss of appetite, thirst, and dryness of the mouth. There had also been pain in the joints and abdomen with diarrhœa and there had been deafness for a few days. When first examined she was flushed, the eyes were very bright, and respiration was obviously hurried (36). The pulse was 104 and the temperature was 104·2° F. The tongue was characteristically furred and red, the abdomen was not distended, and the spleen was not palpable. Great tenderness was complained of in the upper abdomen and the lower part of the chest in front, the point of maximum intensity being one inch above the xiphoid. The apex of the heart could be felt in the fifth space half an inch internal to the nipple and superficial dulness extended to the third costal cartilage and to the left border of the sternum. The heart sounds were distinct and a systolic murmur could be heard all over the cardiac area.

The bowels acted five times on the day of admission, the motions being liquid and each lighter in colour than the previous one, diarrhœa continuing in a less degree for 12 days. On Feb. 28th a few rose spots were noticed on the abdomen and lower thorax and the diazo reaction was obtained in the urine. On March 3rd the spleen was first felt below the costal margin, though a definite increase in the area of dulness had been previously observed. On this date also it was noted that the pulse was small, rapid, and unsustained; there was evident congestion of the bases of both lungs with some bronchitis and the nose was swollen and dull red. Digitalis administered in brandy gradually removed these evidences of circulatory failure and by the 5th the general condition had materially improved, the temperature having subsided to normal during the night. On the 6th the temperature reached 103·4° during the evening and the following day an ischio-rectal abscess was discovered and evacuated. This had given rise to no pain or inconvenience; it contained an ounce or more of ill-smelling pus which yielded a pure culture of the bacillus coli, but no other organisms could be discovered either by microscopic examination or cultural methods. The temperature fell at once to 98° but rose on the following day and maintained a range of between 100° and 102° for the succeeding three weeks, this evidently being a relapse though of a mild type. The subsequent convalescence was uninterrupted and the patient left the hospital on May 10th. In this case the symptoms and course were definitely typhoidal, the temperature being unusually high and persistent, requiring the continuous use of the ice cradle for eight days in addition to several baths, spongings, and doses of antipyrin with antifebrin. There was a definite relapse and convalescence was tardy.

Widal's reaction was tried with a 1 in 40 dilution on the day after admission (Feb. 25th) and again on the 28th, but there was no agglutination even after 45 minutes. On the 28th the bacillus typhosus was isolated in pure culture from the blood obtained from the median basilic vein. The blood was collected by means of a sterile syringe, and about from 0·5 to one cubic centimetre was inoculated into flasks containing 500 cubic centimetres of broth. At the end of 24 hours two out of the six flasks showed turbidity of the broth. Plate cultures were then made from these broths and six colonies were picked off, all of which when tested as pure cultures gave the typical cultural reaction and were clumped by typhoid antitoxin serum at a dilution of 1 in 500. On the same day a dose of antityphoid serum was administered subcutaneously and this was repeated two days later (the agglutinative power was represented by 1 in 20,000). On March 5th *the blood still failed to agglutinate the typhoid* bacillus in a dilution of 1 in 40 On the 16th there was some indication of reaction but the report was returned as negative, and on the 29th "the blood gave Widal's reaction in a feeble manner." In spite of this apparent lack of antitoxin in the blood examined the temperature averaged 102° instead of 104° after the injection of anti-typhoid serum, complete defervescence occurring four days later on the twenty-first day of the disease according to the patient's history.

The bacteriology of this case was kindly undertaken by Mr. Leslie Milburn and the daily notes were taken by Mr. C. E. Lakin, house physician.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

TWO RARE CASES OF INTUSSUSCEPTION.

(Under the care of Mr. J. RUTHERFORD MORISON.)

BOTH the following cases are of great interest. According to Sir F. Treves's statistics[1] 8 per cent. of cases of intussusception are due to polypi and diverticula, and so these may be looked upon as distinctly rare causes. Early laparotomy is undoubtedly at the present day the only satisfactory treatment of intussusception.

CASE 1. *Intussusception due to an inverted Meckel's diverticulum; reduction and excision of the diverticulum* (reported by Dr. R. H. Dix, late house surgeon).—A boy, aged five years, was seized whilst at school on July 5th, 1901, at about 11.30 A.M., with severe pain in the abdomen and shortly afterwards he vomited. He arrived home about noon and his bowels were then moved. The pain came on in paroxysms about every five minutes and caused him to cry out. At 3 P.M. he passed some blood from the rectum. During the night the pains occurred about every 15 minutes and he slept between them. He vomited occasionally. The intermittent pains and vomiting continued till his admission into the Royal Infirmary, Newcastle-on-Tyne, at 9 P.M. on the 6th. Nothing had escaped from the bowels since the blood appeared on the previous day. On admission the boy looked seriously ill. His face was pale and anxious and his eyes were dark-rimmed and sunken, his skin was warm, the pulse was good, and his tongue was clean. The abdomen was not rigid or distended. In the left iliac region a distinct elongated swelling could be felt. Per rectum the tumour could not be reached with one finger, but on bimanual examination with a hand on the abdomen and a finger in the rectum, the tumour could be pushed down by the hand above and distinctly felt not in the lumen but through the wall of the rectum. The examining finger was not blood-stained on its removal.

An operation was performed by Mr. Morison at 9.30 P.M. (34 hours after the illness commenced). The abdomen was opened in the left iliac region by an oblique incision over the tumour which was found at once. The intussuscepted bowel causing it was drawn forward out of the abdomen. Some clear fluid escaped from the peritoneal cavity. The intussusception was six inches long in its unreduced state and involved only the small intestine. The mass was wrapped in a large warm flat sponge and steadily and firmly squeezed till its size was evidently lessened. The bowel was then steadily reduced by gentle traction from above and *pressure from below*. *On its reduction* a firm tumour of about the size and shape of the little finger could be felt through the intestinal walls in the lumen of the bowel fixed to the wall opposite to its mesenteric attachment. At the site *of attachment a definite dimple* was observed and this suggested that the tumour was an inverted Meckel's diverticulum which had formed the apex of the intussusception. A longitudinal incision one inch long was made in the intestine and the diverticulum, for this it turned out to be, was excised. The intestinal opening was closed transversely by a continuous catgut suture through all the coats and outside of this was inserted a row of Lembert's interrupted sutures of catgut. The intestine was cleansed and returned into the abdomen, the opening into which was closed by four tiers of catgut sutures. The condition is illustrated by Fig. 1 and Fig. 1A. The specimen showed an intestinal diverticulum turned completely inside out, measuring one and a half inches in length, becoming wider from base to apex and ending in a somewhat bulbous extremity. There were patches of gangrene in its walls, affecting chiefly its mucous membrane. The patient recovered.

FIG. 1.

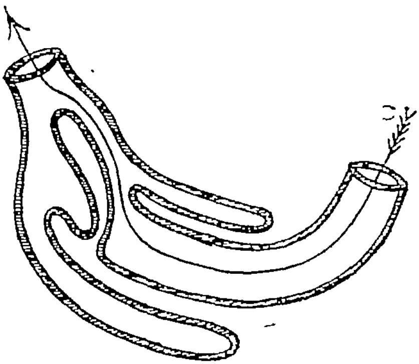

FIG. 1A.

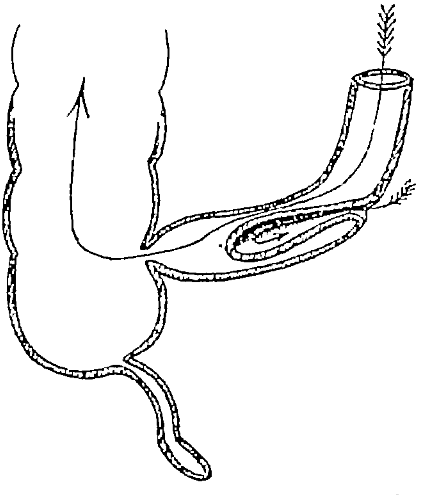

Diagram illustrating case of *Intussusception due to an inverted* Meckel's diverticulum.

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[1] Intestinal Obstruction, 1899, p. 178.

CASE 2. *Chronic intussusception due to a polypus of small intestine; reduction and resection of gut with tumour* (reported by Dr. J. W. Heslop, late house surgeon).—A miner, aged 62 years, was admitted into the Royal Infirmary, Newcastle-on-Tyne, on July 10th, 1901. He had been in good health till four months previously when he began to have pains in the lower part of the abdomen of a paroxysmal character and very severe. Occasionally he was free from them for a week. Accompanying the pains there were noisy rumblings of wind and he could not pass any or get his bowels moved except with medicine and then with difficulty. During the last month the pains were very violent and lasted for from 16 to 20 hours at a time. They occurred nearly every day and were accompanied by forcible vomiting and profuse sweating. The pain was only relieved when his bowels were moved and this could only be brought about by the administration of enemata. During the spasms his bowels swelled and became hard, the swelling being more marked in the right lower abdomen than in other parts. The patient had lost two stones in weight since his illness commenced and looked very weak. On admission he was thin and pale and anxious-looking with normal pulse and temperature. Except for the abdominal condition examination discovered nothing wrong. There was marked distension in the right iliac fossa where a distinct rounded soft mass, about one and a half inches, could be palpated. This swelling was freely moveable. In the epigastrium just above and to the right of the umbilicus a definite hard nodular tumour, less than and not so moveable as the first, was felt. Rectal examination revealed nothing.

An operation was performed on July 16th by Mr. Morison. The abdomen was opened by an oblique incision extending from the back of the ileo-costal space to the middle line, in front dividing the rectus and other muscles. A large, rounded, firm swelling was found in the ascending colon, evidently an intussusception. It extended from the right iliac fossa to the middle of the transverse colon. By expression and traction the intussuscepted gut was readily reduced, except the last two or three inches. This was towards the end of the ileum and contained a firm rounded tumour which was at this time suggested to be a carcinoma invading the ileo-cæcal valve. The portion of intestine including it along with the thickened mesentery and some enlarged glands were excised. The mesentery and intestine involved in the intussusception were so thickened and altered by old adhesions that until the excised portion and cut ends were carefully examined it was not recognised that the portion removed concerned the ileum only and that the distal incision left two inches of ileum attached to the cæcum. The divided intestine was thickened and friable and was too rigid to allow of a lateral anastomosis which Mr. Morison prefers when a choice can be made. An end-to-end union was effected by a continuous suture of catgut through all the coats and outside of this an interrupted layer of catgut sutures. The loose omentum was drawn down and wrapped round the anastomosis. The opening in the abdominal wall was entirely closed by four tiers of interrupted catgut sutures. The portion of gut resected measured three and a half inches in length and had a diameter of one and three-quarter inches. The intestinal wall was very thick. The mass in its interior was found to be a rounded polypus of the size of a large walnut which sprang from the antimesenteric border (see Fig. 2 and Fig. 2A). On the outside of the intestine opposite the attachment of the growth there was a distinct pucker on the peritoneal surface but it led into no channel as in Case 1. A microscopical report by Dr. R. A. Bolam states that "the tumour consists of young connective tissue with numerous vessels. In parts the appearances suggest myxomatous change but this may be accounted for by œdema. The surface of it is covered by normal mucous membrane." The patient recovered.

FIG. 2.

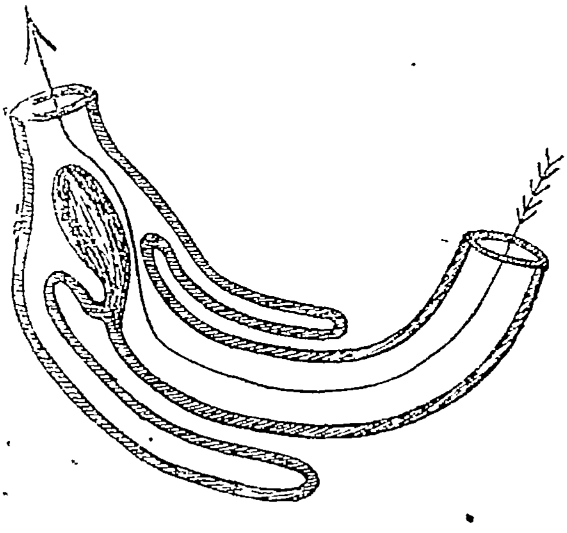

FIG. 2A

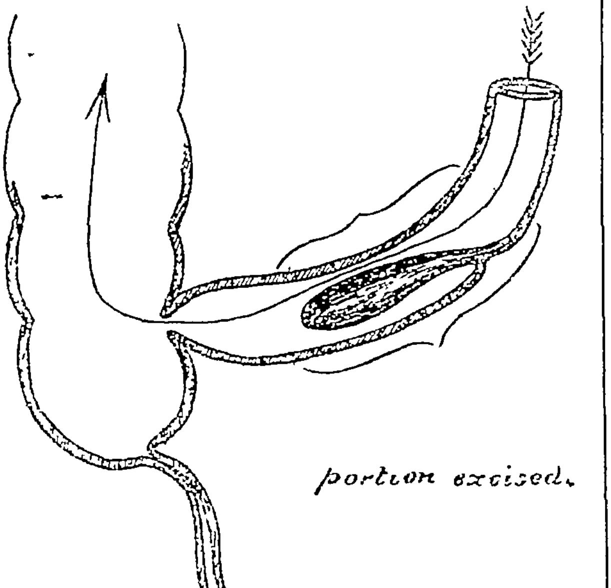

Diagram illustrating case of intussusception due to a polypus.

Dr P. Stewart of Langley Moor reports that the patient is in excellent health and works regularly in the mine. He has examined the scar by request for hernia and finds it perfect.

The diagrams, which were executed by Mr. G. Richardson, show the similarity of these two cases—an inverted Meckel's diverticulum in one and a polypus in the other forming the apex of the intussusception.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Adjourned Discussion on the Etiology of Leprosy as Observed in the Soudan and in South Africa.—Delay in the Process of Growth and Development.

A MEETING of this society was held on June 10th, Mr. ALFRED WILLETT, the President, being in the chair.

Dr. G. A. HANSEN (Bergen), in resuming the discussion adjourned from the last meeting of the society[1] upon the Etiology of Leprosy as Observed in the Soudan and South Africa, professed his belief in the contagiousness of leprosy. Fish-eating did not meet all the facts of the case. Formerly it was regarded as hereditary. His own view was that it was a specific disease. He mentioned instances which might have been regarded as hereditary which on further investigation proved to be due to contagion. The bacillus could be cultivated but only with considerable difficulty. If it could exist undestroyed in salted fish surely it would be easier to cultivate it in artificial media. All cases could probably be explained on the theory of contagion and his experience in

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[1] THE LANCET, May 31st, 1902, p. 1535.

Norway went to support this. In Norway the people ate as much fish, salted and otherwise, as they formerly did, yet the disease was disappearing. Since 1856 lepers had been isolated, and at that time there were upwards of 2870 lepers in Norway. Since that time there had been a steady decline in the number of cases until at the present time there were only approximately 400 cases. In America none of the Norwegian immigrants, of whom there were an immense number, had developed leprosy and this proved that the disease was not hereditary. As regards the portal of introduction, he was inclined to believe it was introduced through the skin, probably through an abrasion. The local irritation was very small and the rate of development was very slow.

Dr. GEORGE THIN, referring to Mr. Hutchinson's paper, paid a high compliment to the painstaking inquiries of that author. Dr. Thin referred to the case of leprosy brought before the Medical Society of Dublin by Dr. J. Hawtrey Benson in which the patient's brother who had slept in the same bed subsequently developed the disease. Mr Hutchinson had referred to this case as an unique example of direct contagion, but it was by no means an isolated instance, and Dr. Thin mentioned other cases occurring in countries where leprosy was not endemic which were undoubtedly due to direct infection. Turning to the theory of the conveyance by food, this same idea had occurred to him when he was in China, but it was not tenable. Dr. Thin did not believe that leprosy was due either to an excess or to a scarcity of nitrogenous food. The bacillus had been cultivated outside the body by some Italian observers. It was necessary to take the bacillus from a patient at a time of fever when the microbe was specially active. As to the history of leprosy in South Africa and the first cases at Stellenbosch referred to by Mr. Hutchinson, he (Dr. Thin) did not think it unlikely that the disease might have been brought from the north or from the interior of Africa. The Royal Commission on Leprosy had investigated the question and had reported that leprosy was propagated independently of fish or any kind of food. It was greatly to be regretted that no legislation had been enacted for the segregation of lepers in India and now that Mr. Hutchinson had adopted the view of its contagiousness Dr. Thin hoped that adequate measures of prevention would be carried out. Wherever a leper went leprosy was sure to arise.

Dr. PATRICK MANSON thought they knew little or nothing really how leprosy was spread, though he entirely supported the view of its contagiousness. The disease was, he believed, analogous to tuberculosis. There was a very remarkable similarity between the two bacilli, but in neither case could it be proved exactly how the microbe was introduced. He would like to ask Mr. Tonkin whether the negroes of the Soudan in the Lake Chad district were in the habit of eating fish. He agreed with Dr. Thin that neither a deficiency of nitrogenous food as suggested by Mr. Tonkin nor the salt fish theory propounded by Mr. Hutchinson was tenable. Ainhum had no relation to leprosy. The preliminary lesions of leprosy were by no means always symmetrical and were not always associated with constitutional symptoms. He had been informed that the Dutch prisoners of war in Ceylon, in order to pass the time, had been trying to cultivate the leprosy bacillus and after trying several media they had at last succeeded in cultivating the bacillus on salt fish. He quite agreed with Dr. Thin's remarks about the necessity of legislation in India. As to the portal of entrance, Mr. Tonkin's suggestion about the clothes seemed extremely probable.

Sir WILLIAM KYNSEY had seen a great deal of leprosy in Ceylon. Dried fish was used universally in Ceylon. It was imported in very large quantities and it all went inland, but leprosy was confined to certain foci along the coast. He asked if the leprosy contagium might not be contained in human milk?

Sir T. LAUDER BRUNTON had been struck by the superficial resemblance of leprosy to syphilis, and when he had charge of the throat department of St Bartholomew's Hospital he was struck by the resemblance between syphilitic lesions and those of leprosy His opinion was that leprosy resembled other infectious diseases in this respect, that for the development of the disease the microbe and a suitable soil were both equally necessary Professor Unna of Hamburg had suggested the free administration of hydrochloric acid, as much as 15 grammes per diem in cases of leprosy. Possibly this acted by rendering the blood acid or less alkaline. The trimethylamine contained in the brine used for curing fish was a strongly alkaline substance, and when consumed it possibly rendered the blood more alkaline than normal and so acted detrimentally.

Dr. T. M. YOUNG had seen leprosy in Siberia, China, and other places. The motility of the bacillus when examined under the microscope suggested to his mind an analogy between the leprous and malarial organisms. He had not found that the leprosy bacillus was very common in the open sores of fishermen, and this did not support the view that the discharges of the ulcers were the source of contagion. His experience did not support the view that leprosy was in any way proportionate to the fish-eating habits of various peoples.

Dr. G. A. HERON regretted the abortive character of the Leprosy Commission. The conveyance of leprosy by salt fish was at present based purely on theory. Such questions must be settled in the laboratory. Why had not the bacillus been found in the salt fish? He (Dr. Heron) entirely agreed with the remarks of Dr. Thin and Dr. Manson. Certain facts brought out in the inquiries of the Commission still remained to be answered. For instance, in this report published in 1891-92 it was shown that out of 464 lepers in India 99 had never tasted fish. In another batch of 200 46 had never eaten fish. Altogether, there were in India 162 lepers who had never taken fish.

Dr. A. P. HILLIER, in criticising Mr. Hutchinson's paper, wished to ask a series of questions. For instance, was it only salt fish which conveyed the disease? and, if so, ought it not also to be conveyed by fresh fish? The fact that a leper stated that he had never seen other lepers was not one which recommended itself as an argument. Dr. Hillier mentioned the case of a Dutchman in South Africa who contracted the disease though he had never to his knowledge been anywhere near a leper. Later it was found that the Dutchman's Hottentot groom had been developing the disease without his own or his master's knowledge.

Mr. TONKIN, in reply, had never seen ainhum and leprosy occurring together. As to fish, it was very seldom consumed in Northern Nigeria and only in a very few tribes was it customary. It was very difficult to find fish in the markets of the natives. Fish was certainly a negligible element in the spread of the disease in the Soudan.

Mr. HUTCHINSON, in his reply, remarked that the transference by food and contagion pure and simple were the two opposing theories. He was living daily in expectation that the bacillus would be found in fish. This, of course, must be the crucial test of his theory. All the speakers had passed over the difficulties of the contagion theory. How was it that, in spite of the numerous attempts, the disease had never been inoculated? And yet some of those present had stated that scratches constituted the portal of entry of the disease. The facts against the contagion hypothesis were very strong. If a native's statement that he had not been in contact with a leper could not be believed, so also they could not trust his statement that he had not eaten fish. Mr. Hutchinson fully admitted the view of "stomach contagion," but whether the bacillus was actually in the fish or whether fish stimulated the bacillus to growth he could not say. He would not advise the shutting up of lepers. Instructing them in hygienic principles would be preferable.

A paper by Mr HASTINGS GILFORD, entitled "An Account of a Disease which is Characterised by Conspicuous Delay in the Processes of Growth and Development (Ateleiosis)," was read in abstract by the Secretary.

EPIDEMIOLOGICAL SOCIETY.

A Case of Supposed Hæmorrhagic Small-pox.—Syphilis among a Community of Khonds.

A MEETING of this society was held on May 30th, Mr. SHIRLEY F. MURPHY being in the chair.

Papers were read by Mr. SHIRLEY MURPHY and Dr. E. KLEIN on an obscure case supposed to have been one of Hæmorrhagic Small-pox in the person of a nurse from a home near the Strand which was reported after death to Mr Shirley Murphy by Sir Hugh R. Beevor, but which had in his absence been attended by Dr. F. Spicer. The patient had for three weeks preceding her illness been nursing the proprietor of a restaurant in an adjoining street who was suffering from acute rheumatism, but together with the other nurse in attendance she had slept and taken her meals at the home, there being no accommodation at the house of the patient. The house was also in such an insanitary condition that neither they nor the cooks could eat on the premises, which swarmed with rats. There being a suspicion that the case might be one of plague a post-mortem examination was made about 12 hours after death by Dr. W. H. Hamer and Dr. Young, assistant medical officers of health of the County of London, in the presence of Mr. Shirley Murphy, Dr. F. J. Allan, medical officer of health of the City of Westminster, and Dr. Klein who took specimens of the blood from the right ventricle and sections of the petechiæ for bacteriological and microscopical investigation. Dr. Spicer reported that she had been taken ill on Dec. 5th, 1901, and that she went to the home on the next day. He was not called in until the evening of the 7th when he found her to be suffering from all the symptoms of an acute malignant fever like typhus fever and complaining of severe general pain. There were bile staining of the conjunctivæ, a peculiar dusky flush of the face, with puffiness extending over the scalp and neck as far as the clavicles, and here and there a hæmorrhagic spot. On the front of the chest there was a faint rash like that of early scarlet fever or measles, but there were no petechiæ or papules though it was the fourth day of the disease. The ears, the nose, and the throat were normal. On the 8th she was evidently moribund and semi-comatose; the conjunctivæ were of a deep yellow with hæmorrhages, the duskiness, now deep brown, extending over the whole trunk which was covered with hæmorrhagic spots, those on the limbs resembling the rash of typhus fever. She died at 4 A.M. on the 9th, her temperature having five hours previously fallen from 104° to 98° F. Dr. Hamer described the post-mortem appearances as a purpuric eruption from pin-point petechiæ to blotches of the size of a split-pea, especially marked over a triangular area with its base at the level of the umbilicus and its apex at the pubes, chains of petechiæ extending to the axillæ and others grouped on the the arms and the thighs. There were conjunctival hæmorrhages and petechiæ on the pericardium, the sac containing several ounces of fluid. The appearances of the eruption and of the conjunctivæ were, in his opinion, characteristic of hæmorrhagic small-pox and resembled those of many cases observed by Mr. Shirley Murphy in the epidemic of 1871. There was, however, no evidence that the patient had been directly exposed to infection, though there were at the time many cases of small-pox in the neighbourhood of the Strand and Drury-lane, and two nurses, friends of the deceased, had been engaged at the hospital ships for the purpose of gaining acquaintance with that disease. One went to the ships on Sept. 2nd and passing to the shelter on Nov. 23rd returned to the home on the 27th; the other went on Sept. 23rd and having returned remained at the home from Nov. 23rd to the 27th and then went back to the ships. Whether the patient contracted the infection through either of these was not known, but the incubation period would have been not over seven days in the one case and not over 11 days in the other. On Nov. 13th she had gone to visit a friend suffering from enteric fever at Gravesend, but there had been no illness among the nurses during the year and none of them had recently attended any infectious case. As a precaution all persons with whom she had been associated were vaccinated on the evening after her death.—Dr. KLEIN then gave an account of his bacteriological examination of the blood illustrated by lantern slides. Film specimens and, better still, plate cultures showed (1) the diplococcus pneumoniæ in abundance and (2) a few individuals or colonies of a hitherto undescribed bipolar bacillus, morphologically closely resembling that of plague but wholly different in the culture appearances, which were not unlike those of Friedländer's bacillus. It was virulent to mice subcutaneously and to guinea-pigs intra-peritoneally only, but not at all to rats. From the slime with which it was surrounded he suggested the name of "bacillus myxoides." In the absence of any evidence of small-pox infection he considered the presence of the two pathogenic bacteria—indeed, that of the enormous numbers of the diplococcus pneumoniæ—sufficient to account for all the phenomena of the case. Again, sections of the skin showed hæmorrhages into the lymph channels and corium with pneumococci, but no trace of the changes in the epidermis or of the formation of loculi characteristic of variola, though the fourth day of the disease had been already reached. As a bacteriologist and microscopist only he was by no means inclined to the diagnosis of small-pox.—Sir HUGH BEEVOR insisted on the highly insanitary state of the house in favour of a septic causation, and pointed to the fact that the vaccinations of the nurses had been performed too late; yet, intensely infectious as hæmorrhagic small-pox was, no one had been attacked, though many of them had not been vaccinated for 15, 20, or more years.—Dr. SPICER was also doubtful and he called attention to the black vomit, the bloody stools, and the vaginal discharge.—Dr. HAMER, who believed that the case was one of hæmorrhagic small-pox, attached little importance to the non-appearance of the eruption and Dr. E. F. WILLOUGHBY agreed, though he doubted the correctness of the diagnosis, and referred to a case that came under his notice in 1870 or 1871, in which after eight days, during which it had been taken for one of acute meningitis, the appearance of a copious eruption, all but confluent, was followed by relief of all the symptoms.—Dr. E. W. GOODALL saw nothing in the phenomena inconsistent with the diagnosis, but he believed that many cases so regarded were simply mixed septic infection.—Dr. H. T. BULSTRODE thought that this case resembled those of hæmorrhagic plague described by Bogden, but Dr. H. Meredith Richards objected that the distribution of the eruption in the three cases of hæmorrhagic plague that he had seen was quite different from that in those of hæmorrhagic small-pox, though in the former death occurred before any adenitis appeared and in the latter before the few papules had time to become pustular. The only difficulty to him was that so infectious a disease as hæmorrhagic small-pox had not spread.—Staff Surgeon W. E. HOME, R.N., and Mr. J. S. C. ELKINGTON referred in like terms to cases of hæmorrhagic small-pox and plague respectively that they had met with in the East.—Dr. KLEIN could not agree with M. Maurice that hæmorrhagic small-pox was essentially the product of a mixed infection, though he admitted that a number of various bacteria were present in all cases of small-pox and that there were malignant fevers due entirely to mixed infections in which, as in this case, pneumococci predominated.

Captain LEONARD ROGERS, I.M.S., sent a contribution which was taken as read, on an Outbreak of Syphilis in a small isolated community of Khonds, among whom it appeared to have been introduced about 20 years ago from the town of Sonpur, some 30 miles distant, and to have spread unchecked by medical treatment of any kind and favoured by their low standard of morals, overcrowding, and want of cleanliness until the time that the famine operations brought this obscure tribe under the notice of the authorities. More than half the population of both sexes and all ages were found to be suffering from the disease and its consequences in every stage, from the primary infection to the remotest tertiary symptoms and in either the acquired or the congenital form. Besides those sequelæ known but now rarely seen in Europe, ulcers and fissures in the horny soles of their bare feet were very frequent, especially among the men; and though the lowering of their vitality by famine might have aggravated the symptoms and led to the frightful mortality, there had been no evidence of any tendency *in the disease to die out.*

DERMATOLOGICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on May 14th, Dr. J. J. PRINGLE being in the chair, when the following cases of interest were shown.

Mr. MALCOLM A. MORRIS brought forward a girl, aged nine and a half years, who was becoming progressively disfigured by the appearance of numerous Telangiectases all over the face. There was no deformity resembling true nævus on any part of the skin and in addition to the disfigurement it could only be noted that she had rather a feeble peripheral circulation and showed mottled pigmentation of the skin on the legs. The changes in the face were stated to have commenced at three years of age and had been spreading steadily since then. The question of treatment by electrolysis or other means was discussed, but it was felt that the difficulties in the case rendered the prospect of a good result very uncertain.

Mr. MORRIS also brought forward a young woman who was afflicted with an extraordinarily extensive Pigmented Mole on the Back and peculiar changes on the right arm. The pigmented mole on the back occupied practically the whole of the left side of the trunk. It was little raised, showed deep pigmentation, and a slight amount necessary to send him into an asylum. Unlike the previous case, this boy was, at any rate to a large extent, in cognitive relation with his surroundings, but he lacked moral consciousness, so that, as in the previous case, but for a different reason, moral control was deficient.

But in addition to the two groups of cases thus illustrated we must recognise a third, in which the child is not only in cognitive relation with his surroundings but also shows moral consciousness even with reference to the particular activities in which he manifests his lack of moral control. For instance, a boy, aged six years, is backward; he learnt to talk at two years and to walk at two and a half years; he knows his letters but cannot read words of one syllable after being at school for more than two years. He appears to be deficient intellectually but not to any considerable degree. He is very passionate; if the other children offend him in any way he will run at them and strike them or bite or kick them; he is mischievous, will turn on taps to let the water or gas escape; he is very disobedient and it is found very difficult to prevent his throwing things into the fire which he delights to play with. In order to set fire to pieces of paper he will secretly take away boxes of matches and hide them in his clothes, under his shirt, or elsewhere until he can get away from his mother to light them. After the outbursts of passion and attacks on his brothers and sisters he seems ashamed of his actions, is genuinely sorry for them, and sometimes says that he "didn't mean to do it." Here it seemed clear that there was some degree of moral consciousness—the child could, at any rate, with regard to some activities, differentiate between right and wrong.

This third group of cases is of considerable importance in its bearing on some of the cases with no general impairment of intellect which I shall consider subsequently. The defect is neither in the cognitive relation to environment nor apparently in moral consciousness, and yet the control of activity in conformity with moral consciousness is markedly defective. Have we here to do with a disorder of the will? Is it possible that inhibitory volition is imperfectly developed as the result of the same morbid condition of the brain which has impaired the intellect? There seems to be no *a priori* reason why volition should not be liable to impairment like other mental processes; and if inhibitory volition is of late development both in the individual and in the race it is easy to understand that it will be specially liable to defect in development and to disorder when developed. And there is some evidence that it is a late development; in the individual the control of the expressions of the emotions, such as joy, grief, and fear, is noticeably weak in early life, the infant and the young child weep at causes which would be quite inadequate to produce such an effect in an older child, who in turn will weep over causes which in a higher race would fail entirely to produce any such expression of emotion. Darwin in this connexion has quoted (from Lubbock) the case of a New Zealand chief who "cried like a child because the sailors spoilt his favourite cloak by powdering it with flour." That a similar defect of inhibitory volition with regard to the emotions may result from disease without apparent impairment of intellect is shown in the curious outbursts of weeping which are so common in children with chorea, who at other times show no such lack of control. A very similar failure of inhibitory volition in connexion with grief and fear is not uncommon with gross cerebral lesions—for example, intracranial tumour I shall have occasion to say something more on this point in a subsequent lecture—here I will only point out that some of the activities in which defect of moral control is shown are expressions of the emotions and are associated with those other manifestations of uncontrolled emotion, such as excessive grief and fear, which are not in any way concerned with moral consciousness; it is probable, therefore, that the defect of moral control in regard to these particular activities, at any rate, is in some cases due to a failure of inhibitory volition.

It would seem, then, that we can recognise in children with defective moral control in association with general impairment of intellect three grades, if I may so say, of deficiency, all characterised by lack of moral control—(1) defect of cognitive relation to environment; (2) defect of moral consciousness; and (3) defect of inhibitory volition. Moral control, in fact, might be compared to a three-storey building; the second floor is impossible unless the one below is present and the top storey—inhibitory volition in accordance with moral consciousness—is impossible unless the two lower floors are present.

Such a categorical statement of the building up of moral control and of the causation of its deficiency of course makes the matter appear much simpler than it really is; no one of these defects is likely to be complete, and hence it is often extremely difficult to make out how far any one of these defects is the chief factor in producing the moral failure in any particular case, and it is quite conceivable, nay, highly probable, that all three may sometimes share in its production.

This consideration of the psychical defects which are concerned in the causation of moral deficiency in children with general impairment of intellect leads up to the important question as to the relation of the moral defect in such cases to the general disorder of intellect. Is the moral defect necessarily proportionate to the intellectual defect? Can we say that this child is of more feeble intellect than that, and therefore will manifest the greater deficiency of moral control? The very question implies that I am drawing a distinction between the manifestations of intellectual capacity and those of moral control. As I have already pointed out, both the simple cognitive relation to environment and the moral consciousness which are essential to moral control imply a reasoning comparison, albeit of very different degrees of complexity, and may therefore be regarded as intellectual processes, and consequently in so far as defect of moral control is dependent upon the lack of either of these it is itself a manifestation of impaired intellect.

But granting all this it may still be that the intellectual process or rather complex of processes concerned in the comparison between right and wrong, between the moral idea and opposing stimuli, may be sufficiently specialised—functionally, of course, I mean, not locally—to allow of its being disordered or defective apart from any such general defect as is commonly recognised as idiocy, imbecility, or insanity. One might bring forward an analogy in the well-known differences in capacity for particular intellectual acquirements which are shown by different individuals. Each of these acquirements represents a particular combination of intellectual processes, and often it appears to be the particular combinations rather than the separate processes which are at fault. A very small capacity for such reasoning as is required in arithmetic or higher mathematics is common enough where the capacity for other intellectual acquirements is even above the average. May I illustrate my point by another analogy? A boy, aged 12 years (for the notes of whose case I am indebted to Dr. R. Farrar of Chiswick), was fully up to the average in the ordinary school accomplishments but was entirely unable to spell words correctly from dictation. For "and then what rogues they are; while one monkey is busy cracking a nut" he wrote, "and torse wothe roeg eose Woet one loreoy is beoys coreing a beors." Here the special combination of mental processes involved in spelling from dictation was defective, although none of the separate processes involved in that particular combination could be singled out as in any way deficient and in other combinations of these same processes there was no defect whatever. No doubt this condition is explicable on a physical basis in a failure of connexion between parts of the cortex, but the case illustrates the possibility that the particular combination of mental processes concerned in moral control may be defective whilst other combinations of the same processes in what we ordinarily recognise as intellectual acquirements may show no defect whatever.

But apart from any such theoretical probability the clinical phenomena show, I think, that there is ample justification for considering moral consciousness and moral control as liable to disorder apart from the more general intellectual functions. Perhaps the most striking feature of these cases of defective moral control with general impairment of intellect is the disproportion in many cases between the moral and the intellectual deficiency—if capacity for the ordinarily recognised intellectual acquirements may be taken as the gauge of intellect. It is true that in the lower grades of idiocy and imbecility where the simple cognitive relation to environment is lacking or defective the resulting defect of moral control appears to be directly proportionate to the general intellectual defect, and this is only natural, for the cognitive relation to environment is just as essential a factor in general intellectual development as in the development of moral consciousness, so that in so far as this cognitive relation is lacking, both intellectual and moral failure will result—the two, in fact, are dependent on one and the same cause and to this extent are related to one another. But in of hairiness. The more striking changes were seen in the tissues in the inner side of the right arm from the middle of the forearm to the axilla, which was occupied by an extensive diffuse pendulous tumour. This part of the nævus was important not only on account of its extent but on account of the fact that it was spreading progressively all round its margin, this extension being heralded by an advancing line of pigment on which small nodules appeared. The characters of this portion of the deformity of the skin resembled certain of the extensive tumours in neuro-fibroma. It was found that the growth of the tumour was exceedingly slow, and on the question of operation being raised it was determined that on account of its position and extent complete removal by surgical procedure was unadvisable in spite of the indications of extension observed.

Dr. Pringle presented an old man, aged 84 years, who showed Multiple Patches of Epitheliomatous Change in the Skin. They occurred on the face and other positions and one such area had been removed years ago from the right cheek and the scar had remained sound. The skin showed marked senile atrophy and numerous warty overgrowths of the type known as senile or seborrhœic were also present.—The members who discussed the case were agreed that the epithet "seborrhœic" as applied to these warts implied an unwarrantable assumption of their etiology.

Dr. Pringle also brought forward a young woman who was suffering from Acanthosis Nigricans (Congenital), and stated that it was of special interest in this case to observe that an almost uniformly warty growth on the lips had been present since birth. It could be seen that there were already slight pigmentation and rugose thickening of the skin of the neck and axilla, and it was reported that there was considerable wart-like hypertrophy of the skin in the neighbourhood of the anus and vulva. The hand showed the peculiar velvety appearance caused by minute papillary overgrowths and there was some enlargement of the papillæ of the tongue. The patient appeared perfectly healthy and there was no evidence of any form of abdominal disease.

Dr. T. Colcott Fox showed an elderly woman who had suffered from large Tumours on the Forehead and Scalp for three years. The right temple and the right side of the scalp were obscured by the presence of numerous coalescing bluish pink tumours, varying in size from that of a bean to that of a walnut. The aspect of the mass of overgrowth suggested serious malignant disease. Dr. Fox drew attention to a few smaller lesions on other parts of the body which were ordinary examples of molluscum contagiosum and showed that even the large tumours possessed the characteristic appearance and contained the usual material. He mentioned certain cases in which molluscum contagiosum had been known to assume the gigantic type and stated that he considered that the present was an instance of this form of the disease, a diagnosis in which all present agreed. Dr. Fox spoke of the treatment which he proposed to adopt.

Dr. Fox also showed a young woman with a characteristic Acneiform Tuberculide Eruption on the face and hands. Dr. Fox remarked upon the great improvement which had occurred in this case by treatment with biniodide of mercury

An interesting group of three cases of "Ringed Eruptions" and Hyperkeratosis Eccentrica was presented for comparing the appearance of these very rare and still unexplained maladies. The case of hyperkeratosis eccentrica was the example of the disease already shown and reported by Dr. J Galloway. It was the first case of this disease identified in this country. Most of the cases had been reported from Italy, but a few had been observed in the United States of America and Germany and in France. It was immediately conceded that the disease affecting the epithelial tissues mainly was quite different in its characters from the ringed eruptions also shown. A second case of the malady had now been observed by Dr. E O. Perry at Guy's Hospital.—Dr. H. Radcliffe Crocker showed one of the cases of ringed eruption, describing it as the malady which he recognised as "granuloma annulare." In this patient, a young man, the eruption produced characteristic circinate outlines on the backs of both hands, surrounding the metacarpophalangeal joint of the right index finger, and on the outer side of the left index finger. The margin showed the elevated smooth outline of diseased tissue inclosing an area of skin more pigmented than the surrounding skin and with slight signs of atrophy. With this was compared the case of a young lad previously shown and reported by Dr. Galloway under the name of "ringed eruption of the extremities," or "lichen annularis." In this case the hands were also affected, the eruption being curiously symmetrical and one or two were observed on the left pinna.—Dr. Galloway showed the histological structure of his case and the opinion of the society was that these two cases, being diseases specially involving the cutis vera, were clearly distinct from the case of hyperkeratosis eccentrica, and most of the members concluded that the two cases of ringed eruptions were examples of the same malady, and hoped that a further comparison of the cases of Dr. Crocker and Dr. Galloway might throw some light on the etiology of this rare condition

Dr. J. H. Sequeira brought forward a patient who had been previously shown by him to the society and who had presented at that time numerous soft pigmented growths, resembling the Multiple Pigmented Idiopathic Hæmorrhagic Sarcoma of the type described by Kaposi. Many of the growths, especially on the hands, had now diminished in size and almost disappeared, but on the legs numerous pigmented and hæmorrhagic nodules still persisted. The patient ascribed the marked improvement in his condition to the use of soda baths, with which he treated himself on his own initiative.

Dr W. Lee Dickinson and Dr. E. G. Graham Little gave an account of a case of Lymphadenoma in which flattened tumours had occurred, involving the true skin. The histological characters of the cutaneous growth were exactly similar to that of lymphatic gland.—A discussion ensued as to the exact nature of the growths in the skin

Dr. Whitfield showed for Dr G. F. Still a child on whose back were numerous finger-nail-sized Patches of Pigmentation. Dr. Whitfield remarked that it was difficult to obtain a definite history of the onset of the lesions which had produced the pigmentation. Factitious urticaria could not be elicited and the exact nature of the lesion had not yet been ascertained. It appeared probable that the case was a mild one of urticaria pigmentosa.

Dr. Graham Little presented a child suffering from Discoid Scaly Eruption, mainly on the lower extremities The case was brought forward in order to elicit the opinion whether the eruption belonged to the class described by Brocq as "érythrodermie pityriasique en plaques disseminées." Much interest was taken in the case on account of the present discussions on skin diseases producing improper cornification and desquamation of the epidermis The majority of the members present considered that there was no reason for differentiating the disease in this particular case from a true eczema.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

The History of Eczema in the Past Century in England.—Exhibition of Pictures Illustrating Skin Diseases and of Cases.

The annual meeting and conference of this society was held on May 22nd, Dr A. J Harrison being in the chair.

After the transaction of business Dr. Harrison quitted the chair which was taken by Dr. H. Stowers, the new President.—A vote of thanks to the retiring President was proposed by Dr R. L. Bowles, seconded by Dr. H. H Phillips-Conn, and carried with acclamation.—Dr. Harrison, in his reply, alluded to the often renewed proposal that the society should from time to time hold meetings in the provinces and gave reasons why such a step might be desirable. He could say that Bristol would welcome such a new departure and possibly there were other towns with a similar ambition He offered the subject for consideration of the members - The new President made some introductory remarks in which he described the work done by the society and expressed the hope that in future questions concerning treatment would have more time devoted to them.

Dr Unna of Hamburg read a paper entitled "The History of Eczema in the Past Century in England." He pointed out that 100 years ago eczema, as they now understood it, did not even exist. Seguin Henry Jackson in his "Dermatopathology," translated into German in 1794 did not mention eczema It was true that Aëtius had in past times employed the term but it was for a different affection. Willan (1793-1816) grouped together a number of cases of vesicular dermatidue to trauma of chemical or physiological nature—e.g., plasters, vesicants, mercury, &c., and cases due to sun exposure (heat eruption). For this class he chose the name "eczema." It was clear that the observation of the cases of mercurial dermatitis gave the chief impulse to this generalisation and influenced the description given, for Bateman recommended readers who wished to understand eczema to study works by Alley, Butter, and others on mercurial disease. So it was clear from the definition he gave that, for Willan, eczema was a traumatic, vesicular, non-infectious malady, and clearly Willan was not the founder of the eczema conception of to-day. Had his idea been followed we should possess to-day after 100 years, under the name "eczema," a most instructive and important chapter on traumatic dermatoses. The single inconsequence in the otherwise clear eczema chapter of Willan-Bateman was the admission—in addition to the two forms, eczema solare and eczema rubrum (hydrargyria)—of a third variety, eczema impetiginosum, to cover partly those cases that, starting, for instance, from a blistering plaster, spread over the body and partly those which in the form of grocers' and bricklayers' itch belonged to Willan's impetigo figurata and so to the eczema of to-day. This form was really included more on etiological than morphological grounds and, following Willan's definition, clearly did not belong to the class of eczema. The mention of these chronic occupation diseases that showed diffuse inflammation and notable itching and that were hard enough even now to separate from eczema proved in fact an Achilles' heel. Plumbe (1827) was a strict Willanist, stricter than Bateman, for he rejected Bateman's third variety, eczema impetiginosum. He was the last true follower of Willan, not only in England, but elsewhere. The English authors who followed came more and more under the influence of the rising Parisian school of dermatologists and notably of Rayer. Following the teaching of Biett, that Willan had erroneously only described acute eczema and had overlooked the chronic, Rayer added to the three varieties of Willan-Bateman, which, by the way, he largely remodeled, a fourth—namely, chronic eczema. This chronic eczema was an entirely new creation, pieced together by the master mind of Rayer from separate details that in Willan lay scattered principally in the chapters on Impetigo and Porrigo. His description was based on 11 cases of his own. He was the first to note and to describe the regional modifications, in which he had been since followed by most authors. This great service would have had far greater value had Rayer not mixed up his new disease with Willan's acute eczema and, in fact, taken the latter as its "acute beginning." This unhappy amalgamation was due to the fact that Rayer could not have studied Willan properly. Willan and Rayer were describing entirely different affections, and it was the failure of the last-named to appreciate this that led to most of the subsequent confusion. As a result of the French remodeling of English views on eczema it happened that a traumatic, rare, acute, not itching affection became converted into one that was non-traumatic, common, chronic, and itching. The naval surgeon Jonathan Green (1835) was the first victim of the confusion in England. He appeared to follow Willan in that he spoke of traumatic eczemas and even introduced a new one caused by sulphur, but he parted company entirely when he went on to say that such eczemas differed from the proper c constitutional forms in their easy curability. Dr. Unna next referred to the early work of Erasmus Wilson (1842) and he showed that it was just a selection from other authors and that, owing to its great popularity, this book served to perpetuate the existing confusion. Anthony Todd Thompson (1850) who edited Bateman's work was a decided Willanophile, but he showed the influence of the French school when he spoke of an outer and an inner (i.e., constitutional) eczema. T. Moore Neligan (1852) drew attention to the fact that eczema of the face and scalp in children appeared in the strong as well as in the weak, in the scrofulous and in those not so tainted, in the well nourished and in the reverse. And yet he fell back on a constitutional cause for this type. Meanwhile a great step forward occurred in France. Devergie pointed out that Rayer's eczema by no means always commenced with Willan's clear-clustered vesicles and that it often did not show any vesicles in the whole of its course. Hence he separated the two and gave to Rayer's form four fresh symptoms—namely, redness, violent itching, a secretion that stained and stiffened linen, and a *status punctatus*—i.e., fine holes in the skin from which serum poured. It might be thought that, with the separation of Willan's and Rayer's eczema and with the entire removal of artificial inflammations, even as the "acute beginning" from the latter, that the *status quo ante* had been again restored. Such was not the case. Hebra, who appeared in the "sixties," had on English dermatologists even more influence than Devergie. On the strength of very insufficient experiments with croton oil and other irritants he managed to reintroduce into the eczema chapter the traumatic dermatoses that Rayer and Devergie had so carefully rejected, and his great authority covered for many years all that was untrue and incongruous in the muddle called eczema. Erasmus Wilson was entirely under Hebra's influence and this in spite of the fact that he was the first to introduce a chapter on traumatic skin affections. He freed himself, however, entirely from Willan in that he held, with Devergie, the vesicle as an inconstant, non-essential feature. Tilbury Fox (1873) believed himself a Willanist and in consequence announced his intention to oppose the authorities of his time. But his work was full of incongruities. He was no true Willanist, only the greatest Willanophile among moderns. McCall Anderson (1874) was the first, after Hebra and Wilson had already and occasionally recognised the scaling patch as the initial symptom of eczema, to declare it to be the most important form of commencement. Dr. Unna here pointed out how unfortunate it was that Rayer called his disease "eczema" and how unfair it was to ascribe to Willan the confusion that would have been avoided had his ideas been followed, and he then passed on to consider briefly his own work. Hitherto Willan's eczema alone had possessed a clear etiology, while that of Rayer was the plaything of unproved hypotheses and unfruitful theories. In 1890, before the British Medical Association in session at Birmingham, he declared Rayer's eczema on clinical grounds to be a parasitic affection. After 12 years in which he had confirmed his theory he had the satisfaction of knowing that in England Morris, in America Elliot, in France Leredde, and in Germany Bockhart, had in great part accepted and enlarged his views. Hence the future study must lie in bacteriological domains and the new century could already record a start. Possibly the progress in chemistry and physiology might be of even greater importance. Clinical study alone could do no more. It must proceed hand-in-hand with microscopical, bacteriological, and chemical investigation if the future development of the eczema conception was to be possible.—Dr. P. H. PYE-SMITH proposed, and Dr. H. WALDO seconded, a vote of thanks to Dr. Unna which was carried unanimously.

A fine collection of pictures illustrating interesting Skin Diseases was displayed. Among the exhibitors were Dr. H. RADCLIFFE CROCKER, Dr. STOWERS, Dr. E. G. GRAHAM LITTLE, Dr. E. STAINER, Mr. N. BISHOP HARMAN, and Mr. A. SHILLITOE.

Cases were sent for exhibition by Dr. STOWERS, Dr. P. S. ABRAHAM, Mr. T. H. KELLOCK, Dr. LITTLE, Dr. T. D. SAVILL, Dr. A. EDDOWES, and Mr. SHILLITOE.

CLINICAL SOCIETY OF MANCHESTER.

Enteroptosis.—The Treatment of Early Malignant Disease of the Larynx.—The Etiology and Pathology of Gall-stones.—Exhibition of Cases.

A MEETING of this society was held on May 20th, Mr. HERBERT LUND, the President, being in the chair.

Dr. ARNOLD W. W. LEA read a paper on Enteroptosis based upon observations of 54 cases met with in a series of 600 women patients. Several cases illustrating this condition were shown to the society. In enteroptosis there was, he said, general downward displacement of the viscera. The transverse colon often lay just above the symphysis and the greater curvature of the stomach might be found anywhere between the umbilicus and the pubes. The small intestines sank into the lower part of the abdomen and pelvis owing to elongation of the mesentery. Nephroptosis was present in 70 per cent. of the cases. More rarely also the liver and spleen were displaced downwards. Uterine displacements were commonly associated with enteroptosis and many cases of prolapse and chronic retroflexion occurred as part of a general ptosis of the viscera. In other instances this condition was associated with adhesions produced by pelvic peritonitis. Retroflexion was present in 42 per cent. and pelvic peritonitis with adhesions in 25 per cent. of these cases. The ætiological factors producing enteroptosis were the following: 1. Impairment of the general health and feeble muscular development. This was often associated with anæmia and dyspepsia. It might occur in young women but its frequency increased with each decade of life. 2. Increased size of the abdominal cavity, as after pregnancy, especially if repeated at short intervals with insufficient rest after delivery. This might cause (*a*) general stretching of muscular and fascial structures with impairment of elasticity or (*b*) wide separation of the muscles forming a ventral hernia. The distension produced by tumours, collections of fluid, &c., acted similarly. 3. The wearing of *corsets*. The compression of the waist and the weight of the skirts tended to force the viscera downwards and favoured the development of enteroptosis. Patients suffering from this condition could not wear the ordinary corset with any comfort. 4. Influence of peritonitis. The abdominal wall was relaxed and the coils of bowel distended after an attack of peritonitis. The great omentum often became adherent to the pelvis in cases of pelvic peritonitis. These adhesions might cause constant dragging on the colon, the stomach, and the intestines, producing descent of the viscera by traction. The symptoms produced by enteroptosis were very variable and did not depend on the degree of the displacement. Many patients were neurasthenic and showed evidence of general malnutrition and feeble muscular development. The most constant symptom was dragging pain in the abdomen and loins which was much aggravated by exertion and completely relieved by lying down. This appeared to be produced by dragging on the coils of bowel and mesentery and consequent irritation of sympathetic ganglia. Gastro-intestinal symptoms the result of gastro-duodenal dilatation were common. Obstinate constipation was usual, though sometimes attacks of diarrhœa occurred. The displacements of the individual organs gave rise to special symptoms referable to them. Many cases treated as moveable kidney were examples of general ptosis of the abdominal organs. Pain in the left hypochondrium was present in a large number of cases. The diagnosis was rarely difficult. The abdomen was relaxed and it bulged laterally. Marked epigastric flattening was observed if the patient stood erect. The abdominal walls were often thin and the movements of coils of bowel and of the stomach could be plainly seen. The abdominal walls might show (1) general muscular relaxation; (2) loss of elasticity and over-stretching of the fascia especially in multiparæ and elderly women; and (3) wide separation of the recti muscles. The linea alba might be from three to four inches in width. The latter was readily recognised if the patient breathed deeply whilst reclining or if attempts were made to sit up; the edges of the recti muscles then projected clearly on each side of the stretched linea alba. The stomach was frequently dilated, as shown by splashing sounds, by palpation, or by distension with gas. The liver was usually normal in position, though it might descend two inches on assuming the erect position. The kidneys showed various degrees of mobility and usually could be readily felt, although nephroptosis alone was not sufficient evidence of descent of the viscera (the right kidney could be palpated in from 45 to 60 per cent. of women). The transverse colon might be recognised much distended lying below the umbilicus. There was no certain physical sign indicating descent of the small intestines, although post-mortem evidence showed it to be usually present. In many cases aortic pulsation was very marked. The pancreas might also be felt as a flattened band lying just above the umbilicus. The treatment of enteroptosis must be directed (1) to improvement of nutrition and the removal of any causal factors, such as tight-lacing, over-exertion, &c.; (2) to the regulation of the stomach and bowels by careful dieting and medicinal treatment; and (3) to the restoration of the muscular and fascial supports of the abdominal walls. For the last-named purpose gymnastic exercises were of very great value and if carefully carried out did much to restore muscular and fascial strength to the abdominal walls. The following exercises were specially recommended: (1) the patient lying down with folded arm raises herself into a sitting posture; (2) the patient lying down and maintaining extension of the knees raises the legs to a position at right angles to the abdomen, each limb being raised singly, then simultaneously; and (3) deep breathing, especially movements of inspiration with a closed glottis, and after the lungs have been emptied by forced expiration. Each of these exercises should be carried out from six to 12 times night and morning. They were most efficient in general muscular weakness and relaxation but also were of benefit in wide separation of the recti muscles. It was usually necessary to support the abdominal wall by a properly fitting belt or binder. This must reach below the hips and the object was to lift up the abdominal viscera from below. Unless this was accomplished no relief was afforded. The straight-fronted corset which was designed to overcome suprapubic projection was specially suitable for cases of enteroptosis since the waist was not unduly compressed and the greatest pressure was applied below the umbilicus and in an upward direction. The belt and corset might also be combined in one. They should be applied whilst the patient was lying down before the viscera had descended. In some cases it was necessary to apply special pads if the patient was thin or the kidney was very mobile. In some cases surgical treatment might be required. Nephrorraphy was of value if combined with treatment for the general ptosis of viscera. Hepatopexy for ptosis of the liver had been carried out with benefit. In cases of extreme gastroptosis with dilatation various operations had been practised, such as shortening of the gastro-hepatic omentum, gastrorraphy, or gastropexy. Gastro-enterostomy had been successfully performed for extensive dilatation with gastro-duodenal stenosis. Various operations might be practised on the abdominal walls, such as resection of folds of skin and fascia. The best method was to expose the edges of the separated recti muscles and to unite them in a common sheath. If there was evidence of traction from adhesions in the pelvis or elsewhere exploratory abdominal section should be carried out.

Dr. E. S. YONGE made some remarks on the treatment of Early Malignant Disease of the Larynx. He showed two patients upon whom he had operated for epithelioma, respectively nine months and eight months previously. In each instance thyrotomy, with excision of the diseased tissues, had been the procedure adopted and the results up to the time of exhibiting the patients had been excellent.

Dr. E. T. MILNER gave a brief account of the Etiology and Pathology of Gall-stones and reviewed the modern surgical treatment for the relief of this condition. He showed two patients who had undergone the operation of excision of the gall-bladder—one 13 months after cholecystotomy for empyema of the gall-bladder and gall-stones and the other a primary cholecystectomy in a woman, aged 59 years, for cholecystitis and gall-stones, with frequent biliary colic, &c. He expressed the opinion that the more radical operation of excision of the gall-bladder would ultimately prove to be justifiable in a larger proportion of cases than at present.

Dr. A. T. WILKINSON showed a case of a man with an Intrathoracic New Growth which involved the right lung and caused pressure on the superior vena cava, resulting in intense congestion of the head and neck. The apex of the lung was dull; immediately below there was natural resonance, but the lower lobe was dull. The superficial veins of the thorax and abdomen had become immensely enlarged and had to some extent relieved the blood stasis in the head and neck.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Ascending Paralysis

A MEETING of this section was held on May 16th, Sir CHRISTOPHER J. NIXON, the President, being in the chair.

Dr. W. J. THOMPSON exhibited a case of Ascending Paralysis. The patient had been a drayman for the last two years and came into hospital on account of weakness of his legs; he had no loss of sensation and the reaction to the faradic current was normal. Eleven days afterwards he was paralysed from his feet up to the superior border of the thorax. He could swallow fluids but not solids. He remained in this condition for weeks and then slowly recovered. At present he was able to attend to his duties and his patellar reflex had returned.

Dr. A. R. PARSONS read a paper on Ascending Paralysis. He said that the patient was suffering from what was known as "Landry's disease," one of those in which the spinal cord showed no lesion. He entered the hospital complaining of numbness of his arms and legs. He quickly became worse and in a week's time lost all power of his legs and was unable to get out of bed. He had been in the habit of drinking—from four to six pints of porter daily. His cranial nerves were intact, he had no drop wrist, his temperature was subnormal, his muscle sense was normal, but his hands were cold and clammy. The thoracic movements were normal, as were those of the diaphragm and abdominal muscles. He could not sit up in bed. He had no pain in his spinal column; his sensation was normal, as were his muscular reflexes; but his muscles were flabby and he had lost the power of moving the legs. About one month after admission (Oct. 14th, 1901) the right reflex was normal and on the following day the leg could be slightly flexed. On the 26th he complained of great pain and tenderness in the calf of the left leg. On Dec 8th he had so much improved that he could walk a little by himself and last month he called to inquire if he might go on a roof to work. The treatment consisted in massage, the use of stimulating liniments, and the internal use of strychnine. Dr. Parsons quoted Gowers's views as to the site of the lesion and concluded that the paralysis was dependent on a toxic agent which had an affinity for the motor cells.

Dr. J. F. O'CARROLL exhibited two cases of Ascending Paralysis. The first was a man who entered hospital with pain over the region of the stomach He was an alcoholic; his lower eyelids were puffed, he was syphilitic, and his *urine was full of casts and amounted to about 30 ounces in* the 24 hours; his temperature ranged from normal in the morning to 101° F. in the evening of each day. After having been for three weeks in bed it was noticed that his legs were feeble. On Oct. 31st he was found to be slightly paralysed and the reflexes were lost. On Nov. 2nd he had weakness of his hands and arms but his mind was clear. At the necropsy the dura mater was found much thickened, as was the frontal bone; the brain was normal. On opening the spinal canal arachnitis ossificans was found. All these lesions were looked on as the products of the syphilis, but nothing was seen that could be considered as the cause of the paralysis. The second case was a man who gave the history of a severe wetting and a cold the result of a flooding of the lower storey of his dwelling-house. 48 hours afterwards he took to bed, where he was examined on Dec. 3rd. He lay on his back, unconscious of danger, with his limbs extended. The reflexes were absent, the urine was dribbling from his bladder, and he had had no motion from his bowels since he took to bed. He winced when the hairs of his legs were plucked out and he was unduly wakeful. On Dec. 6th he was much worse and was found to be paralysed both in his limbs and trunk. His mind was quite clear. He died on the 9th from paralysis of the diaphragm. A necropsy could not be obtained. The name "Landry's paralysis" might be looked upon as a useful clinical term for a group of well-marked symptoms but it had no pathological significance

The PRESIDENT expressed the opinion that the name "Landry's paralysis" was simply a clinical term, as was locomotor ataxy. He recognised three distinct lesions in Landry's paralysis: (1) acute multiple peripheral neuritis; (2) acute anterior cornual myelitis; and (3) acute ascending paralysis, with anterior myelitis. Dr. Graves of Dublin had placed on record the case of a sailor who was suffering from a tight and painful stricture and it was noticed that as the stricture was dilated so did his lumbar paraplegia disappear and the ratio of improvement continued *pari passu*, so that when the stricture was fully dilated the lumbar paraplegia had disappeared and the sailor was dismissed from hospital cured. M. Brown-Séquard, reasoning from the case, concluded that the peripheral irritation of the stricture had produced a reflex action in the nerve centre. Afterwards the same view was adopted by Hammond, the American neurologist, and others. The precise nature of the pathological lesion was unknown.

Dr. J. M. FINNY, Dr. W. R. DAWSON, Dr. R. TRAVERS SMITH, and others also discussed the cases.

FACTORY GIRLS' COUNTRY HOLIDAY FUND.—The annual meeting of the supporters of this fund was held on June 4th, at the Merchant Taylors' Hall, E.C., when Princess Christian presided. The report stated that during the past year both the work done by the fund and the resources placed at its disposal exhibited a considerable increase. When the work was started 14 years ago only 39 women and girls were sent away for country holidays. Last year the number rose to more than 3000. Some of those helped could hardly be said to have had a holiday before in the whole course of their lives.

Reviews and Notices of Books.

A Text-book of Insanity. By CHARLES A. MERCIER, M.B., M.R.C.P. Lond, F.R.C.S. Eng. London: Swan Sonnenschein and Co., Limited. New York: The Macmillan Company. 1902. Pp. 222. Price 6s.

UNSOUNDNESS of mind is a very complex condition presenting much diversity of feature and symptom. Long experience in lunacy practice is necessary for acquiring a substantial knowledge of its various phases, but opportunities of this nature are only open to a few, whilst, on the other hand, some acquaintance with the subject ought to be possessed by every medical practitioner. Readers desirous of having a comprehensive view of insanity in its immediately practical aspect will find in Dr. Mercier's book exactly the kind of information which will be helpful to them, not only complete within the limits which the author has set himself, but presented in a manner *adapted for easy assimilation. Some of the writings* of eminent psychologists and alienists are, unfortunately, open to the reproach of occasional tediousness and undue elaboration. Young men making their way through the medical curriculum and practitioners immersed in the cares of their daily work cannot be expected to master large treatises on a department of medical knowledge which for most of them will be of limited application, but difficult questions as to a patient's mental condition may present themselves at any moment and the practitioner will then recognise that a certain amount of preliminary study of the subject will be of much use in assisting him to avoid the perplexities which lunacy cases so often involve. Dr. Mercier has acted judiciously in describing what he calls the forms and varieties of insanity as types, of which he gives illustrative examples, although like many who are distinctly successful as teachers he may have now and then yielded to the temptation to be somewhat dogmatic in statement and perhaps over-picturesque in some of his delineations. He set out with the purpose of writing a practically useful treatise; he has the requisite qualifications for the task, and we think that he has accomplished his intention.

A Text-book of Medicine for Students and Practitioners. By Dr. ADOLF STRÜMPELL, Professor and Director of the Medical Clinique at the University of Erlangen. Third American edition, translated by permission from the thirteenth German edition by HERMAN F. VICKERY, M.D., Instructor in Clinical Medicine, Harvard University; and PHILIP COOMBS KNAPP, M.D., Clinical Instructor in Diseases of the Nervous System. With 785 Illustrations. London: H. K. Lewis. 1901. Pp. 1242. Price 24s.

THE extent to which this text-book has been used in Germany is demonstrated by the fact that it has reached the thirteenth edition in that country. Since the second edition of this translation was published in 1893 seven new editions have appeared in Germany, so that the book has been almost wholly rewritten. It still retains all the merits of the earlier production, but now it has all the advantages of being fully in line with the most recent medical investigations. The translators have performed their task well but have kept as closely to the original as seemed to be consistent with clearness. They have also added a chapter upon Plague and various notes which should prove of assistance to the practitioner. These additions are inclosed in brackets and are signed with the initials of the translators so as to distinguish them from the unsigned additions to the text (also in brackets) which have been contributed by Dr. Frederick C. Shattuck, Jackson Professor of Clinical Medicine in the Harvard University. The doses in the metric system have been changed to the equivalents in apothecaries' weight, the original doses being retained in parentheses. This was necessary in order to render the work of true practical use to the English practitioner.

The general scope of a work of which there have been so many editions requires little explanation. The author has brought the facts of clinical experience into the closest possible relation with the data of pathological anatomy and of general pathology. He has also, in discussing therapeutics, attempted to deduce from the nature of the symptoms a basis for rational medical opinion and treatment, although he has been careful not to undervalue the importance of practical experience. Needless to say, that Professor Strümpell being such a careful and indefatigable observer the present edition has been brought fully up to date, and especially is this to be noticed in therapeutics, the most recent forms of treatment, by drugs or otherwise, being duly described and commented on.

The work is a large one and will be found especially useful for reference by practitioners who wish to have a trustworthy source of information which can be readily consulted in case of need.

Manual of Antenatal Pathology and Hygiene: the Fœtus. By J. W. BALLANTYNE, M.D., F.R.C.P., F.R.S. Edin., Lecturer on Midwifery and Gynæcology, Medical College for Women, Edinburgh; Lecturer on Antenatal Pathology and Teratology in the University of Edinburgh (1900); Examiner in Midwifery in the University of Edinburgh; Assistant Physician, Royal Maternity Hospital, Edinburgh; Honorary Fellow of the Glasgow Obstetrical and Gynæcological Society and of the American Association of Obstetricians and Gynecologists. With 14 coloured plates and 55 illustrations in the text. Edinburgh: William Green and Sons. 1902. Pp. 527. Price 20*s.* net.

THE high position that Dr. Ballantyne holds amongst teratologists is well known and it is a matter for congratulation that we should have in this country one who has accomplished so much valuable work upon the subject. He has made a very large number of original contributions to fœtal pathology and has done more than any other writer to place our knowledge upon a sure and scientific basis. A perusal of his latest work upon antenatal pathology and hygiene enables us to realise not only what is already known but also how much more remains to be learnt before our knowledge of this branch of medicine can be said to be in any way perfect. This work of Dr. Ballantyne cannot fail to arouse a great deal of interest in the matter amongst students of obstetrics and pædiatrics and should lead many men to attempt to make original observations for themselves in a field of work which so far has been little tilled. The difficulties of the study are undoubtedly great and we fear but little real progress will be made, at any rate in antenatal pathology, until the prematernity hospital, for which the author so eloquently pleads, has been established. The present volume, which deals mainly with fœtal physiology and pathology, is to be followed by a second volume in which teratology and morbid heredity will be considered. It is scarcely possible within the scope of a review to do adequate justice to the amount of original work and investigation that Dr. Ballantyne has summarised within this book. As he says, he has had the good fortune to have been able to examine no less than 300 specimens of antenatal morbid states and he can, therefore, speak with all the weight of so large an experience. Further than this, his knowledge of the literature is of the widest character and the result is a book full of the most interesting facts enlivened by some most suggestive and ingenious theories.

The sections that will appeal chiefly to the practitioner are those upon the Anatomy and Physiology of the Fœtus. The fascinating question of the protective rôle played by the placenta and the transmission of various morbid conditions and specific diseases through its agency from mother to child are very fully considered and discussed. How small our knowledge of these important relations is the author's conclusions show. He writes: "There is experimental proof that some poisons reach the fœtus and sometimes produce structural alteration in the fœtus and placenta." The chapter upon Antenatal Diagnosis is one that we commend to all those who have opportunities of watching pregnant women during the course of their pregnancies. It contains many most interesting suggestions. When we consider the important social and moral questions that are concerned in what the author terms "germinal therapeutics" we cannot but recognise the necessity for a more profound knowledge of the problems of antenatal pathology, bound up as they are with the difficult question of morbid heredity and destined as they are to play a very large part in the future moral and physical welfare of the race.

The book is one of the most interesting and instructive that it has been our good fortune to read and one that we cannot too strongly recommend to all those who, like the author, recognise that in this subject—

"Little we know;
Much is to be known;
Hardly is it to be learned."

The Accessory Sinuses of the Nose: their Surgical Anatomy and the Diagnosis and Treatment of their Inflammatory Affections. By A. LOGAN TURNER, M.D., F.R.C.S. Edin., Surgeon for Diseases of the Ear and Throat, Deaconess Hospital, Edinburgh. With 40 plates and 81 figures. Edinburgh: William Green and Sons. 1901. Pp. 211. Price 12*s.*

DR. LOGAN TURNER has presented us with a book of more than usual interest and one that is full of valuable information based on careful scientific research. The illustrations are excellent examples of anatomical drawings and are exceptionally clear, being far superior to those which are usually found in medical literature. Dr. Turner not only adds most materially to our anatomical knowledge but he has given clear and valid reasons for any exception which he takes to the views of other investigators. He has embodied in this book the results of careful and laborious work carried out in relation to the measurements of the accessory cavities of the nose and on the effects of transillumination for the purposes of anatomical research and of clinical diagnosis of pathological conditions; the work had for its foundations a lecture delivered by Dr. Turner at the Royal College of Surgeons of Edinburgh on Illumination of the Air Sinuses of the Skull with Some Observations upon the Surgical Anatomy of the Frontal Sinus and his prize essay on the Racial Characteristics of the Frontal Sinuses. The skulls collected by the author's father, Sir William Turner, which are now in the Edinburgh Museum, placed no less a number of crania than 578 at Dr. Turner's disposal and included amongst them examples of most known races.

Amongst the chief features and points of interest in the book are the plates and observations which deal with the depth to which the horizontal portion of the frontal sinus may pass in a backward direction above the upper orbital wall, between the orbit and anterior cranial fossa; in one skull examined it passed back to the optic foramen. Also the height may be much greater than usual, in one case being as much as two and a half inches. In considering the depth of the sinus at various parts Dr. Turner points out that there is not any material difference between that behind the ophryon and glabella, which does not support the claim put forward by Dr. Rolleston that antero-posterior measurements of the skull, if taken from the ophryon, give a more correct brain index than if taken from the glabella. To determine the extent to which the frontal sinus extends behind the ascending portion of the frontal bone transillumination was adopted and in numerous instances the sinuses marked out by the aid of the lamp were opened and the absolute trustworthiness of the method was proved. Dr. Turner, however, remarks that valuable though this method is in the dry skull, yet as an aid to diagnosis in suppuration in the frontal sinus it is of small practical value. Another point of considerable importance demonstrated by the author is the great depth and extent to which an anterior ethmoidal cell may penetrate (*vide* Fig. 1, Plate XVIII.), and the importance of a knowledge of such instances in relation to pressure effects on the optic nerve is clearly brought out. The situation and importance of the bulla ethmoidalis receive due attention and are the better appreciated on account of the very valuable plates in which the bulla is depicted.

There is much less that is new in the description of the maxillary sinus, chiefly on account of the fact that far more has been written on its anatomy and pathology than is the case in that of the sphenoidal sinus, but the plates and description as to its development are interesting and instructive. Dr. Turner points out a fact which has not, we believe, been previously noted—namely, that when the frontal sinus and the maxillary sinus open into a common duct it is possible to infect the frontal sinus whilst washing out the antrum if much force is employed. He combats the term "frontal cell" as employed by Hartmann to designate the anterior ethmoidal cells and the term "fronto-ethmoidal" as employed by other writers, showing that both terms are anatomically incorrect, and, as he truly remarks, by adhering to correct anatomical nomenclature there is less likelihood of confusing students. The results of the investigations on the extent of the frontal sinus in the various races of mankind and also the brief record of the presence of frontal sinuses in animals are most interesting and confirm the views of previous writers, though the author has here added new material by considering the height that the sinuses attain in relation to the height, length, and breadth indices. The concluding chapters on the pathology and treatment of the various diseases of the respective sinuses are not very full and do not reach the high standard of the rest of the book.

The whole work is admirably produced; the text is good, the subject-matter is lucid and tersely put, and the anatomical parts are full of interest and suggestion. The book will be of great value and assistance to all who wish to make themselves better acquainted with the normal and abnormal varieties of the accessory sinuses of the nose.

LIBRARY TABLE

Living Rulers of Mankind. By the Rev. H. N HUTCHINSON, F.R.G S. London · George Allen. 1902. Demy 4to, pp. 206. Price 7*s.* 6*d.*—This interesting book by Mr. Hutchinson, the editor of "The Living Races of Mankind" and the author of "Marriage Customs in Many Lands," appears opportunely just before the coronation of King Edward VII., when the representatives of most of the nations of the earth will be assembled among us. In Vol. I. are considered the rulers, among others, of Austria-Hungary, Belgium, China, Denmark, Egypt, France, Germany, Italy, and Great Britain and her dependencies. The articles are illustrated profusely with portraits of the different rulers, their wives and children, their palaces and pleasure resorts. The character sketches of the different monarchs, presidents, and viceroys, though written in courtier-like language—indeed, the purpose of the book is rather to show that kings, queens, and presidents are very much to the front in the present day—are accurate and enable the reader to get a grasp of each ruler's personality. The illustrations, of which there are no less than 245 for the embellishment of some 200 pages, are beautiful examples of process reproduction. The portraits of our King and Queen and of the Queen of Roumania (Carmen Sylva) are given in colours, a really beautiful picture of the poet-queen of Roumania appearing as a frontispiece.

A Surgical Handbook for the Use of Students, Practitioners, House Surgeons, and Dressers. By FRANCIS M. CAIRD, M.B., F.R.C.S. Edin., assistant surgeon to the Royal Infirmary, Edinburgh; and CHARLES W. CATHCART, M.B. Edin., F.R.C.S. Eng. and Edin, surgeon to the Royal Infirmary, Edinburgh. With very numerous Illustrations. London: Charles Griffin and Co., Limited. Eleventh edition. 1902. Pp. 323 Price 8*s.* 6*d.*—This useful little work has now been before the professional public for 13 years and the fact that a new edition has appeared nearly every year of that time is in itself an evident proof of the appreciation with which it has been received. Every edition has been an improvement on its predecessor and the present issue is certainly excellent. In their daily work there are many difficulties encountered by the house surgeon and by the practitioner, for the overcoming of which the ordinary text-books of surgery seldom afford any assistance, yet here will be found exactly what is needed. There are chapters on special subjects falling within the domain of surgery about which, however, many are ignorant; we may mention massage and the surgical applications of electricity. An appendix contains accounts of several subjects which do not come within any of the chapters of the work, such as the ambulant treatment of fractures, the sterilising of dressings, and sick-room cookery receipts. It is unnecessary to praise the book to those who know it; and to any student who does not know it we can only say that he will certainly benefit by the practical directions and hints which it contains.

The Ready Reference Handbook of Diseases of the Skin. By GEORGE THOMAS JACKSON, M.D. Col., Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York, &c. With 80 Illustrations and 3 Plates. Fourth edition, thoroughly revised. London: Henry Kimpton. 1902. Pp. 642. Price 12*s.* 6*d.*—This is a treatise on dermatology in which the several articles are arranged in alphabetical order. This arrangement has in a small treatise the advantage that the reader can refer with ease to any particular disease. In a larger work the inconvenience of the separation of cognate subjects would more than counterbalance this We were able to express a very favourable opinion of the previous edition and we may say that this issue has a number of new sections and the whole has been thoroughly revised, as a reference to the third edition readily shows. Fortunately, the additions are compensated for by diminution elsewhere, so that the book has not increased in size. The work can be confidently recommended to all those who desire a general knowledge of dermatology, for it is written by a physician who is well acquainted with his subject and who has evidently had much experience in teaching it.

A Clinical Manual of Skin Diseases, with Special References to Diagnosis and Treatment for the use of Students and General Practitioners By W. A. HARDAWAY, A.M , M.D., Professor of Diseases of the Skin and Syphilis in the Missouri Medical College, St. Louis; ex-President of the American Dermatological Association. Second edition, revised and enlarged, with 42 Engravings and two Plates. London: Henry Kimpton. 1901. Pp 557. Price 10*s* 6*d.*—In the first edition of this work the various diseases of the skin were arranged alphabetically but the author has thought well in this issue to present the diseases under a regular system of classification. There is much to be said for each method but the present plan is more scientific, though, as our present systems of classification of diseases of the skin are little more than provisional, the arrangement will probably need revision in subsequent editions. The work, though enlarged, does not contain more than the average student may reasonably be expected to know", and this is important, for there is probably no class of diseases more neglected at the present time than those affecting the skin. There is one statement in the work to which we may draw attention. We are told, in the account of the treatment of scabies, that "it is a *sine quâ non* that the underclothing and sheets be disinfected by boiling If this were so most out-patient cases would never be treated with success, for however carefully instructions may be given to them to boil or to bake their clothes they are very rarely indeed carried out. Moreover, it has been shown that recurrence does not occur in more than 5 per cent. of the cases when the clothes are not disinfected in the least.

The Cerebro-Spinal Fluid Its Spontaneous Escape from the Nose, with Observations on its Composition and Function on the Human Subject By STCLAIR THOMSON, M.D, M R.C.P Lond, F R.C S Eng, physician to the Throat Hospital, Golden-square, surgeon to the Royal Ear Hospital, London. London Cassell and Co, Limited. Pp. 140. Price 5s —This book owes its existence to the fact that Dr Thomson a few years ago discovered that a young woman in apparently good health was suffering from the escape of cerebro-spinal fluid from one nostril. No cause could be found and but little inconvenience was occasioned. This case led the author to examine medical literature for the records of other similar cases and he succeeded in collecting about 20 instances of this curious anomaly In many of the cases the liquid was not diagnosed as cerebro-spinal fluid, but the author adduces reasons for his opinion that this was its true nature. In many instances this hydrorrhœa was associated with cerebral symptoms and with optic neuritis, and we acknowledge that Dr Thomson has proved his point for at least many of the cases In the case under his care the analysis by Professor Halliburton was amply sufficient to identify the liquid as cerebro spinal fluid. The cases collected consist of nine in which the identity of the liquid with cerebro-spinal fluid was indubitable, 12 in which the discharge was very probably cerebro-spinal fluid, and eight other cases which were possibly of this nature The pathology of the affection is discussed, but the author does not arrive at any definite conclusion. As to the treatment, nothing is known that can check the flow An appendix contains observations on the composition and function of human cerebro-spinal fluid which have already appeared in the Proceedings of the Royal Society The volume is an interesting monograph on a rare but important morbid condition and deserves study by all who have to deal with a case of watery discharge from the nose

THE FESTIVAL DINNER OF THE POLYCLINIC

(MEDICAL GRADUATES' COLLEGE.)

THE members of the Polyclinic held their festival dinner on June 5th at the Criterion, Piccadilly-circus, London, under the chairmanship of Mr H. H. ASQUITH, K.C., M P Amongst the guests seated on the right hand of the chairman were Lord Davey, the Archdeacon of London, Sir J Crichton Browne, Mr A. Lee, M P, Mr B L. Cohen, M.P, Sir John A Cockburn Mr J Hall, K.C., Sir Owen Roberts, Mr D Coghill, M.P, Sir Joseph Fayrer, Professor Clifford Allbutt, Dr R. Farquharson, M P, and Inspector General Turnbull. To the left of the chairman were Sir William H. Broadbent, Sir Alfred C. Lyall Sir A. Geikie, Mr J Hutchinson, Sir F Abel, Dr J G Ponce, Sir John W Tyler, Mr T P O Connor M P, the Hon E. R. Belilios and Sir W Pearson, M P

After the usual loyal toasts had been honoured the toast of "The London Polyclinic" was proposed by Mr ASQUITH who said that the objects of the Polyclinic were twofold It was a charitable institution in the best sense of the word—that was to say, without coming in the least degree into competition with the hospitals it provided a means by which persons who could not themselves afford to pay the usual fees for consultation could be brought by their medical man to the Polyclinic and there get in consultation with that medical man the best medical advice that the most skilful members of the profession in London could provide. During 1901 very nearly 1200 patients had received this gratuitous consultation advice. The Polyclinic had another object which was still more important. There was no profession in the world in which it was more urgent that facilities should be provided for after education than medicine because it was every year receiving vast accumulations of new observations which must profoundly modify the theory and treatment of disease. To maintain themselves abreast with the scientific pursuit of medicine in other countries they must have the means and the opportunities of readjusting their conceptions according to the altered experience which new facts were constantly bringing into view He pointed out what had happened by means of research in regard to tuberculosis and malaria and he hoped that a similar fruitful voyage of discovery might be made concerning the disease of cancer Those results were only to be obtained by research and coöperation and the Polyclinic would afford when properly equipped, an admirable theatre for post-graduate research and attain something like a conservative and combined body of scientific results The Polyclinic, therefore, was entitled to the support of the medical profession and of the outside public. Mr Asquith concluded by hoping that their festival dinner would engender fresh interest in the Polyclinic which he believed was no less advantageous and important to medical men than it was likely to be useful and beneficent to the public in this country

Sir WILLIAM BROADBENT, in replying to the toast said that it was now felt on the part of the medical profession as a whole that they must be alive to the great scientific questions which came before their notice in their ordinary day s work The Polyclinic provided for three demands from the medical profession. It supplied instruction in certain special departments, such, for instance as diseases of the eye, it supplied the want felt by medical men seeking further clinical experience, and lastly, it was the object of the Polyclinic to afford opportunities for study in chemistry, biology, and bacteriology What the Polyclinic ought to have for work of that kind was a hospital equipped on the scale of the Johns Hopkins Hospital, to take patients from every class of society on the recommendation only of the medical attendant.—This toast was also replied to by Dr THEODORE WILLIAMS.

The toast of "The Empire" was proposed by Mr JONATHAN HUTCHINSON who said that the Polyclinic desired to bring its work to bear upon the community of this great empire. The Polyclinic was not in a flourishing state but it was desired to extend its influence to the very ends of the earth. It was not an insular institution but gained all it could from all parts of the world. The public was therefore asked to help liberally in the work. This toast was responded to by Mr ARTHUR LEE, M.P, and by Sir JOHN COCKBURN.

Dr THEODORE WILLIAMS announced that donations had been received amounting to over £500.

Sir JAMES CRICHTON BROWNE then proposed the health of the Chairman, to which due acknowledgment was made and the company separated after singing the National Anthem.

A HOME for medical men and persons "belonging to the medical profession" who have become reduced in circumstances is to be established in Moscow Geheimrath Rasswetow whose death occurred not long ago, has bequeathed to the city a sum of 800 000 roubles (£84 600) for the erection and maintenance of the home

GLASGOW SOUTHERN MEDICAL SOCIETY —A meeting of this society was held on May 29th Dr. J Stewart the President being in the chair —Dr Archibald Young gave an interesting address on his experiences as a civil surgeon with the troops in South Africa. He submitted a detailed account of numerous surgical cases that came under his treatment The lecture was illustrated by a large number of interesting lantern slides

THE LANCET.

LONDON: SATURDAY, JUNE 14, 1902.

The Recent Session of the General Medical Council.

THE proceedings at the seventy-fourth session of the General Medical Council came to an end on Tuesday, June 3rd. It had been hoped, as a special session of the Council had already been held this year, that the proceedings would have been brief and would not have compelled the members of the Council to remain in harness after the last day of May. This hope received considerable support from the facts that the penal cases before the Council were not numerous and were heard with commendable alacrity. The most important of these, the case of Dr. ROBERT RENDALL, whose connexion with the Liverpool Victoria Legal Friendly Society at Great Yarmouth came under the unfavourable notice of the Council last November, is considered at some length in another column. It is gratifying to find that no other case came before the Council of any practitioner associating himself with medical societies which systematically canvass for patients, a fact which suggests somewhat forcibly that the medical profession is beginning to take a common line in the important matter of contract practice. Also, no case of covering came before the Council, a satisfactory incident which proves that the evils rampant under the old system of unqualified assistants have practically disappeared. That this is so was known to us. The columns of THE LANCET have for many months been to all intents free from correspondence upon this subject, while reference to our back files shows that until recently there was no topic upon which we were more frequently addressed. Weekly, almost daily, we were wont to be consulted as to the scope of the work of the unqualified assistant and the license that should be permitted to the dispenser. But this has now ceased and the profession as a whole has decided to acquiesce in the wise policy of the General Medical Council with regard to the employment of persons who have not received a complete medical education. That this is so redounds to the credit of the profession, for undoubtedly many practitioners have been put to considerable expense and inconvenience that they would have been spared under the old *régime*, but spared at the expense of the public safety.

The most interesting debate of the session was undoubtedly that which arose out of a request from the Council of the British Medical Association that the General Medical Council would receive a deputation to consider the subject of the preliminary education of the medical profession. The request, which was justified by a somewhat drastic report from the Preliminary Education Committee of the British Medical Association, was referred to the Executive Committee of the General Medical Council and was refused by that committee. The Executive Committee made no secret of their view that they considered that the good work of the General Medical Council in striving to advance the standard of preliminary education in the medical profession had been completely ignored by the British Medical Association. A breezy discussion led, however, to a better understanding and on the first day of the session it was decided that the Education Committee of the General Medical Council, on behalf of that Council, should receive a deputation from the Council of the British Medical Association. The deputation attended at the offices of the Council on Saturday, May 31st. Dr. G. B. FERGUSON, the President of the British Medical Association, repudiated the idea that the Preliminary Education Committee of the Association was antagonistic in any way to the work of the General Medical Council and pointed out that the desire of the Association was to strengthen the hand of the Council by registering the interest of the Association in a most important professional question. Dr. MAURY DEAS and Dr. W. GORDON, both of Exeter and representing the South-Western Branch of the British Medical Association, then spoke with considerable detail in support of the proposition that with the existing requirements of the General Medical Council there is no adequate guarantee that a medical practitioner has received a liberal education befitting a member of a learned profession. Sir JOHN BATTY TUKE, on behalf of the Education Committee of the General Medical Council, promised that a reasoned answer should be given to the various points raised in the speeches of Dr. DEAS, Dr. GORDON, and other gentlemen forming the deputation, and at this answer the profession will look very carefully. There can be no doubt that the General Council of Medical Education and Registration—to give the body its full title—has for many years tackled the side of its duties bearing upon education with zeal and vigour; but the executive of the British Medical Association, being more in touch with the mass of the medical profession in this country, may be able to offer to the Council suggestions of a nature which it will be of great value to the Council to discuss. We are glad, therefore, that the Council received the deputation. It is well that the Council should keep in touch with the British Medical Association and should use the opportunities which that Association enjoys of learning the views of the profession at large upon a matter of such prime importance as preliminary medical education.

But perhaps the most important circumstance of an unsensational session has been the complete revelation to the world of the pecuniary position of the General Medical Council. That the finances of the Council have been in an unsatisfactory state has been patent for some time to those who have been sufficiently interested to inquire into the matter—a definition which hardly includes the whole *personnel* of the Council—but the report of the Finance Committee of the Council for the year 1901, no less than the report of the Special Financial Relations Committee appointed last year, have now made clear to all what a difficult position has been reached. The Finance Committee reported that the income of the General and Branch Councils for the year ending Dec. 31st, 1901, was £8557, and that the expenditure for the same period was £10,065, showing a deficit of £1508. The Financial Relations Committee reported that the deficit on the Council's income and expenditure account on the average of the last seven years has amounted to full £1200 per annum—a position which certainly justified Mr. HORSLEY moving in the Council, by way of raising a general debate, "that the principles of amendment of the financial position of the Council embodied in the report of the Financial Relations Committee be approved." The various obvious steps for increasing the income of the Council, such as the increase of the fee for registration as a qualified practitioner, the institution of a fee for registration as a medical student, and the payment of an annual licensing fee, then came under discussion. The first method, rightly as we think, appeared to commend itself to the Council, while the third was rejected in a pronounced manner The Financial Relations Committee being reappointed, the whole subject will come before the Council again next session and will, we trust, be taken early in the proceedings, for it is one of urgent importance. In the meantime payments to the sinking fund have been discontinued by the Council, largely owing to an admirable statement by Mr TOMES which in a convincing manner showed that in the circumstances of the Council this fund was a foolish one and based on fallacious finance. "Is it," asks Mr. TOMES's addition to the report of the Finance Committee, "the business of the Council of to-day, with financial difficulties in full sight and with an income inadequate and likely to be still more inadequate, to be making provision not out of its surplus but as an addition to its deficits for the Council of 50 years hence?" The answer to this question can only be "No," and all the more emphatically "No" that the chief asset of the Council—namely, its freehold property—is one that must appreciate, so that the Council, in spite of itself, will be richer in 50 years than it is now. None the less the abolition of the sinking fund is an abandonment of all pretence to economy—false economy though it may have been. Therefore it behoves the Council to put its financial affairs rapidly into order and if the assistance of the Government to any necessary Parliamentary measure is required it should be promptly forthcoming It *should* be, we say, but recent experience makes us doubt whether it *would* be.

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The Lessons of Dr. Rendall's Case.

AT the meeting of the General Medical Council on May 29th a highly satisfactory conclusion was arrived at in the case of Dr ROBERT RENDALL of Great Yarmouth. While rejoicing at the excellent vindication of professional feeling which this case affords we may also congratulate Dr RENDALL upon his good sense in not pushing further his opposition to the pronounced opinion of the General Medical Council To whatever lengths and at whatever expense he had pressed his cause the verdict not only of all his professional brethren, but also we feel confident of the courts of law, would have been unequivocally against him. He has wisely availed himself of the interval afforded him at the penultimate meeting of the Council to reconsider his position and has resigned his post as medical officer to the National Medical Aid Company, Limited, and as medical referee to the Liverpool Victoria Legal Friendly Society. These bodies will, it is pretty clear, have considerable difficulty in providing themselves with a substitute in the position vacated by Dr. RENDALL Nor will such a man, should he be forthcoming, be allowed to occupy undisturbed the post from which his predecessor has been forced by the organised opinion of the profession in Yarmouth, the prosecution of the Medical Defence Union, and the consequent action of the General Medical Council. The behaviour of the medical men of Great Yarmouth, united under the name of the "Great Yarmouth District Committee," and represented by the President, Mr. A. H. MOXON, and the secretary, Mr W. E. WYLLYS, has been from the outset an example of proper professional conduct. There has been shown no animus, no malice, against one who was acting contrary to the well-declared feelings of his fellows, and at the same time a firm determination has been plainly evinced that respect would be exacted for the rights and dignity of the profession. In a word, the profession in Yarmouth resolutely refused to allow specious companies to thrive by "sweating" medical men If medical men in all districts would but see as clearly as their Yarmouth fellows have done the issues that are really raised in such cases as this and would combine in the same way against them many of the hardships which are complained of in private practice would soon melt away. That the Liverpool Victoria Legal Friendly Society and the National Medical Aid Company, Limited, actively canvassed for patients may be regarded, in the light of events, merely as a fortunate accessory which brought their medical officer securely under the ban of the General Medical Council which had passed a resolution "strongly disapproving practitioners associating themselves with medical aid associations systematically canvassing and advertising for the purpose of procuring patients." That associations which practise in this way are to be shunned as an unclean thing must be obvious to even the youngest practitioner of medicine.

We wish it were equally clear to all medical men that other evils less obvious but no less derogatory are inherent in the majority of contract practice as it exists at present. Much of the contract practice of this country lowers the status of the medical man and provides to the public a benefit much more apparent than real. Why, then, does it exist? The answer is simple. The system is maintained by middlemen for their own pecuniary advantage which is gained at the expense of the medical officers. The "middleman" may be a company or a secretary, or some kind of "friendly" society. The "friendliness" is introspective and limited. The society may be a good "friend" to a few, it is apt to be an over-rated friend to the sick poor, and no friend at all to those who are so unhappy as to serve it medically. In so far as friendly societies are instruments for encouraging thrift and provision among the poorer classes they have our hearty support; their medical benefits should be only a side issue—a part of a large scheme for the national betterment of the working classes. On examination it will be found, however, that they mostly live and flourish by their medical aid society and by nothing else. Take away the medical aid, which is provided, as a rule, by underpaying a medical man, and we find that the other provisions of the friendly society are worth little. To have a medical practitioner who can be summoned at any moment and who, if he does not come, can be righteously abused for "not doing what he is paid for"; to be able to exact from him for a few shillings attentions which from year to year would only be adequately paid for by many pounds—is a bait which lures as subscribers to many so-called friendly societies persons whose wages and private means would warrant their employing a medical man's individual attention. The medical man is on the hook and the "friendly" society's promoters wield the rod. The general public naturally has its mouth open to swallow with small scruple the bait dangled before its eyes. That the public really benefits is very unlikely. It buys a right to medical attention at a ridiculously low price. What is the value likely to be of the labour of a man who knows that he is undertaking twenty times the amount of work that he can possibly perform carefully or even competently. And that many medical men are asked to contract for the carrying out of impossible tasks is well known to our readers. What is likely to be the attitude of mind of the medical man when summoned repeatedly to a patient who is paying a few pence while he could afford to pay, and ought to be paying, as many pounds? Does he go prepared to employ all the care and skill that he is capable of, or does he go imbued with the notion of getting through the case as quickly as possible and so of being "done" by it as little as may be? We believe that in the vast majority of cases he goes uncomplainingly to do his best. But even medical practitioners are human. We have compared their positions to that of a bait. Well, even the worm on a hook will turn.

Contract practice there must be, but there is no reason why contract practice should not be fair to both of the contracting parties. At present it is generally fair to neither. It is unfair to the medical man who is required to give much service at the price of very little; it is unfair to the subscriber who cannot by the circumstances of the case get from the medical man anything like the attention which he believes himself to be paying for. Let medical men stand by one another in insisting upon decent terms and upon making those terms themselves directly with those who are to be their patients and contract practice may benefit both parties. The public has no need to fear the generosity of the profession; medical men have never been conspicuous for an exacting nature; they give the pound of flesh much more often than they take it. We wish our readers to realise that by entering upon contract practice with many medical aid societies they often do not benefit those to whom their services are offered and they in many instances place themselves at the same time in a position which is unfair and undignified and which should never be demanded of them.

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The Fees of Medical Witnesses.

CERTAIN remarks made by his honour Judge GREENHOW in the course of a case recently heard before him in the Leeds County Court seem to us to call for comment and protest, particularly as similar observations are from time to time made, or permitted to be made, in other courts of law. An action was brought by the wife of a labourer and the mother of a boy attending a board school against a teacher in the employment of the Leeds School Board. Her claim was for personal injuries sustained through an alleged assault, which she accused the defendant of committing upon her, her story being that when she went to remonstrate with him upon some point connected with her son's behaviour he kicked her on her thigh and pushed her down some stone steps. This somewhat improbable story was eventually not believed by the county court judge and the claim was *dismissed, not*, however, before Judge GREENHOW had made in the course of the hearing the comments to which we take exception. The plaintiff's solicitor, in order to demonstrate the fact of her injuries, proved later by the defendant to have been sustained through no fault of his, desired to call as a witness Mr. A. T. SPANTON, resident medical officer at the Public Dispensary at Leeds, who had admittedly attended her on the day in question. This gentleman declined to be sworn as a witness before he had received his fees as such, upon which the following questions and comments of his honour are reported to have ensued. "You have heard some comments on that matter and that it presses hardly upon poor people who have not several guineas to put down?" "You still persist in your intention of having the money laid down before you give evidence in this poor person's case?" "It seems to me an extraordinary line for gentlemen of the medical profession to take up that they should require the money down. They may need it in some cases, but not in all, I am sure. It seems to be a considered line of conduct on the part of the medical officers of this town to decline to give evidence without fees, and I am amazed that it should be so." We can only say that we are amazed at the surprise evinced by Judge GREENHOW. We would like to know whether he has found in his own profession of the law such a willingness to work for the poor without fees as to justify his referring to members of the medical profession in the terms we have quoted.

The medical practitioner's profession is that of medical practice. In the exercise of that profession, when patients are too poor to pay, the medical profession gives its aid ungrudgingly. In the case of the witness at the Leeds County Court Mr. SPANTON'S duties which he was engaged to perform at the dispensary involved attendance on the plaintiff. It is not part of any medical practitioner's duty, as such, to spend his valuable time in a court of law giving evidence, or waiting to give evidence, gratis It is for the solicitor who undertakes the case, and who presumably is paid for doing so, to pay his witnesses if he expects them to give evidence. If the medical witness in such a case as that on which we are commenting gives evidence on the terms upon which Mr. SPANTON was invited to do so he at once lays himself open to cross-examination and comment of a most odious and offensive character. He is in the position of a witness whose fee depends upon the success of the party on whose behalf he gives evidence, for he will only be paid if that party recovers the costs awarded to the successful litigant. Cross-examination and comment to this effect may not be permitted by all judges, but are part of the ordinary stock-in-trade of the advocate, and to some extent other cases with a slighter degree of imbecility the relation between the moral and the intellectual defect becomes much less close, and it would seem that there is not necessarily any direct proportion between them. This much, at any rate, may be stated with positiveness, that of children with slight general impairment of intellect many show a degree of moral control which would not be considered defective in a child of average intellect, whilst others whose general intellectual capacity appears to be exactly similar show a marked defect of moral control; and a child who is only slightly weak-minded may show a much greater moral deficiency than one whose weakness of intellect is much more evident.

It hardly seems necessary to quote cases in proof of these points which must be familiar to anyone who sees many imbeciles; moreover, most of the cases which I have already quoted were children who showed only minor degrees of general intellectual impairment, and I selected them purposely as having for this reason more "points of contact" with the cases which I shall consider in my subsequent lectures. I will, therefore, only add two more to those already instanced. The first case is a girl, aged five and a quarter years, of stolid appearance, although her facies does not suggest any general impairment of intellect; she is backward, did not learn to walk until the age of two years and did not talk until three years old. She does not know her alphabet but has not yet been to school, she takes an intelligent part in ordinary conversation. Her head is below the average in maximum circumference, it measures 18⅜ inches, and in the frontal region is unduly narrow. She is extremely passionate; if crossed in any way she will throw herself down on the floor and scream and kick. At meals she has on various occasions thrown cups, saucers, and knives at her mother in rage because she could not have some particular food which she desired. There are other children in the family, and when these have not allowed her to have what she wanted she has run at them and bitten them sufficiently to break the skin. She is also wantonly mischievous, turns on the water-taps and leaves them running, and has at various times stolen eatables and other things. She is said to have very little sense of obedience and corporal punishment seems to have little or no restraining effect. The second case, a boy, aged 11 years, is a pleasant-faced boy, stands up well, and as far as ordinary conversation goes might pass for a normal child. But he is decidedly backward in school attainments, can only read words of one syllable, and cannot multiply beyond twice 12; he also laughs too easily and too often. He is said to be extremely excitable and very passionate on slight provocation; he seems to take a delight in bullying other children—for example, he will go up to children who are quite strangers to him in the street and snatch away their toys, not in order to keep them, for he will give them back afterwards, but apparently because he enjoys their grief; he has stolen considerable sums of money from the teacher at school, probably twice within the last year. In both these cases the general impairment of intellect was very slight; indeed, the children could hardly be classed as "imbeciles," they were rather "backward children," but the moral defect was very marked—in fact, the latter case was sent to me for this rather than for the intellectual condition.

It would be easy to quote cases in which with a general intellectual condition as closely as possible resembling that present in these two children there was no abnormal defect of moral control; for instance, an almost exact parallel to the girl just mentioned was another girl, aged six years, with a dull appearance, who had not learnt to walk or to talk until the age of three years; she took an intelligent part in ordinary conversation but was very slow at school and could not identify the letters of the alphabet in spite of careful teaching; morally, however, this child was in marked contrast to the other, she was good-tempered, honest, and showed, in fact, no abnormal defect of moral control. It would seem, then, that moral defect in children with general impairment of intellect shows no constant proportion to the intellectual defect.

Lastly, the question must be raised whether we can associate defect of moral control with any particular type or types of idiocy or imbecility—a question of considerable importance, for if it were possible to do so we might hope by a study of these types to find some anatomical basis for this abnormality of function. Of the 23 cases to which I have referred two were syphilitic and both had had fits (in one case up to the age of seven years—that is, 18 months before I saw the boy—and i the other up to three months before [the date o observation when the boy was five years old); one wa epileptic; one was paralytic with infantile hemiplegi and fits; one was an imbecile of the Mongol type; on was a cretin who had been treated for several years wit thyroid; and of the remaining 16 who corresponde with no particular type and might be classified wit the "genetous" idiots of Dr. Ireland four had had convulsions or epileptiform attacks at some period of their life but the relation of these attacks to the intellectual impai ment was uncertain. In 16 cases the maximum circumference of the head was recorded. In six it was below th average, but only in one case (the Mongol) to any conside able degree (18½ inches at the age of five years); i two of the remaining cases it was below the averag So far, therefore, as these observations go it did not see possible to associate any particular type of idiocy c imbecility with defective moral control. The relation c moral defect to convulsions or epilepsy is, however, note worthy—the association was noted in eight out of 18 case in which the point was inquired into. This proportion i only slightly above that which has been recorded by D Fletcher Beach in discussing the causal relation of convu sions or epilepsy to idiocy or imbecility in general (namel 33 63 per cent.), quite apart from any question of mor defect, so that no great stress can be laid upon these figure I may, however, add that Dr. Ireland specially notes c epileptic idiots that "they are often wild, intractable, an irritable—in fact, seem on the boundary line between idioc and insanity"—and also says that "where epileptic attac occur eccentricities of conduct may be looked for, such a stealing, cruelty to animals, sleep-walking, or some stran outburst of temper or change of mood." As we shall se this association of morbid moral defect with epilepsy i children is not peculiar to the epileptic idiot, it is see where the general intellectual condition appears to b perfectly normal, so that we cannot attribute it to ar anatomical condition peculiar to these particular idiots; th subtler changes, whatever they may be, which produ epilepsy alone without idiocy, are equally capable of diminis ing moral control. We are, I think, driven to the conclusio that the types of idiocy or imbecility associated with defe tive moral control are too varied to allow us to connect ar particular anatomical condition with the moral defect wit out post-mortem evidence which at present is lacking. Th there are cortical changes, either in the way of arrest development—for instance, in the Mongol idiot and some of the genetous idiots—or in the form of gro lesions or degenerative changes, as in the paralytic typ seems almost certain from our knowledge of these co ditions where they have occurred without moral defec but the fact that any of these varieties of idiocy may occ without any morbid failure of moral control, and, furthe that a marked degree of such failure may occur apart fro idiocy or imbecility, strongly suggests that the cause of th moral defect is to be sought not in any gross lesion or gro failure of development but in some much finer physic abnormality, and this view, I think, will be corroborated b the facts which I shall mention in my later lectures.

If I may sum up the points upon which I would chief insist in the foregoing considerations they are these: th a morbid failure of moral control is not uncommon children with general impairment of intellect—there is, fact, a congenital limitation of the capacity for the develo ment of moral control associated with a similar limit tion of the general intellectual capacity; that exce in the lower grades of idiocy and imbecility where th cognitive relation to environment is absent or extreme defective there is not necessarily any direct proporti between the moral limitation and the general intellectu limitation; that no particular type of idiocy or imbecili can be specially associated with moral defect; nor is the any evidence, so far as can be judged from a clinical stu of these cases, that any particular gross lesion of the brain requisite to the limitation of moral control.

VACCINATION IN WORKHOUSES.—At a meetin on March 21st the Tavistock (Devon) Board of Guardia instructed the medical officer to revaccinate, at his discretio all the inmates of the workhouse above 10 years of age. The Barnstaple (Devon) Board of Guardians on March 21 decided that all tramps must be revaccinated before bei admitted to the workhouse.

they may not be altogether unfair. Is it consistent with the dignity of the medical profession to give evidence upon medical situations in such circumstances? We would put this question to a lawyer, after first inquiring whether it is considered consistent with the dignity of a barrister or a solicitor to appear for the needy litigant in similar conditions—those, that is to say, of payment dependent upon success. We seem to have heard of service being rendered under some such conditions by the firm of DODSON and FOGG, but our recollection is that the procedures of these attorneys were narrated more for our warning than as patterns of right professional conduct.

Judge GREENHOW seems to think that the medical witness should distinguish some cases from others. We doubt if it would be right or prudent that he should do so. It is for the solicitor to judge of the facts of his client's claim. If the solicitor is satisfied that he ought to do his legal work as a work of charity, let him do so by all means. Let him then endeavour, if he pleases, to convince the medical practitioner and to persuade him to do the same. But in such a case let it be charity and not a question of fees dependent upon success. In the majority of cases we are satisfied that it forms no part of the duty of a medical man to judge the merits of a litigant's claim. That is for others to do. It is the medical practitioner's duty to give evidence as to the facts within his knowledge, while he is entitled to fees for the time during which he is taken from the professional labours upon which his livelihood depends. As a rule these fees are miserably inadequate to the value of the services rendered to justice and leave him a considerable loser upon the transaction. We not only disagree with the view taken by Judge GREENHOW, but we congratulate the members of the medical profession at Leeds who, we gather from his honour's observations, have taken a firm stand in the matter and have resolved that their action shall be uniform and consistent.

Annotations.

"Ne quid nimis."

NO MEANS OF ESCAPE.

WE are sure that if a practical inquiry were set on foot as to the extent of the provision generally made in the buildings of London for protection against fire an appalling conclusion would be reached. Unfortunately, as statistics show, it is not occasionally that painful demonstrations are afforded of the utterly inadequate precautions which are thus taken. Several lives have been lost recently in London fires because there was no way of escape. London is undoubtedly swarming on all sides with death-traps only ready to claim their victims when a fire has broken out. Everyone is aware of the difficulties which have to be faced when the question of the efficient protection of life shut up in buildings in a congested area is approached. But surely no great revolution would be necessarily suggested by proposing the adoption of some step or other for securing the better protection of lives from fire. For example, in probably the majority of buildings in London it is impossible even to escape to the roof and thence to gain a safe refuge on the adjoining premises. We know at least of one instance, that of well-known bank premises, in which the boundaries of the property are marked on the roof by ugly spiked fences. While it is true that even this way of escape is not easy it is certain that in a greater number of instances no such thing as a fire ladder is available. The percentage of fires, some urge, in relation to the number of buildings in the metropolis is so very small that such a provision for a way of escape would very rarely come into requisition. But when it does how painful and appalling the outcome can be is evident from the terrible results of the non-existence of any means of escape at a fire which occurred in the city on Monday last. The example is all the more remarkable since the fire broke out in broad daylight at 5 o'clock in the afternoon and within 300 yards of the chief city fire-station. The first call, indeed, came to the brigade by a messenger on foot. In spite of the proximity of the rescue station ten lives were sacrificed in this fire because there were no means of escape and because the rescue appliances could not reach the upper floors where several poor operatives were in danger The fire-escape was too short by a few feet to reach the floor which proved a fatal cul-de-sac to several poor girls. Some of them attempted to jump into tarpaulins which, it is said, were dragged from passing carts for the purpose and held by willing hands in the street below. Several were injured in this attempt. When the fire had been got under a search revealed at least half a dozen charred bodies amongst the ruins of the half-burnt floors. On the morning after the fire one of our representatives visited the scene and he states that the building was not a remarkably high one and not so high as thousands of others in London streets. The fire brigade authorities must be aware of the length of their fire escapes and they must surely also know the extreme height of the largest buildings in the metropolis and yet in this instance the fire escape failed to reach the top floor of the building We must admit that we are not in possession of all the facts of the case, but *prima facie* there would seem to be divulged in this occurrence a distinct and serious defect in the machinery of the brigade. We trust that a searching inquiry will be made as to this failure of the rescue apparatus. Even, however, when the fire-escape is long enough to reach the roof of a building it is not always possible to seek safety by its means. We consider that no system of escape is satisfactory which trusts to the fire-ladder of the firemen. Provision should be made for exits from all floors of a building in case of outbreak of fire. If permanent fire-ladders cannot be provided some means of communication should be afforded between the building involved and the one next to it, or lifts in inclosed tubes should be constructed or openings in the roof made and a free way from one roof to another opened up We have nothing but admiration for the work of the London Fire Brigade It possesses a splendid record, but in some circumstances it is evidently powerless to save life. It can prevent in a large measure destruction to property, but it seems to us that its chances of saving life are often beyond possibility. That is no fault of the officers of the fire brigade, but is attributable rather to a glaring and hideous defect in the construction of most London premises which calls for removal wherever it exists

THE FORTHCOMING INTERNATIONAL CONGRESS OF MEDICINE.

THE Fourteenth International Congress of Medicine will be held in Madrid from April 23rd to 30th, 1903, under the patronage of their Majesties the King of Spain and the Queen Mother The President of the Congress is Professor Julián Calleja y Sánchez, the general secretary is Dr Angel Fernández-Caro, and the general treasurer is Professor José Gómez Ocaña. The chief regulations for the Congress, as at present decided upon, are as follows Members of the Congress shall be medical men, pharmacists, dentists, veterinary surgeons, and other persons working at branches of medical science, both Spaniards and foreigners, who have entered their names and paid their subscriptions. Other persons not connected specially with medicine, but who possess a scientific or professional title, may under the above conditions take part in the Congress. The amount of subscription is 30 pesetas (the official rate of exchange published in London on June 11th was 34.40), and this sum must be paid in before the opening of the Congress to the General Secretary, Faculty of Medicine, Madrid. A card of membership will then be delivered to the subscriber. Up to March 20th, 1903, the subscribers of various nationalities may pay their subscriptions to their own national committees, but after that date subscriptions must be paid directly to the general secretary at Madrid. The official languages of the Congress will be Spanish, French, English, German, and Italian Papers and other communications must be sent in to the general secretary before Jan. 1st, 1903, to be certain of having a place in the orders of the day, but communications may be made after this date, or even during the Congress itself, only they will in such case not necessarily be considered until after those which have been sent in previously to Jan. 1st have been dealt with. Papers sent in must be accompanied by a short abstract, which abstract will be printed and distributed among the members of the Congress.

SEATS AND SANITARY ACCOMMODATION FOR THE CORONATION.

Before it is too late we would urge upon all concerned the absolute necessity of providing adequate sanitary accommodation for the numerous stands where thousands of people will be "cabin'd, cribb'd, confined" during many hours on Coronation Day. In the ordinary course of nature it is obvious that at least a few of the many gathered together will feel indisposed. Some of the stands are within easy access of public lavatories, others are not. The County Council, which will dispose on its stands of some 7000 seats, is, we are pleased to hear, taking adequate measures. A number of portable earth-closets will be provided for the use of the spectators. At the War Office a special room will be set aside as a lady's lavatory, while the men will be able to reach the closets that exist for the use of the War Office clerks. Some other stands reared by private enterprise advertise that they have provided sanitary conveniences. But is this universally the case? We would strongly urge all purchasers of seats to make careful inquiries before concluding their bargains. If the public neglect this matter the speculators in seats are likely to be equally negligent and the results may be extremely distressing. Nor should the authorities be indifferent to this important question. The conditions, the circumstances, are altogether so exceptional that it is difficult to say whether there is any actual text in the law dealing with such an emergency, but in any case the spirit of the law fully meets the situation. No local authority would sanction the opening of a public assembly hall or theatre if lavatory accommodation were not provided. Yet the spectators on the Coronation Day are likely to be confined to their respective stands for a much longer period than is required to witness a theatrical performance. Therefore equally ample accommodation must be provided. Portable earth-closets are easily procured, and such high prices are paid for the seats that there is no excuse for the avoidance of this small extra expense. The borough councils are responsible for the condition of the stands in their respective districts. In conformity with, we believe, the Building Act they have to send inspectors round to see that the stands are substantially built and will not give way under the weight of the people they are destined to bear. Could not these inspectors be instructed also to make inquiries as to the sanitary accommodation provided, hinting at the same time that an indictment for creating a nuisance might ensue if the advice given were not followed. At Westminster Abbey especially we hope that proper measures will be taken, for we are informed that this was not the case at the time of the Jubilee celebration. But the matter in the main rests in the hands of the public. They will have to suffer if they do not make the necessary inquiries before they purchase seats.

THE ROYAL ARMY MEDICAL CORPS.

In a leading article that appeared in The Lancet of May 31st (p. 1546) we said that the new warrant for the Army Medical Service went a long way towards securing that state of army medical efficiency which we credited Mr. Brodrick with having earnestly had in view when undertaking to provide the army and the nation with the best medical service. At the same time we took the opportunity of recurring to a subject to which we had already frequently referred —namely, as to the position and rates of pay of medical officers whilst serving in India under the Indian Government. We were, of course, aware that this was a matter which did not come within the province of the War Office but was for the India Office to settle. It is very satisfactory to learn that the Secretary of State for India has now decided to approve of an increase to the pay of officers of the Royal Army Medical Corps below the rank of major while serving in India and also the issue of the charge allowances for senior medical officers of station hospitals there. As the increased facilities for professional study provided for in the new army medical scheme will necessitate an increase of the medical establishment we trust that Mr. Brodrick will see his way towards lessening the amount of foreign service which medical officers have had to perform as this has pressed heavily upon their service for some years past. The results of the competitive examination next month for the army medical service under the new conditions are awaited with much interest and curiosity.

CANCER IN INDIA.

We need not apologise to our readers for recurring to this subject, to which we referred in an annotation in The Lancet of May 31st, p. 1552, when noticing two excellent papers which had appeared in the *Indian Medical Gazette* for that month. The main interest of these papers consists in the fact that they are illustrative of the influence of local causes of tissue irritation in the history of cancer. We said that anyone looking over the tables of various forms of malignant disease (which in its broader sense may be taken as synonymous with cancer) compiled from the register of the General Hospital, Madras, for the past 10 years could not fail to be struck by the enormous number of native patients of both sexes admitted for carcinoma of the cheek, jaws, or tongue. Taken together these account for more than one-half of the total admissions. The frequency of carcinoma in this situation is, in the opinion of Captain W. J. Niblock, I.M.S., due to the chewing of "betel," a common habit in that country and indulged in by almost all classes of natives. "Betel" is made up of betel leaf, areca nut, and caustic lime (*chunam*) with certain condiments mixed together in varying proportions. Carcinoma of the cheek is particularly prevalent on the west coast—especially in Malabar—and this, again, is believed to be partly attributable to the fact that the betel used on the west coast for chewing contains a larger amount of caustic lime. As indicative, also, of the effect of continued local irritation as a forerunner of cancer it may be mentioned that no less than 201 patients were admitted for epithelioma of the penis, all of whom were Hindus. The non-occurrence of epithelioma in Mahomedans is ascribed to the fact that they are circumcised at a very early age.

whereas circumcision amongst Hindus is very exceptional and they are consequently more liable to suffer from any local effects arising from any retained and irritating secretions. It is also noteworthy of remark that in a table showing a total of 976 cases of cancer there were only 44 of the female breast. Turning to Dr. E. F. Neve's paper giving the results of "a decade of tumour surgery in the Kashmir Mission Hospital," we find that out of a total of 2020 tumours operated on more than 50 per cent. were malignant. Here again the results are illustrative of the action of some form of irritant on the particular area of the body affected. While there were only 29 cases of cancer of the female breast there were 363 of *kangri* "burn" cancer (epitheliomata). More than three-quarters of the epitheliomata were situated on the thigh, abdomen, or leg, and were clearly due to the irritation of a portable charcoal fire-basket (*kangri*) carried under the clothing in contact with the body. The result of this practice is first a burn and then irritation of the scar by heat, followed by an overgrowth of typical epithelioma, ulceration, and attendant glandular implication. It may be inferred from all that has been said that it is not to any blow or injury, but rather to the effect of an altered and perverted nutrition of tissue brought about by some chronic or recurring irritation that we must look for the source of cancer.

THE CHURCH ANTI-VIVISECTION LEAGUE AND HOSPITAL SUNDAY.

We have on previous occasions had to take the Church Anti-Vivisection League to task for issuing misleading circulars[1] and we have now had sent to us the following which we presume is being distributed to the clergy :—

> Church Anti Vivisection League,
> 14, Bonchurch road, Kensington, N.W., May, 1902.
>
> Reverend and Dear Sir,—On the approach of Hospital Sunday it has been for some time the habit as well as the duty of our League to press upon the attention of the clergy of London the tremendous responsibility which they incur by contributing offertories to the Mansion House Fund, while a very large portion of that fund is devoted to hospitals in whose medical schools tortures are inflicted on God's creatures with the sanction of the law, which, if committed elsewhere, would be visited with its severest penalties.
>
> Our League desires furthermore to draw your attention to the fact that not only does a very large portion of the money contributed by you go to the *indirect* support of animal torture, as well as of the system of experimentation on human beings, which is its logical and inevitable result; but that a small portion of the money which you venture to offer on the altars of that God of Love, before Whom not one sparrow is forgotten, is *directly* and avowedly employed in the torture of animals. It is true that this is a very small fraction of the total, but that does not alter the principle or the desecration of God's Altar therein involved.
>
> In addition to the solemn warning which we feel it our duty to record, our League has the more pleasing task of recommending a proposed hospital to which Christians need not scruple to contribute, and which will not try to reconcile two things so utterly opposed to each other that they are absolutely incapable of flourishing side by side—viz., Vivisection and Christianity.
>
> Yours obediently,
> Neville Dundas,
> Chairman, Church A. V. League Committee.

Can the League give us chapter and verse for any instance of experimentation, other than a trial of a new method of operating, on a patient in a British hospital as a result of vivisection? Can it, moreover, tell us in what hospital any portion of the Hospital Sunday Fund is, or has been, "*directly* and avowedly employed in the torture of animals"? From a notice of the proposed hospital inclosed with the above circular we learn that it will have an honorary medical staff of 26 members. Of these, as far as we can identify them by the current Medical Directory, we took eight at random. Of these eight one lives in London and, very inconsistently for a member of a staff of an anti-vivisectionist hospital, puts himself down in the Medical Directory as "Editor of Harvey on the Circulation of the Blood." Another of the eight lives in Norwood; another has apparently no qualification but the M.D. of Paris and hence is not on the Medical Register; the remaining five live in Gloucester (this one being a prizeman in physiology), Oxford, Bognor, Droitwich, and Falmouth. As the proposed hospital is to overlook Battersea Park the last-named gentleman will be a very hard-worked member of the staff. The proportion of clergy who take any notice of this misleading circular will be but small if any, but none the less it is disgraceful for a body which associates itself with the Church to issue such a document.

ANNUAL DINNER OF THE EPIDEMIOLOGICAL SOCIETY.

The annual dinner of this society was held at the Grand Hotel, Charing Cross, on June 6th, when the President, Dr. Patrick Manson, C.M.G., F.R.S., occupied the chair. Among those present were Dr. Theodore D. Acland, Dr. W. A. Bond, Sir Benjamin Brodie, Bart., Dr. H. T. Bulstrode, Dr. A. G. R. Cameron, Dr. C. Childs, Mr. J. Nield Cook (medical officer of health of Calcutta), Dr. W. H. L. Copeland, Dr. S. M. Copeman, Dr. W. H. Corfield, Dr. C. W. Daniels, Lieutenant-Colonel A. M. Davies, R.A.M.C., Mr. J. S. C. Elkington, Dr. W. W. E. Fletcher, Dr. J. S. Haldane, F.R.S., Dr. G. A. Heron, Dr. H. R. Kenwood, Mr. J. B. Lawford, Mr. C. P. Lucas, C.B., Dr. T. Glover Lyon, Mr. Shirley F. Murphy, Dr. J. T. C. Nash, Dr. A. Newsholme, Colonel J. Lane Notter, R.A.M.C., Dr. G. H. F. Nuttall, Dr. H. Franklin Parsons, Dr. Edward C. Seaton, Dr. P. Blaikie Smith, Dr. S. Squire Sprigge, Dr. E. J. Steegmann, Dr. S. W. Wheaton, and Dr. B. Arthur Whitelegge. In proposing the toast of "His Majesty the King" the Chairman referred to the great interest which the reigning monarch manifested in public health questions, notably the control of tuberculosis and cancer. The toast of "The Navy, Army, and Auxiliary Forces" was proposed by Dr. Theodore Acland and responded to by Colonel Lane Notter, R.A.M.C., the latter paying a high tribute to the humanity of our troops in South Africa. They possessed, he stated as a result of his recent extensive experience on the Enteric Fever Commission, a remarkable power of fraternising with the enemy when the actual fighting was concluded. Dr. Monckton Copeman replied for the Auxiliary Forces. The toast of "The Visitors" was proposed by the President-elect, Dr. W. H. Corfield, and responded to by Sir Benjamin Brodie, Bart. (a descendant of one of the founders of the society), Mr. C. P. Lucas, C.B. (Assistant Under-Secretary of State for the Colonies), and Dr. Squire Sprigge. Mr Lucas spoke in highly appreciative terms of the recent work which had been carried out in the colonies under the auspices of the Royal Society and by the London and the Liverpool Schools of Tropical Medicine and he assured the members of the Epidemiological Society that the work of preventive medicine had the warm sympathy of Mr. Chamberlain and of the Colonial Office. Such work would alone be worth all the support which could be accorded to it if only for the reason that it held out hope that the separation of husband and wife and of parent and child which residence in tropical climates so frequently necessitated, might in the future be less essential in consequence of improved sanitation in tropical settlements. The toast of "The Epidemiological Society" was proposed by Dr. Nuttall, lecturer on Preventive Medicine in the University of Cambridge, who, in the course of a highly interesting speech, referred to the enormous advances which were being made in epidemiological science, and he drew attention to the remarkable work which had been carried out in Havana in stamping out yellow fever Dr. Nuttall pleaded for a more united effort towards the study of disease by the epidemiologist, the bacteriologist, and the statistician. Disease had many aspects, and the more sides from which it could be approached the better. Dr. Patrick Manson, President of the society, in replying to this toast, touched upon the valuable papers which were read during the past session.

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[1] The Lancet, May 30th, 1896, p. 1506.

and he reported that the society had recently elected a large number of foreign and colonial secretaries from whom important contributions to the study of epidemiology might reasonably be expected. In urging the need for more extended epidemiological research in our vast colonial possessions Dr. Manson described in very happy terms the chaotic and untrustworthy condition of nomenclature and death certification in various parts of our empire. In announcing that the Council of the Epidemiological Society had decided to bestow its Jenner Memorial Medal, which was founded at the Jenner Centenary by public subscription, upon Dr. A. Laveran of Paris, the President referred to the peculiar gratification it gave him to occupy the presidential chair at a time when the medal was bestowed upon the discoverer of the plasmodium malariæ. As to the importance and far-reaching effect of Dr. Laveran's work there could be no question, and of all living epidemiologists none was more worthy of honourable recognition by the society than was Dr. Laveran. Dr. Whitelegge, H.M. Chief Inspector of Factories, proposed the toast of "The Chairman," which was most cordially received. Dr. Manson replied and proposed the health of Dr. Bulstrode, the joint honorary secretary of the society, who briefly responded.

THE DESTRUCTOR NUISANCE AT TORQUAY.

IN the issue of THE LANCET of May 17th, p. 1416, we commented upon the report of Mr. George E. Davis of Manchester, the expert employed by the Torquay Town Council to report upon the alleged nuisance caused by the destructor. Although the Town Council at the meeting on May 6th professed itself quite satisfied various residents were of opinion that the noxious smells still existed. At a meeting of the Destructor Committee held on June 3rd letters were read from Dr. Henry Humphreys and from the Misses Tapper complaining of smells caused by the destructor. Dr. Humphreys asked to be allowed to inspect Mr. Davis's report but the committee refused. Mr. Alderman Cumming said that in refusing the committee was following the instructions of the council, while the mayor, in reference to the question of publishing the report, is reported as saying: "This is one of those questions in which you must trust the committee. There is really nothing to keep back but it is not thought the best thing to do. The committee is acting upon legal advice." As far as we understand the committee recommends the council not to publish the report, whereupon the council tells the committee not to publish it, and when any inquiring ratepayer makes himself a nuisance committee and council act on the Spenlow and Jorkins principle. The mayor, however, revealed the true inwardness of the matter when he talked about "legal advice." The committee further resolved that persons complaining should send a special message to the chairman or the borough surveyor the next time they found cause for complaint. Dr. Humphreys, writing on June 7th, tells us that he acted upon this recommendation with the following extremely unsatisfactory result. He applied to the chairman. "I went at 9.30 one evening to fetch him, as our house for three hours had been pervaded with the smell as of a dirty blown-out paraffin lamp. Arriving at the house I found it dark and shut up and I failed to make anyone hear my ring. Writing the next day to the town clerk to ask when and where the gentleman was to be found I had to wait a fortnight before I got an answer. Hence the proposed procedure is likely to be very successful in causing further procrastination, which I suppose is really its object." It is, we think, evident that the nuisance is by no means abated and we advise the Town Council to publish the report, to take the ratepayers into its confidence, and to try to make the beautiful town of Torquay worthy of its reputation as a health resort and of the unrivalled scenery in which it stands.

THE MIDWIVES BILL.

ON Friday, June 6th, the House of Commons devoted several hours to the consideration of the Midwives Bill as amended by the Grand Committee on Law, when an important modification was introduced. For an amendment moved by Mr. Ambrose and seconded by Mr. T. P. O'Connor, aiming at the abolition of the Gamp, met with the approval of the House. As the first clause now stands a woman uncertified under the Act is not only prevented from assuming the title of midwife, but is also prevented from practising the habitual rôle of midwife for gain. This is an alteration in the Act which we have already stated to be necessary. The Home Secretary, however, took serious objection to the amendment and has almost intimated his intention to oppose it at a later stage. This attitude of Mr. Ritchie was not unexpected. For on Tuesday, June 3rd, when a deputation representing the Council of the British Medical Association waited upon him and urged that the Midwives Bill left the parturient poor still at the mercy of dirty, ignorant women, he replied to the effect that there was no obligation on the part of the Government to interfere. The House of Commons has now interfered, and it remains to be seen what the Home Secretary will do. In the House of Lords it will be within his power either to have the amendment struck out or modified, or to have the whole Bill rejected.

THE DEVELOPMENT OF THE UNIVERSITY OF LONDON.

PROFESSOR E. H. STARLING delivered at the University College, London, the Foundation Day Oration on June 5th, in which he discussed the University of London under the title of "The Building of the University." He pointed out that the skeleton of the University was already present. The supreme ruling body, the Senate, contained representatives of convocations, of the faculties of teachers, and of various public bodies, and was guided in academic affairs by the advice of boards of studies appointed chiefly from among the teachers in the University. According to the scheme advocated by Professor Starling there would be under the control of the Senate, but administered by local councils appointed by the Senate, four or more University centres In these centres the main teaching and research of the University in all faculties would be carried out. In addition to these centres there would be a number of schools of the University which would preserve their autonomy but would direct their teaching according to the requirements of the University. Such schools would be mainly post-graduate in character in that it would be their office to graft on the general training and method acquired within the walls of the University itself the special professional training necessary to fit men for the pursuit of medicine, law, commerce, or administration. Among such institutions would be the 12 medical schools attached to the great hospitals of London, the School of Economics and Commerce, and various training schools, and, it was to be hoped, the great legal corporations which had so far failed to grasp the extent of their responsibilities in the formation of a legal faculty of the University. In any policy decided upon it must be remembered that the whole object of the University was the improvement of the mental training of their fellow citizens and not the distribution of degrees. The possession of a London degree by any man should be a sign that he had received a thorough training and was an expert in the subject of his degree and was not a mere bundle of second-hand facts. It was vital to the welfare of the country that as many as possible of its inhabitants should have received a thorough university training and should be competent to use their brains in the solution of the new problems which must continually meet them whatever might be their trade or profession.

M. COMBES

WE welcome in the new Prime Minister of France a member of our own profession. M. Combes was born at Roquecourbe, in the Department of the Tarn, a little village of which the red bricks of its bridge contain the inscription, "This bridge was built here." There has been a little tendency in France to rally M. Combes on the almost unnecessary precision of his fellow townsmen. As a matter of fact, however, he has lived little in the district of his birth and is much better known in the Charente Inférieure which he has represented in the Senate since the year 1885. He is a *docteur es lettres* as well as a doctor of medicine and he was at one time on the point of taking holy orders. Theology was to him a congenial subject and he has not only contributed a number of articles on it to the *Revue Contemporaire* but he has also written an important book entitled "Psychologie de Saint Thomas d'Aquin." The present mental attitude of M. Combes is supposed not to be favourable to the domination of the State by the Church, and his advent to power is looked upon as the prelude to an increased rigour in carrying out the laws at present in force which were passed mainly to ensure the control of the religious houses. M. Combes has had a distinguished career. He has several times been Vice-President of the Senate, he was reporter on the law of secondary education, and president of the commission which inquired into the Associations—the inquiry which led to the passing of the rigid law for the control by the State of religious communities and which practically led to the departure from France of many of them. M. Combes has held office once and only once before, when he was Minister of Education in the Bourgeois Cabinet in 1895. The internal politics of France are naturally entirely beyond our sphere of interest, but that fact by no means lessens the pleasure we feel in the knowledge that one who has had the most excellent training of a medical education should have been selected for an office of great importance.

DOWN DISTRICT ASYLUM.

THE report of the resident medical superintendent of the Down District Asylum for the year ended Dec. 31st, 1901, is being prepared for publication. The patients admitted during the year numbered 115. The number discharged was 59 and the number who died was 55. The number remaining at the end of the year was 579. Of the 115 admitted 99 cases were attributed to physical causes, 12 to moral, and four indefinite. In only six cases was alcoholic intemperance an assigned cause, although in a very large proportion of cases attributed to a distant "heredity" alcoholic excess was undoubtedly the exciting or immediate cause. The system of discharging patients "on trial" continues to find favour with the public and to reduce the number resident, besides inciting the patient to establish his will-power. The majority of deaths were caused by phthisis, heart disease, or dysentery. The average cost of maintenance per head has increased from £24 1*s.* 4*d.* to £25 6*s.* 1*d.*, which is still below the average cost (£28 2*s.* 7*d.*) of the Irish asylums for the last recorded year. The superintendent thinks that it is important for every reason that the more acute and curable cases should be treated with the utmost liberality, in order that they may not become life-long burdens on the resources of the asylum, and he quotes the case of an aged maniac who recently died in the institution and who had passed 36 years in asylums, costing perhaps £900, and adds that it is possible that had the treatment in the acute stage been on more liberal lines he would not have cost a tenth of the sum and with a far different result. Owing to the increase of the asylum population an assistant medical officer had to be appointed.

THE CONTAMINATION OF FOOD BY ROAD AND BY RAIL.

IT requires no very searching inquiry to establish a very disgusting practice that goes on in regard to the carriage of vegetables from market gardens to London and provincial towns. From time to time complaints have arisen very properly as to the sources of contamination to which milk in particular is exposed in transit. In such a case the risk of contamination is not always obvious to the eye, but in the case of vegetables the risk is patent enough, as must have intruded itself upon the notice of any person gifted with the smallest faculty of observation. It is quite common knowledge that many, at any rate, of the market carts which bring vegetables to London do not leave London again empty. That fact alone is not disturbing, but when, as may be easily observed, the cargo of the returning carts is dung and sometimes offal and other filth only to be discharged once more in favour of vegetables without any attempt at cleansing, not to say disinfecting, it is time to protest and to stir up our sanitary authorities to insist upon strictly clean measures in this regard being observed. The same thing is true of railway trucks. Railway wagons employed for conveying filthy garbage into the country are sent back to London uncleansed and yet loaded with a consignment of all sorts and conditions of loose vegetables. No scientific investigation is needed to reveal the grave possibilities to health which such a slovenly and slipshod proceeding is likely to incur. Everybody must admit that it is disgusting and we earnestly commend all sanitary authorities to look into this matter and to put a stop to what can only be viewed as a flagrant and loathsome disregard for cleanly practices.

THE SOUTH AFRICAN CIVIL SURGEONS' DINNER

ON the evening of June 9th, at the Hotel Cecil, there was a reunion dinner of the civil medical men who have served in the recent war in South Africa. Sir Frederick Treves, K.C.V.O., C.B., presided, the principal guests being the Director General and the Deputy Director General of the Army Medical Service. After the toast of "The King" had been proposed by the chairman and duly received with musical honours Dr A. Conan Doyle proposed the toast of "The Imperial Forces." For the foe in the late war he had nothing but praise and he thought that England might well be proud of the victory which she had gained. The man, however, to whom they owed most was that humble unit whose name was never heard, but that was the man who carried the war through to a successful conclusion. Those who came in contact with him in hospital found him the same cheery creature there as he was when plodding along the path of duty and he ventured to state that there was not one medical man who had served in the war whose ideal of life had not been raised by a contemplation of that man's heroism. The toast, which was coupled with the name of Surgeon-General W. Taylor, C.B., A.M.S., the Director-General of the Army Medical Service, was drunk with enthusiasm. Surgeon General Taylor, in his reply, referred to the great self sacrifice of the men, many of whom gave up positions of affluence to help their country in the time of need, some of them even sacrificing their lives in their country's cause. The civil branch of the profession had seen the work of the military branch in the field and had learnt something of the difficulties with which the men of the Royal Army Medical Corps had to contend. He hoped that the war would result in bringing together in closer touch the two branches of the profession. Surgeon-General A. H. Keogh, C.B., the Deputy Director-General, urged upon civil surgeons who had seen service in the war the wisdom of forming themselves into field hospital units, which he said had proved to be most important. During the evening, in reply to a message sent to him, the following answer was received from Lord Roberts who was dining in another part of the building: "Field-Marshal Lord Roberts begs to offer his best thanks to Sir Frederick Treves and the 100 civil surgeons from South Africa for their most welcome message of congratulation on the declaration of peace. All soldiers who served in South Africa will ever gratefully remember the valuable aid of the civil surgeons who so patriotically placed their services at the disposal of the State at a time of great emergency." Much praise is due to the honorary secretaries, Dr. F. E Fremantle and Mr. C Gordon Watson, for the successful way in which they carried out the arrangements for the dinner.

ALFRED HUGHES MEMORIAL AT KING'S COLLEGE, LONDON.

IN addition to the memorials which have been already established in Wales to perpetuate the memory of the late Professor Hughes his colleagues, friends, and students at King's College have also taken steps to keep him in remembrance. With the sum collected (£150) a suitable memorial tablet has been erected on the wall of the College chapel and the balance has been devoted to the foundation of an annual prize in books or instruments which will be called the Hughes Memorial Prize in Anatomy. The sad facts of Professor Hughes's death from enteric fever, contracted at Pretoria while he was engaged in superintending the Welsh Hospital there during the late war, will be fresh in the memory of our readers. All those who knew him need no reminder of his sterling character. Memorials such as those founded in Cardiff and at King's College will serve to keep his memory green and to point to those who come after the example of a great teacher and a sympathetic friend. A full list of the subscriptions will be published in the next volume of the King's College Hospital Reports.

A REMARKABLE RECOVERY FROM A BULLET WOUND OF THE BRAIN.

DR. THEODORE DILLER reports in the *Journal of Nervous and Mental Disease* for May a case of injury of the brain caused by a bullet wound which traversed the brain antero-posteriorly from forehead to occiput which is remarkable as showing the reparative processes of nature and the extent of injury which the brain may tolerate. The case was that of a boy who, at the age of 13 years, was wounded by a bullet which entered just above the middle of the right eyebrow and made its exit five millimetres to the left of the occipital protuberance. Unconsciousness followed the injury and lasted for three weeks. Hernia cerebri occurred at the site of the wounds and fragments of bone had to be removed before healing took place. When the patient regained consciousness he was found to be speechless and completely paralysed on the left side of the body. Speech, however, returned at the end of four or five weeks and the paralysed leg gradually regained some degree of power during the next three years. At the age of 24 years, 11 years after the injury, the patient seemed in good health. The brain could be felt pulsating beneath the cicatrices of the wounds. He exhibited no mental defect and was able to walk with a limp as the left leg was quite spastic. All power of motion in the left hand and forearm was absent but limited voluntary movement of the left shoulder was possible. There was marked contracture of the fingers of the affected hand and stereognostic sense—i.e., the capacity of recognising solid objects placed within the grasp of the fingers and with the eyes closed—was lost. There was partial paralysis of the left side of the face. All forms of sensibility were greatly diminished on the left half of the body, the anæsthesia being complete in the left hand and arm. The tendon reflexes on the left side were also much exaggerated. There was also present a left-sided hemianopsia. The sensory and kinæsthetic paralyses were due to a lesion of the sub-Rolandic region of the internal capsule, while the hemianopsia was attributable to destruction of the cuneus or of the optic radiations within the cerebrum.

LADS' DRILL ASSOCIATION.

THE Lads' Drill Association, of which the Prince of Wales is the patron, was founded in 1899 with the object of introducing systematic physical training into schools and forming cadet battalions and corps throughout the country. In this work the association has been very successful, and on June 7th an opportunity was given to the public of witnessing a display of physical training held under the auspices of the association at the Royal Albert Hall when the Prince and Princess of Wales were present. 12 squads, each squad consisting of 48 children from elementary schools in various parts of the country, assisted in the display. Colonel Fox, who, as our readers know, has done excellent work with regard to the physical training of army recruits, has advised and assisted in the preparation of the exercises. The address of the honorary secretary of the association is 4 St. Kilda, Ridgway, Wimbledon, S.W.

PREVENTIVE MEDICINE IN INDIA.

THE year 1900, for which the Annual Report of the Sanitary Commissioner with the Government of India is the last published report, forms the closing year of the century and advantage has been taken of the fact to call attention to the progress which has been made in the sphere of preventive medicine in India. Great as this has been there is no reason why it should not be still greater in the future with a more highly developed sanitary organisation and a more extended application of sanitary science than exist in India at the present time. The great difficulty that has to be surmounted in dealing with an Indian population arises from the poverty and inherited social, racial, and class prejudices of the masses of the most docile but conservative people in the world. Scrupulous in the performance of the rites of religion and daily life, which often, happily, are based on elementary principles of personal hygiene, they make little or no corporate effort and cannot understand or appreciate the object and meaning of our Western ideas and civilisation, all of which are foreign to their notions, and some of which are practically unsuitable to the climate and conditions in which they live. Nevertheless, the natives of India are educable and changes in this respect are, though slowly, being gradually brought about as time goes on. There are numerous medical schools and universities in that country, medical and sanitary knowledge is spreading more and more widely, and the native rulers are, speaking generally, animated by an intelligent philanthropy. It should not, moreover, be lost sight of that, as far as we are ourselves concerned, sanitation as now regarded is a thing of yesterday as it were. The subject of practical hygiene as applied to armies originated with those who took it up after the Crimean war, and our knowledge was subsequently systematised and consolidated by Parkes who laid the foundations of a school of hygiene and whose inspiration, to quote the words of the Sanitary Commissioner's report, "has descended upon successive bands of students unto the present day." What has been achieved in India in the past century will be best appreciated by taking some of the mortality ratios set forth in a table of the report which is the source of our information. Taking, then, the death-rates per 1000 of European troops we find that in 1800–30 these were 84·6; in 1831–56, 56·7; in 1861–65, 26·95; whereas in 1896–1900 the death-rate was only 16·52. Among native troops the death-rate in 1879–83 was 23·95 and in 1896–1900 it was 11·81 per 1000. In the jail population, whereas the death rate in 1833–54 was 70·7 per 1000, it was for 1896–1900 only 29·97. There is much interesting information to be gleaned from the survey of a century of medical and sanitary progress in India and the work done is highly creditable to the medical services of that country.

THE CORONERS' SOCIETY OF ENGLAND AND WALES.

THE annual banquet of the Coroners' Society was held at the Holborn Restaurant, London, on Thursday, June 5th, the President, Mr. Henry J. Robinson, coroner for Lancashire, being in the chair and a large number of coroners and their guests being present. Justice having been done to an excellent repast the President submitted the usual loyal toasts which were duly honoured. Mr. Henry White, the senior vice-president and coroner for Winchester, then gave "The Imperial Forces" coupled with the name of Colonel Mitchell, V.D., the senior volunteer officer in the Kingdom, who replied in an effective speech. The toast of "The Coroners' Society" was proposed by Mr. W. Goldthorpe, chairman of the county quarter sessions, Salford, who referred to the great and good work that was done by coroners in keeping down many of the serious evils which afflicted the community, especially instancing their efforts in the reduction of infantile mortality. He spoke of the antiquity of the coroner's office and of the great aid which coroners rendered to the State. Alluding to the subject of "combination" he remarked that there were some combinations, such as "trusts," of which everyone, of course, did not approve, but he thought there could be no question of the value of such a combination as the Coroners' Society both to coroners themselves and to the inhabitants of England and Wales. He concluded an interesting speech by paying a personal tribute to the work of the President of the society. Mr. Robinson, in responding, referred with much humour to the disputed question of "viewing the body" and with great seriousness to the evils which were encountered by coroners and which they did their best to repress. "Our Guests" was proposed by Mr. S. F. Butcher, vice-president and coroner for Lancashire, and acknowledged by Dr J. G Glover, Mr. R. Melville Beachcroft, L.C.C., and Mr. Noel Humphreys of the Registrar-General's Department, the last-named gentleman referring especially to the question of death certification. Amongst others present were Sir W. H. Hornby, Bart., M.P., Mr. Luke White, M.P., Mr. G. H. Radford, L.C.C., Dr. Danford Thomas, and Mr. Arthur C. Langham, the late treasurer, who was presented at the annual meeting with an illuminated address recording the thanks of the society for his valuable services and regretting his resignation. "The Officers of the Society" was given by Mr J. C. Malcolm, past president, coroner for Leeds, who made a feeling allusion to the loss so recently sustained by the society in the death of Mr. Braxton Hicks who was not only a vice-president of the society but their most indefatigable and valued secretary. He also referred in appreciative terms to Mr. Walter Schröder, deputy coroner for Central London, in acceding to the request of the society to undertake the duties of honorary secretary in a time of difficulty. The toast was replied to by Mr. Schröder, the newly-appointed secretary, who said that although up to that morning when he attended the Council meeting he had not intended to accept the office of secretary, when he found that 19 of the council had come down to nominate him and several of the remaining seven had written to the same effect and then at the annual meeting in the afternoon the members were unanimous in repeating the request, he felt he could not refuse such an honour but must accept the office at all events temporarily. He also paid a graceful tribute to the memory of Mr. Braxton Hicks. Mr. G. Percival Wyatt, coroner for Southern London and Surrey, the newly appointed treasurer, also briefly replied. A programme of excellent vocal music added to the enjoyment of a very pleasant evening.

THE PREVALENCE OF SMALL-POX.

THE figures showing the number of patients admitted to the hospitals of the Metropolitan Asylums Board for the past week are as follows.—On Saturday, June 7th, there were 19 fresh cases; on Sunday, the 8th, there were 17 fresh cases; on Monday, the 9th, there were 42 fresh cases; on Tuesday, the 10th, there were 18 fresh cases; and on Wednesday, the 11th, there were 17 fresh cases. In the county of Essex there were during the month of May 162 cases of small-pox notified to the sanitary authorities and for the week ending June 7th there were 33. A useful leaflet has been issued by Dr. J. C. Thresh, medical officer of health for the Chelmsford Rural District, giving an account in plain, simple language of the early symptoms of small-pox and pointing out the desirability of calling in medical aid when any of these appear. A list of the public vaccinators is given and it is noted that revaccination may be obtained free of charge.

MENSTRUAL ERUPTIONS RECURRING IN SITU.

AMONG the rarer phenomena which have been observed to recur in conjunction with menstruation are eruptions such as herpes labialis, an erysipelas-like eruption of the face, erythema circinatum on the backs of the hands, fugitive erythema elsewhere, and purpura. At the meeting of the Société Médicale des Hôpitaux of Paris on May 23rd M. Henri Dufour described the following interesting case. A healthy but very nervous married woman, aged 42 years, had at every menstrual period for five years an eruption of round nummular erythematous spots which recurred *in situ*. The first spot appeared on the right side of the neck, was exactly circular, and attained the size of a two-franc piece. It always recurred *in situ* and was accompanied by five or six satellites which appeared later. At the three last periods a similar spot had appeared at the bend of the right elbow and at the end of the last period a spot had appeared for the first time on the back of the left hand. After some days the spots gradually lost colour. In the intervals between the periods slight pigmentation indicated the sites of eruption and in some places this disappeared entirely. The spots appeared the day before menstruation. Their evolution occupied eight days and they were accompanied by considerable smarting. At the onset they were accompanied by malaise, a febrile state, and headache. For some months the patient had noticed a disagreeable odour from the menstrual blood. Vaginal examination was negative. M. Dufour thinks that the recurrence of the eruption *in situ* is determined by the existence of a previous lesion on which the neuro-vascular phenomena of menstruation act electively. A little further development of the morbid process would cause hæmorrhage from the skin and the occurrences of similar spots on the mucous membranes would probably result in hæmorrhage. Hence the case furnishes a key to the explanation of vicarious menstruation and tends to show that in cases of this phenomenon there is a preceding lesion of the part which is its seat.

The disagreeable odour of the menstrual blood in the case related above suggests that the eruption was a toxic effect in connexion with menstruation. In the discussion which followed M. Barié referred to a case of "yellow catamenial chromidrosis" which he had described.[1] Two days before menstruation one hand became painful; then it became covered with large dark-brown spots which were especially marked near the middle of the dorsal surface and on the median part of the palmar surface of the first two fingers. This phenomenon was so regular that the patient could foretell the appearance of menstruation 48 hours before. The chromidrosis lasted 12 or 24 hours and then disappeared. The right and left hands were alternately affected with perfect regularity.

A DINNER OF OBSTETRICIANS AND GYNÆCOLOGISTS.

ALL medical practitioners interested in obstetrics and gynæcology are cordially invited to attend a dinner to be held on June 24th, at 7 P.M., at the Whitehall rooms of the Hotel Métropôle, under the chairmanship of Sir John Williams, Bart. On the same day, at 4 P.M., at 20, Hanover-square, in the rooms of the Royal Medical and Chirurgical Society, a reception will be held by Sir John Williams, Dr. Peter Horrocks, President of the Obstetrical Society of London, and Dr. Halliday Croom, President of the British Gynæcological Society. Application for the dinner tickets, price £1 1*s.*, should be made to Dr. Eden, 26, Queen Anne-street. A highly representative and influential list of stewards has been secured.

COMPULSORY INSTRUCTION IN THE ADMINISTRATION OF ANÆSTHETICS.

THE announcement that the Society of Apothecaries has included anæsthetics among the subjects in which it requires students to receive instruction before proceeding to its examinations is one step further in the direction of the general adoption of this necessary precaution. The Royal College of Physicians of London and the Royal College of Surgeons of England have already made anæsthetics a necessary part of the curriculum upon which they insist and the Board of Advanced Studies of the University of London has advised the Senate of that institution that a course of instruction in the administration of anæsthetics should be scheduled among the compulsory courses demanded from candidates for the M.B., B.S. degree. The General Medical Council was, we believe, approached by the Society of Anæsthetists some time since and petitioned to render a course of anæsthetics an essential in every curriculum before it was acknowledged as competent to ensure registration. The Council, it is to be regretted, has preferred to lag in the rear of the corporations rather than at once to take the leading position and to insist upon a reform which has commended itself to thoughtful practitioners for some years. That it is desirable that all students should be thoroughly taught the general uses of anæsthetic agents and not merely be instructed by seeing a senior hospital officer habitually employ one anæsthetic by some routine method seems too much of an axiom to need pressing home. We fully recognise the immense service which experimental physiologists and chemists have done in forwarding our knowledge of anæsthetics, but it is indisputable that unless the knowledge so acquired can be applied by the hospital teacher to the needs of the students little benefit will accrue to the public. It is only the exceptional student who reads monographs upon the physiological aspects of anæsthetics, and the man who needs most instruction is not the exceptional student. The average aspirant for a pass qualification contents himself with a hasty reading of a few paragraphs in the book upon pharmacology which he studies and makes little more effort to acquire a practical knowledge of anæsthetics. Now, however, that the corporations have adopted this forward step and insist upon a course of instruction in anæsthetics the responsibility of making that course at once practical and yet including in its purview a *résumé* of the very large amount of theoretical knowledge which has within the past 50 years been accumulated must rest with the hospital authorities and ultimately with the teachers. It will in the future become the duty of election committees of hospitals when appointing an officer whose duties include the direction of the department of anæsthetics to consider, not only the skill of the candidates as expert anæsthetists, but their knowledge and ability to impart both the knowledge and its practical application. This responsibility is one of no slight kind and involves far-reaching consequences as far as the general public and the reputation of the profession are concerned.

SANITARY PROGRESS IN THE GOLD COAST COLONY.

BY the application of the first principles of sanitation there is no doubt that much can be done to make the Gold Coast country a place where white men can live and work. Of course, the existence of a good supply of fresh spring water for drinking purposes which can be kept untainted by the drainings of the swamps is an enormous advantage. Such an advantage is possessed by Mantraim Wassau. The medical officer of this place has just published his first half-yearly report upon the health of the inhabitants and the report contains some very interesting particulars in regard to medical administration and the ailments peculiar to the district. We understand that the Government of the Gold Coast Colony is now attempting to obtain accurate statistics concerning the health of the white population and has issued printed forms to be filled in quarterly by the managers of mines and others giving information as to illness and deaths with their causes. One drawback to the district is that the land is practically uncultivated and the supply of good food is deficient. It is hoped by the establishment of experimental plots that the food-supply will become more plentiful and more interesting. At present tinned foods are the chief resource, although native fowls, mostly bone and skin, may be had for a few shillings, and occasionally a very small sheep is purchasable but the mutton is usually tough and tasteless.

FRACTURE OF THE FIFTH METATARSAL BONE.

SKIAGRAPHY is rapidly modifying the current teaching in regard to fractures and revealing the fact that lesions which are common have been previously overlooked. In the *Liverpool Medico-Chirurgical Journal* for March Mr. Robert Jones points out that fracture of the fifth metatarsal bone is apparently common though it does not seem to be mentioned in surgical literature. He relates a number of cases which he saw within a few months after sustaining this fracture himself. Case 1.—Whilst dancing vigorously he trod on the outer side of his foot, his heel being off the ground. Something gave way and he suspected that the peroneus longus was ruptured. With the help of a friend he managed to walk 300 yards. Next morning there was slight swelling over the base of the fifth metatarsal bone and pressure on the spot was exquisitely painful. Crepitus could not be obtained. The slightest pressure of the weight of the body on the toes was painful, and when the pressure was thrown on the outer side of the foot the pain was still greater. Extension of the ankle and flexion of the toes were immediately felt at the base of the fifth metatarsal bone. Radiography showed fracture of the fifth metatarsal bone about three-quarters of an inch from its base. Case 2.—A man, aged 30 years, while fishing and stepping from stone to stone placed the whole weight of his body upon the inverted foot. He felt something crack in the ankle and limped home. Radiography showed the same fracture. Case 3.—A man, aged 54 years, in running to catch a train twisted his ankle. He could walk by placing pressure on the heel and inner side of the foot alternately. There were swelling and ecchymosis over the base of the fifth metatarsal bone but there was no crepitus. Radiography showed the same fracture. For many years Mr. Jones has observed cases with similar symptoms and suspected a fracture without being able to prove its existence. The symptoms are pain when the patient endeavours to put pressure on the toes or inner side of the foot and when he flexes the toes or attempts to invert the ankle. The seat of fracture is swollen and tender. There is generally no crepitus, deformity, or yielding on manipulation.

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[1] Annales de Dermatologie et de Syphiligraphie, Dec. 25th, 1889, No. 12, p. 937.

DISTRIBUTION OF PLAGUE.

THE weekly return of the Director General of the Sanitary Department in Egypt shows that for the period from May 19th to the 25th there were 53 cases of plague in hospital, 22 of which were admitted during the week under notice. All the patients were of the native population.

THE LONGEVITY AND CAUSES OF DEATH OF THE INSURED.

A VALUABLE contribution on the longevity and the causes of death in those insured in the Scottish Widows Fund has been published recently by Dr. Claud Muirhead, the medical referee to the company. During the period of 21 years covered by the report—viz., from 1874 to 1894 inclusive—the total number of deaths among policy holders was 9791 and of these 9163 comprised males—nearly all being of English, Scotch, and Irish nationality in descending order of frequency. A number of interesting conclusions were reached from a careful study of the data collected concerning these cases. "Consumption," says Dr. Muirhead, "carried off our younger members in largest number, the average age at death being 42 years and during the 21 years under observation the mortality from it has happily been annually decreasing." On the other hand, cancer affected, it would seem, those of advanced years by preference, the average age at death being 60 years. The mortality from cancer among the assured seems to have been steadily on the increase during the period covered by the report. Of the total number of deaths 1273 were due to cardiac disease, 806 to phthisis, 799 to apoplexy, 667 to pneumonia, 539 to cancer, 461 to bronchitis, 454 to old age, 452 to diseases of the liver, 400 to renal disease, 175 to enteric fever, and the rest to other causes. It is interesting to note that suicidal deaths occurred in 127 cases—viz., 32 cases in the period 1874 to 1880 inclusive, 45 in the period 1881 to 1887, and 50 in the period 1888–1894. 17½ per cent. of all the suicides occurred within the first five years of assurance—viz., 7 per cent. in the first year, 3 per cent. in the second year, and the rest in subsequent years. Old age was given as the cause of death in 454 cases, or 5 per cent. of the total mortality, the average age at death being in these cases 81 years. Nervous diseases carried off 1767 persons, cerebral apoplexy being responsible for 799 deaths while the remaining 968 were due to other nervous diseases. The steadily increasing mortality from cancer among the assured points to the view that an increasing number of persons with a predisposition or tendency to cancer is to be found among the assured from year to year.

LORD ROBERTS will preside at the annual distribution of prizes to successful students of the St. George's Hospital Medical School in October next. It is anticipated that the occasion will see a considerable muster of old St. George's men who have been doing service in South Africa during the recent campaign.

THE distribution of prizes at the Charing Cross Medical School was made on Wednesday last, June 11th, by Sir Frederick Treves who testified to the excellent work that had recently been done by gentlemen attached to the school.

THE Glasgow University Club (London) will hold a dinner at the Trocadéro Restaurant on Tuesday, July 1st, at 7 P.M., under the chairmanship of the Very Rev. Principal Story. Ladies may be introduced as guests.

A MEETING of the Society for the Study of Disease in Children will be held on Saturday next, June 21st, at Manchester.

DR. F. W. HEWITT, anæsthetist to H.M. the King, has been appointed physician anæsthetist to St. George's Hospital.

Pharmacological Notes.

GUAIACOL PHOSPHATE.

F. G. EHLERT[1] describes guaiacol phosphate as existing in white, crystalline plates, devoid of taste or odour, insoluble in dilute alcohol, water, or oils, but freely soluble in chloroform and in strong alcohol. As to its therapeutic properties guaiacol phosphate passes through the stomach unchanged and is resolved into its components and absorbed in the intestines. It is eliminated principally in the urine. It is said to be much less toxic than either creasote or guaiacol as such and to exert a similar influence to that of these two drugs in cases of tuberculosis, typhoid fever, and other diseases. It contains 89·4 per cent. of guaiacol and is given in doses of from 1½ to 4 grains from three to four times a day.

DIGITALIS GRANDIFLORA.[2]

The galenical preparations of digitalis in the past have been derived exclusively from *Digitalis purpurea*, but the idea occurred to M. Golaz to prepare a dialysed extract of *Digitalis grandiflora*, which was found by Professor Kunz-Krause to contain 0·1348 per cent. of glucoside. The latter has attributed the action of *Digitalis purpurea* to digitoxin and digitalin (so named in Switzerland and in Germany, but known as *digitaleine* in France). Professor Kunz Krause finds that *Digitalis grandiflora* contains no digitalin and owes its activity to digitoxin, probably on that account it is more therapeutically active than is *Digitalis purpurea*. Dr. Schwarzenbeck considers it to be an excellent cardiac remedy. Professor Sahli (of Berne) and Professor Unverricht (of Magdeburg) have the same opinion. It would be useful to have further comparative experiments made as to the relative values of digitalin and digitoxin, since the question has not yet been definitely settled as to which of these glucosides is the more active.

THE COMPARATIVE VALUE OF THE PRINCIPAL SOLVENTS OF URIC ACID.

A. Vicario has recently published[3] an account of his researches on the relative solubilities of the various salts formed by the combination of uric acid with such substances as are employed for its removal from the human system. Besides the salts of the alkaline metals he has employed the newer organic bases—e.g., lysidine (methyl glyoxalidine), piperazine (diethylene-di imine), and formine (hexamethylene-tetramine), and their salts, lycetol (di methyl-piperazine tartrate) and sidonal (piperazine quinate). The results are of extreme interest and value. The neutral urates of potassium, sodium, and lithium are very soluble, but their instability, as is well known, hinders their formation in the system. Moreover, their solubility is notably inferior to that of lysidine, of di-methyl-piperazine, or other organic urates. The acid urate of calcium is less soluble at 37° C. than at the ordinary temperature and, contrary to the other mineral urates, is more soluble than the neutral urate of the same element. The acid urate of potassium is more soluble than that of sodium or even of lithium. It may be concluded that potassium bicarbonate would be a better solvent of uric acid than sodium bicarbonate or lithium carbonate. At a temperature of 37° C. (1) the acid urate of lithium is one and a half times more soluble than the acid urate of sodium; (2) the urates of urotropine and of piperazine are eight times more soluble than lithium urate; and (3) lysidine urate is 20 times, and di-methyl-piperazine 23 times, as soluble as lithium urate.

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[1] Pharmaceutical Review, vol. xx., No. 1, p. 112.

[2] Schweizerische Wochenschrift für Chemie und Pharmacie, March 29th, 1902, p. 143.

[3] Les Nouveaux Remèdes de Pharmacologie, March 24th, 1902, p. 125.

THE THERAPEUTIC EFFECTS OF DORMIOL.

MM. Besançon and Dumont[4] contribute an account of the therapeutic effects of dormiol. This compound, di-methyl-ethyl-carbinol chloral, is chloral modified by the addition of certain ethereal radicles, experience having proved that in certain products, notably the sulphonals, the introduction of these radicles develops to the utmost the hypnotic properties of the parent substance. Dormiol is an eminently hypnotic compound. It is a colourless liquid with a fresh taste and an odour resembling that of menthol. It is more hypnotic and less toxic than chloral. Its action is rapid and is not prolonged after the desired sleep has been obtained. This property renders dormiol superior to chloral and, above all, to sulphonal and trional, which provoke a sensation of heaviness and headache on the day following their administration. According to M. Besançon dormiol may with advantage replace chloral in cases of intractable insomnia, whether of neurasthenic or hysterical origin or due to alcohol. In spite of large doses of dormiol (45 to 60 grains) which have been given on several occasions these investigators have never observed any disorder either of the circulation or the respiration, and—a point of importance—have never observed the appearance of erythema, a not uncommon concomitant in the case of chloral. The sleep produced by dormiol is calm and free from nightmare; the awakening is normal and is unaccompanied by nausea or headache. Dormiol may be given in doses of from 15 to 60 grains in a draught composed of water and syrup.

SALICYLIC OINTMENT FOR SOFT CHANCRE.

E. Szanto[5] employs for this malady an ointment composed of salicylic acid one part, tincture of benzoin two parts, and soft paraffin 30 parts. The results are said to be excellent.

SUCCINIMIDE OF MERCURY IN SYPHILIS.

K. Horowitz of Vienna[6] recommends the use of succinimide of mercury in all forms of syphilis. It is a white powder soluble in hot water and may be made into solution and kept in bottles holding enough for one injection. Cocaine is added to prevent pain during the injection which should be intra-muscular. The solution contains succinimide of mercury 38¾ grains, cocaine hydrochlorate 15½ grains, distilled water 775 grains; it is filled into bottles each holding about three quarters of a grain of the mercury salt and about one third of a grain of the cocaine salt.

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[4] Ibid., p. 131.

[5] Wiener Medicinische Presse, No. 37.

[6] Centralblatt für Therapie, quoted in Nouveaux Remèdes de Pharmacologie.

THE medical golf tournament was held on May 25th on the fine links of the Northwood Golf Club. There was a good entry of 76, almost equally divided between the two handicap classes. In the first division Dr. G. A. Sutherland, in receipt of five strokes from Bogey, returned the good score of all square and took the first prize, Dr. Percy Kidd and Dr. Vassie tying for second prize with two down. For the best result *v.* Bogey in the last nine holes Mr. Percy Furnivall, last year's winner, was a good first with one up on the "Colonel." In the second division, so good was the handicapping, three gentlemen tied with four down—viz., Dr. Seymour Taylor, Dr. A. Densham, and Dr. G. F. Buzzard. Bogey was beaten in the last nine holes, Dr. Andrew being one up and securing the prize. Dr. Densham was the winner on playing off the tie. A good entry for the Foursomes *v.* Bogey resulted in a win for Dr. Percy Kidd and Mr. Rolf Creasy at four down.

OBSERVATIONS ON DIET.

By HARRY CAMPBELL, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL; PHYSICIAN TO THE WEST-END HOSPITAL FOR NERVOUS DISEASES, WELBECK-STREET, W.

III.—QUANTITY OF FOOD (*continued*).[1]

Safeguards against Over-eating.

Vomiting.—Sometimes an overloaded stomach relieves itself by disgorging its contents.[2] So-called "bilious vomiting," to which some are periodically subject, may also act as a safeguard against chronic excesses in eating. Attacks of this kind are generally associated with headache, and are, in fact, megrimous; they benefit not only by their mechanical effect on the liver—which effect, it is needless to say, may be very considerable—and by ridding the system of so much noxious material, but by securing a period of starvation, often for an entire day. Megrim may in this way be a blessing in disguise; but the attacks tend to diminish with advancing years and frequently disappear altogether by the time the degenerative period is reached—that very time, namely, at which a periodic fast is most likely to be of service. Not megrim only, but any kind of illness, may benefit by compelling abstinence and affording the organism at least a temporary respite from prolonged excesses. The gouty man gets his periodic upsets, which necessitate a break, however short, in his habitual indulgence, and there are few, even among those who live most carefully, who do not have their occasional bouts of "seediness," in which the appetite flags and less food is taken than usual. Even the gravest illnesses, such as enteric fever and cholera, may in this way be blessings in disguise. I have seen some remarkable instances of chronic dyspeptics entirely cured of their indigestion and improved in their health generally by a long and severe illness. No doubt part of the good effect may in some of these cases be due to the specific influence of the disease, and part to the prolonged rest which it entails, but it is at least highly probable that part also is attributable to the careful dietary and possibly partial starvation which the patient may have had to submit to.

Fasting.—I may refer in passing to the salutary effects, physical as well as mental, of religious fasting. One day's abstinence from meat in the week represents more than seven weeks' abstinence in the year, and more than 10 years out of 70.

I am tempted to digress for a moment here in order to draw attention to the difference between the effects produced by the continuous and the interrupted action of a morbid agent. The evil effect is always worse in the former case. As with drinking so with eating, it is the steady, uninterrupted, day-by-day excess which is so injurious, when the organism is allowed no respite, no opportunity of recovering itself, from the injury inflicted. A harmful practice which indulged in for a short time may cause no appreciable permanent injury may, if steadily persisted in, lead to serious evil. It is the old story of the drop of water and the stone. It is well known that drunken bouts, provided they are separated by fairly long intervals of complete abstinence, may work little lasting harm, and that it is the habitual sot who never gets drunk but who is never quite sober who suffers most from the effects of drink. Even small quantities of alcohol continued daily for years may be pernicious. A patient perhaps assures us that he drinks very little, but when the total yearly quantity is reckoned up it will give a surprisingly large amount. Even so moderate a quantity as two glasses of whisky a day totals 60 bottles in the year and 600 bottles in 10 years, and when it is reflected that the whole of this has to go through the liver, the dullest will perceive that there is plenty of opportunity for that organ to be damaged by the daily consumption of two glasses only and that an occasional abstinence for a few days, or even a day, would probably be beneficial. And what is true of alcohol is true also of tea, coffee, and tobacco, all of which tend to act injuriously and also of certain articles of diet, such as

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[1] Nos. I. and II. were published in THE LANCET of May 24th (p. 1486) and 31st (p. 1554), 1902, respectively.

[2] The Romans, as is well known, used voluntarily to induce emesis to enable them to prolong their gluttonous repasts.

The Milroy Lectures

ON

THE ETIOLOGY OF TYPHOID FEVER AND ITS PREVENTION.

Delivered at the Royal College of Physicians of London on Feb. 20th, 25th, and 27th, 1902.

BY W. H. CORFIELD, M.A., M.D. OXON., F.R.C.P. LOND.,

PROFESSOR OF HYGIENE AND PUBLIC HEALTH AT UNIVERSITY COLLEGE, LONDON; CONSULTING SANITARY ADVISER TO HIS MAJESTY'S OFFICE OF WORKS.

LECTURE II.[1] (*concluded*).

Delivered on Feb. 25th, 1902.

I NOW come to instances of outbreaks of typhoid fever which have been traced to the pollution of streams and rivers supplying drinking-water. Early in the "seventies" I traced a severe outbreak of about 180 cases of typhoid fever which occurred in the fishing village of Mevagissey (Cornwall) to the contamination of the stream running through the village by the excreta of a typhoid fever patient who had come there during an early stage of the disease.

In 1882 Dr. F. W. Barry reported on an extensive outbreak of typhoid fever at Bangor and its neighbourhood. He showed that this outbreak was due to an "*extremely well-marked case of enteric fever of a severe type* which occurred at a place called Llwynrhandir. The medical officer of health directed the inmates to bury all excreta, &c., and this they promised to do. From information, however, obtained from credible witnesses," says Dr. Barry, "I am convinced that nothing of the kind was done until a considerably later period when no doubt the discharges from this particular patient were buried in the garden. *The slops and washing water from this house are thrown into a sink at the back and pass by means of a covered rubble drain along the back of it and the house adjoining, where it discharges into a small rapid stream, which in its turn is conveyed as far as the boundary wall of the garden in a similar covered drain, and is thence conducted by means of an open ditch direct to the river Gaseg, into which it discharges at a point about 350 yards above the intake of the Bangor water-supply, the whole distance from the house to the intake being about 700 yards.* Upon removing some of the stone covers from a portion of the stream near the house a most offensive smell was perceived. The stream has an exceedingly rapid flow, so much so, indeed, that some whitewash which I poured into the sink behind the infected house could be traced for a considerable distance towards the Gaseg. It will thus be seen that there is a direct communication between the infected drain at Llwynrhandir and the small stream from which the Bangor water-supply is drawn and in this manner no doubt infected matter found its way into the filtering reservoir. The privy at Llwynrhandir is of the ordinary cesspool type; the pit is, however, below the level of the drain already referred to. As to the capability of the filtering material in the filtering beds at the waterworks for destroying or preventing the passage of infective matter we know little, and here the question need not be considered, because I found that from the presence of old defective plugs in the filters themselves fully a third of the water was passing direct into the watermain without any filtration whatever. The filtering sand has not been renewed for a great number of years, although I understand that it undergoes a certain amount of cleansing from time to time. I was further informed by the clerk to the urban sanitary authority, who is also the waterworks manager, that from the peaty character of the water the filters frequently become clogged, and at such time the water cannot be filtered rapidly enough to meet the demand, hence the water is passed into the mains without any attempt whatever at filtration. Here, then, we have established a direct means of communication between the consumers of water and the specifically poisoned contents of a drain at Llwynrhandir; further, we have cases occurring simultaneously miles apart from one another which, with the exception of the water-supply, had no circumstances in common, there being also an entire absence of cases in houses not so supplied. I have, therefore, now no hesitation in attributing the primary spread of the disease to the water-supply."

After describing the course of the outbreak he concludes as follows: "Taking all the facts of the case into consideration, it is my opinion that the water-supply became specifically infected to a slight degree on or about May 22nd, and that this pollution continued until the end of June. That this continuous slight pollution accounts for the dropping nature of the cases up to July 7th. That the special outbreak in the second and third weeks of that month was due to the communication of infected matter in a concentrated form owing to the disturbance in the reservoir and filter-beds, resulting from the accident to the main on June 30th. Finally, that a certain number of the cases which have occurred from the end of the first period to the present time are due to the direct introduction of infected air from the sewers into which the discharges from cases of enteric fever had been received" (Twelfth report of the medical officer to the Local Government Board for 1882.)

An outbreak at Mytholmroyd (Yorkshire) in 1888 was attributed by Dr. Page to pollution of the river Calder by the sewage of towns higher up its course. In 1891 Dr. Hubert Airy prepared a most important and comprehensive report on the Outbreaks of Enteric Fever in the Valley of the River Tees in 1890–91, in which he showed that these outbreaks were especially amongst the users of water from the river for domestic purposes, thus "it was found that the rate of attack from enteric fever per 10,000 living during the first six weeks' epidemic had been 33 amongst persons supplied by the Tees water, and three amongst persons supplied with other water; whereas in the second six weeks' epidemic the rates were 28 and one respectively. Indeed, during the two periods together for every single person who contracted enteric fever amongst the population not using the Tees water 15 contracted it amongst those who were supplied from the river." This river was liable both habitually and still more during floods to fouling by human excreta and other filth from the town of Barnard Castle and some 20 villages and hamlets. Commenting on this the late Sir R. Thorne remarked: "Over a wide area covering 706,020 acres, or 1103 square miles, and containing 503,616 inhabitants, enteric fever has for years past been unduly prevalent. Within this area, where the infective material is thus constantly ready to hand, there occur in 10 sanitary districts, covering 117,404 acres, and containing a population of 217,363, two marked and sudden outbursts of enteric fever, each of large amount, the remaining area meanwhile exhibiting, as regards its constituent sanitary districts, comparatively insignificant 'fever' rates. One of the outbursts is at a time of year when, apart from some exceptional and unusual factor, enteric fever is not apt to prevail in epidemic form in this country. Within the sanitary districts invaded by the two epidemic prevalences some localities suffer heavily whilst others escape exceptional incidence to the disease. One factor alone is found to be common to the places thus suffering exceptionally from enteric fever and this is the use of water pumped from the river Tees. This river is found to be at all times subject to conditions of the grossest fouling by reason of the fact that human excreta and other filth are knowingly and deliberately conveyed to it. Opportunities for the access of the specific material of enteric fever to the river had been constantly recurring. And immediately antecedent to the epidemic outbursts sudden floods washed vast masses of the filth which had been accumulating on the banks of the river down the stream up to and past the points of intake from which the water was being pumped and, after filtration through sand and gravel, delivered to certain populations. These populations it was who suffered from the two exceptional prevalences of enteric fever. Seldom, if ever, has a case of the fouling of water intended for human consumption, so gross or so persistently maintained, come within the cognisance of the medical department, and seldom, if ever, has the proof of the relation of the use of water so befouled to wholesale occurrence of enteric fever been more obvious and patent." (Report of the medical officer of the Local Government Board for 1892–93.)

In 1891 Mr. E. L. Jacob traced an outbreak of 25 cases at Catteshall Paper Mills, near Godalming, to the temporary use of the water of the river Wey for drinking. "At one of the meat and eggs, which may with advantage be abstained from occasionally.

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[1] Lecture I. and the first portion of Lecture II. were published in THE LANCET of March 22nd (p. 793) and April 5th (p. 942), 1902, respectively.

Hæmorrhages.—Spontaneous hæmorrhage from the nose, rectum, &c., may relieve the plethora resulting from over-eating. Whether or not—and the point is a moot one—there is an actual increase in the blood-mass in these cases, it is certain that the flushings, giddiness, and other unpleasant symptoms which attend them are benefited by bleeding, spontaneous or artificial, and in the old days bleeding was resorted to in cases of this kind with great advantage. There can be no doubt that the periodic flux in the woman tends to counteract the evils of over-eating, and its occurrence may help to explain why women during their reproductive life are so much less liable to gout than are men. When spontaneous hæmorrhage occurs in consequence of over-eating we must regard it as the overflow from an over-stretched arterial system and, if external, we should freely encourage it, especially at the degenerative period of life, so as to guard against the danger of cerebral hæmorrhage; the higher the blood-pressure the more urgent should we be in the matter. As I write I call to mind a patient, aged 75 years, who has occasional epistaxis, accompanied by augmentation of an habitually high arterial tension. Now this man used, in his ignorance, to try to check the bleeding, a procedure which, it is needless to say, exposed him to the grave risk of cerebral hæmorrhage. I explained to him that the bleeding resulted from the giving way of an overstrained blood-tube and that it was an effort of nature to relieve the high pressure in the blood-vessels generally and not by any means to be interfered with. In such cases we should do all we can not to arrest but to promote the bleeding, if necessary even opening a vein; at the same time a brisk mercurial purge should be given and the diet should be reduced to starvation point.

Purgatives.—The evils of over-eating may be lessened by the free use of saline purgatives, a method systematically carried out at Homburg, Marienbad, and similar spas whither fashionable folk flock to be purged of the humours resulting from chronic excesses. Salines benefit not only by favouring the elimination of poisons but by diminishing the absorption of food. The periodic use of blue pill and black draught is a favourite practice among habitual gourmands.

Reduction of Diet as a Therapeutic Measure.

How to deal with a case of over-eating.—If a patient is eating too liberally we should obviously aim at reducing the diet to a sufficiency, how to determine which has been already set forth—first decide what is the normal weight and then find the minimum quantity of food needful to maintain it. It is generally advisable to reduce the amount of food gradually. Thus we may tell the patient to omit every second course in the principal meal, never to take a second helping, to leave off eating directly a feeling of moderate satiety sets in, &c. But the patient may not consent to have his diet limited, and in this case we have to be content to counteract as far as we can the evils of over-eating by urging an open-air life and abundant exercise, and by resorting to blue pills, salines, and even, it may be, to bleeding. If the appetite is inordinate, as in gourmands it so often is, we should recommend plain, monotonous food and the avoidance of dishes calculated to tickle the palate; or we may seek to blunt the appetite by getting the patient to take a glass of milk, a piece of bread-and butter, or something of the kind, just before the main meal; or again, we may try to cheat the stomach, as it were, by the free employment of food containing a large proportion of unabsorbable material—e.g., green vegetables, which by their mere bulk create a feeling of satiety.

Periodic fasting.—The good effects resulting from periodic fasting have already been referred to and we should not be slow to turn this practice to full therapeutic account. Food may, for instance, be withheld for the entire day, or a single meal may be omitted, or meat, eggs, or other articles of diet may be temporarily abstained from. Especially should this plan be followed by those large feeders leading sedentary lives who are not obliged by attacks of megrim or other indisposition periodically to fast. Those engaged in laborious occupations, on the other hand, bear starvation ill. A plan of fasting which sometimes yields good results is the omission of breakfast. It has been widely advocated in America. I have heard of a medical man who does not allow anything before 11 A.M., at which time the patient is directed to take only a warm decoction of chocolate husks—presumably a device to give the stomach rest and to wash out the tissues by a harmless fluid, while at the same time the patient is influenced through his imagination.

Obesity.—The treatment of obesity is essentially by cutting down the diet and enforcing exercise. A simple reduction of the total quantity of food may suffice, but the most effectual plan is to eliminate fat and saccharides as far as possible from the dietary, the patient subsisting mainly on proteids, green vegetables, and fruits. The curtailment of fluid does not favour the absorption of fat, as some have supposed, but it may lead to a rapid diminution of weight at the beginning of treatment by diminishing the quantity of fluid in the tissues, and it may legitimately be resorted to for a time in order that the patient may be duly impressed with the progress he is making and encouraged to persevere in the treatment. Even those who are only slightly above the normal weight, say one stone, may sometimes be greatly benefited by having their weight reduced to the normal. One stone less to carry about the world is no small gain—e.g., to an elderly man whose heart and lungs are working to the utmost limits of their capacity. But though we may often improve our patients in this way we may find it difficult to persuade their friends as to the wisdom of our treatment, which they are wont to stigmatise as lowering, especially when plump red cheeks become hollow and lose their ruddy colour. "Whatever is the matter with you?" they will say, "you are not looking half so well as you did." Well, appearances are often deceptive, and in nothing more so than in regard to health. A plump face and a good colour pass with the laity as evidences of robust health, though the possessor may be on the verge of an apoplectic fit or in the last grip of granular kidney. On the other hand, a thin pale face is thought to indicate extreme delicacy, if not some grave disorder, while as a matter of fact it may go along with long life and sound health and merely betoken passing fatigue. It is necessary to impress such facts as these on over-solicitous friends. In reducing weight we must have due regard to the rate at which the reduction is effected. With some it is possible to proceed much more rapidly than with others; we must be guided by the condition of the patient. As a rule the loss of weight is most rapid at the beginning of the treatment; sometimes two or three, or even four, pounds may be lost in the first week without any ill effect, but it is seldom advisable to keep this rate up long and we should for the most part rest content with the loss of one to two pounds per week. The administration of thyroid extract in some cases greatly facilitates the absorption of fat, and it is, of course, most likely to do so in those who are myxœdematously inclined.

Dyspepsia.—Dyspepsia being frequently the result of over-eating it may often be cured simply by cutting down the diet. In the more acute forms it may be advisable to allow the alimentary tract complete rest by temporarily withholding all food, or at least by giving a very small quantity only, or by relying for a time on rectal feeding alone. It is especially in case of chronic dyspepsia in large feeders that the plan of foregoing breakfast above alluded to does good.

Lung disease—Dyspnœa.—In treating affections of the lungs, more especially when dyspnœa is present, the utmost caution should be exercised in regard to the quantity of food allowed. With the exception of certain cases of phthisis, in which gorging for limited periods may undoubtedly do good, we may broadly say that in all the serious inflammatory affections of the lungs not one single grain of food over and above the bare sufficiency should be given.

Consider for a moment what dyspnœa, that urgent symptom common both to heart and lung disease, indicates. It signifies a dearth of O and an excess of CO_2 in the blood, the former being the chief factor in causation: the patient hungers for oxygen. Now such being the causation it is manifest that in treating it we should reduce to the utmost the need for O and the production of CO_2, and the best way to do this is obviously by retarding combustion. This retardation is effected by securing rest, keeping the patient warm, and curtailing the quantity of food. Rest and warmth by diminishing katabolic activity reduce to a minimum the quantity of food constituting a sufficiency, and the advantage of this cannot be exaggerated, for, as I have already insisted, the greater the quantity of food consumed the greater the quantity of CO_2 produced and the greater the need for oxygen. Let us ever remember, when we see a patient gasping for breath, that every particle of food over and above the bare sufficiency must inevitably increase his distress, and this not only in the way indicated but by putting extra work on the heart at a time when it is imperative to save it as much as possible. We should also in these cases be careful to choose a non-flatulent diet, for a flatulent abdomen thrusts up the diaphragm, thus dislocating the heart, already in desperate straits, and crumpling up the lungs which are in need of every available air cell. Unhappily flatulence is especially prone to occur in dyspnœa and more particularly in the cardiac form of it.

A disease greatly benefited by spare diet is bronchitis, and especially that form which occurs in the aged and elderly, not only because excessive diet tends to aggravate dyspnœa, but because it promotes toxæmia, in itself a potent cause of bronchitis. When bronchitis occurs past middle life it is indeed in a large number of cases induced by over-eating and it is always aggravated by it.[3] In such cases we can often produce effects little short of miraculous simply by curtailing the diet, and nothing more strikingly shows how tardy our profession has been in the serious study of dietetics than its neglect of this simple fact. I feel assured that numbers of medical men have found it out for themselves, but I was not taught it, nor is it taught in the books, or generally acted upon, as I know by patients coming to me after consulting more than one physician. I must risk the charge of egotism in my desire to press home this important truth. Let me give notes of two illustrative cases.

CASE 1.—The patient was a man, aged 60 years; his weight was 13 stones and he was accustomed to eat and drink freely; he had a blue-red turgid countenance, dyspnœa, and rapid pulse; his liver was down to the umbilicus, his urine contained abundance of albumin, and his legs were œdematous. A somewhat gloomy prognosis was given to his friends. The patient was put on a severely spare diet and was ordered digitalis, iron, strychnine, and stimulating expectorants. After one week all dyspnœa had disappeared, the liver could not be felt, there was no albuminuria, nor was there any dropsy. At the end of six weeks the weight had fallen a stone and a half and the patient was hunting (not with my sanction), and he declared that he had not felt so well since he was a young man.

Doubtless the drug treatment helped here, but from a wide experience of similar cases I am convinced that the reduction in the diet was chiefly instrumental in bringing about the happy result.

CASE 2.—The patient was a man, aged 52 years; his weight was 12½ stones. He had for some years suffered from an irritating cough, apparently due to pharyngitis and slight laryngitis. The patient's diet was reduced to a bare sufficiency. No drugs were given. He steadily improved in his general health and the cough entirely ceased.

Asthma.—Among the affections which are benefited by a sparse dietary asthma occupies a prominent place. It is not easy to differentiate between that form which is wholly or chiefly of nervous origin and those forms which occur in failing heart and chronic bronchial affections, but whatever its origin improvement always follows from a reduction of the diet when the patient is a high feeder. Such has been my constant experience.

Heart disease.—I have already pointed out how important it is in all cases of failing heart not to give too much food. In plethora and high arterial tension, more especially when we apprehend the rupture of a cerebral blood-vessel, we must be careful not to allow the patient to eat one particle more food than is physiologically necessary, in extreme cases withholding all food for a time, administering a large dose of calomel, and if the pressure still keeps high resorting to free bleeding.

Aneurysm.—The urgent need of restricting the diet in the treatment of aneurysm needs no insistence.

Gout.—This affection being largely due to over-eating, the gouty should at all times be especially careful to take no more food than is just sufficient, and it may not only be necessary to cut down proteids but to reduce the amount of food all round. It should be remembered that even when a moderate quantity of proteid is being consumed an excess of saccharide and fat by "sparing" the proteid may cause the latter to be in excess; also, that bread and other cereal foods, as well as the pulses, increase acidity.

Nervous affections.—Many of the nervous affections due to over-eating, such as headache, giddiness, irritability, and asthma, may be of a gouty nature, but whether we regard them in this light or not—and the term is sufficiently vague,—the obvious indication is to reduce the diet. In some nervous disorders—e.g., epilepsy—the appetite may be voracious and we have to be on our guard against this.

Bright's disease.—In all forms of Bright's disease we should endeavour to lighten the work of the kidneys as much as possible, and inasmuch as their chief function is to eliminate nitrogen we should limit to the utmost nitrogenous food and to this end should administer a relative preponderance of "proteid sparers"—saccharides and fats; the total supply of food should, however, be no more than a sufficiency, inasmuch as in Bright's disease digestion and metabolism generally are working at a disadvantage, while the cardiovascular system is in most cases subjected to chronic strain owing to the augmented peripheral resistance.

Febrile states.—In extreme fever, when digestion is completely or partially in abeyance, especially when the patient has sunk into the typhoid state, it is a great mistake to worry him by the continual administration of nourishment. His instinct, which is wholly against food at this time, should not lightly be disregarded. Dr. F. J. Smith[4] does not hesitate to keep his enteric patients entirely without food for three, or even four, days when they are in a state of coma or delirium. More harm than good is done by forcing food into an unwilling stomach where it may remain for a long time undigested, thus adding to the distress of the patient.

Treatment by Giving an Abundant Diet.

Just as when the weight is above the normal we seek to reduce it by curtailing the diet, so when it is below the normal we endeavour to raise it by increasing the diet. "Always seek to get the patient down to, or up to (as the case may be) his normal weight." The physician who insists upon putting this simple principle into practice will not have lived in vain. Sometimes the proper weight may be obtained by an all-round increment of food, at others by an increase of the fat-forming foods chiefly, i.e., fats and saccharides; cod-liver oil and malt are generally helpful.

Patients below the normal weight benefit by rest, and we should therefore curtail their muscular activity at the same time that we increase their diet. The degree to which we do so will depend upon circumstances; in some cases a slight moderation in the customary daily activities may suffice, while in others it may be necessary to secure absolute repose in bed, in which case massage should be employed in order to maintain the tone of the muscles.

The following case shows what good may be effected simply by an all-round augmentation of the diet and a moderate curtailment of muscular activity.

CASE 3.—The patient was a man, aged about 48 years, who had for some months past been growing thin and suffering from indigestion. Being hypochondriacal and morbidly sensitive about his health he was greatly alarmed at his condition, especially when injudicious friends told him that he looked very ill and that he had aged much of late. Inquiry elicited the fact that he had been taking much more than his usual exercise in the belief that it was good for him—e g., he had walked home from business and had sat down to his dinner fagged and, his food not agreeing with him, he had been most careful to take only small quantities of the most easily digestible kinds. He was one stone below his customary weight. I said to him, "Get one stone heavier and your indigestion will go. With this object take as little exercise as your business will allow; eat as much wholesome food as you can; take cod-liver oil and malt thrice daily, and abstain from the use of all aperients" (to which he had been much addicted). The result was that the patient galloped along to health; his indigestion disappeared in a few days and his normal weight was regained in as many weeks. What most surprised him was the fact that he was able to get along without his pills.

Observe by what simple means the result was achieved. No single drug was given. It was simply a matter of augmenting the food and diminishing the expenditure of energy.

When once the normal weight has been reached in cases of this kind we must be careful not to allow the patient to continue on the augmented diet too long, or we may induce an entirely new order of troubles, and the older the patient the more urgent the precaution.

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[3] See the writer's paper "On the Treatment of Bronchitis in the Aged and Elderly," Brit. Med. Jour., vol. ii., 1901, p. 1063.

[4] THE LANCET, Feb. 2nd, 1901, p. 312.

THE REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1900.

Concluding Notice.

In our former article[1] we briefly referred to the uncertainty and diversity of opinion which existed not only in regard to the etiology but as to the exact nature and pathology of the fevers prevalent in India and their differentiation from one another. As regards enteric fever, we alluded to the modern views and researches as to its bacillary origin, to the discovery and application of new diagnostic tests, and to the more enlarged and inclusive field of view by which a number of cases of fever were now grouped as enteric fever which some years ago would probably not have been regarded as coming under that head.

It is, however, the question of the liability of the native population of India to this form of fever that has of late been occupying the attention of the Indian medical press and concerning which the Sanitary Commissioner's report takes, but very cautiously, a somewhat new departure. If it could be demonstrated that enteric fever was a prevalent and widespread disease among the native population we need not go far to seek for the cause of its occurrence among the European garrison in its midst, for conditions favourable to its spread are abundantly present in India. That cases of enteric fever occasionally occur among the native races is undoubted. It has never been contended that any apparent immunity of these races is absolute but only that it is relative. It may well be, as is alleged, that a large number of cases of enteric fever are never diagnosed as such but are included and returned as malarial forms of fever or remittent fever; or that adult natives have acquired such immunity as they exhibit from the fact that they have already paid their tribute to enteric fever by having suffered from an attack of it in early life; or that the natives are immune because they have throughout their lives been brought up and surrounded by its etiological causes and conditions. But it is now alleged that the natives, as shown by the serum sedimentation reaction (Widal's test), do actually suffer from enteric fever to a far larger extent than has been hitherto recognised. If the correctness of this view can be established, and if it be granted that this disease runs a milder course in native subjects, and, further, if when it occurs among them it is usually incorrectly returned under the name of some other fever or disease, then it is urged that the etiology and pathology of Indian disease in respect of continued forms of fever and of enteric fever in particular will assume an entirely new aspect. And such would undoubtedly be the case, but the correctness of all this has yet to be established and the most that can be said about it at present is that it furnishes a good basis for further investigation and for the collection and weighing of evidence—of observations, facts, and figures, and not merely of opinions. The temptation to fill in the links in an incomplete chain of causation has always to be guarded against.

So far as they have gone hitherto the reports of the Sanitary Commissioner with the Government of India have year after year for a long series of years in succession shown two things: (1) a very marked and striking contrast between the European troops and the native army and jail population in regard to enteric fever with a disproportionately high-rate of case-mortality from fever generally among the former; and (2) a marked susceptibility on the part of the European soldier in India to contract, and to die from, enteric fever during the first three years of his service there, and notably during the first year. Speaking broadly, the disease from which the European soldier dies in India is enteric fever; that from which the native soldier dies is pneumonia or pulmonary disease. The etiology of typhoid fever is still an unsolved problem and direct evidence as to the modes of entrance of infection into the body is still incomplete, as will be seen by reference to a leading article on that subject in our columns[2] and to the recent observations of Dr. Thomas Cherry[3] of the University of Melbourne and other authorities. The bacillus coli and the typhoid bacillus, although readily enough distinguishable from one another, nevertheless belong to the same group and have many points in common, the gaps between them being bridged over by a series of intermediate forms. The periods of time during which typhoid bacilli can retain their potential infectivity within and without the body and, in hot countries, the action of dust, wind, and flies in their spread,—all these are directions in which much more light is needed than we possess at present, not to say anything about the long periods of time during which typhoid bacilli can exist without causing symptoms.

To refer, however, to another subject in the report under notice, we may remark, *en passant*, that with regard to abscess of the liver there are many points which still require to be cleared up before it can be said to be proved that the exclusive origin and cause of hepatic abscess is dysentery. Section III. of the report, which is a short but good one—especially in relation to the subject of fever (pp. 33 and 34)—is devoted to the native army of India and Section IV. deals with the jails of India. The former section contains some interesting information about the prevalence of such diseases in the native army as scurvy, tuberculous and pneumonic affections of the lungs, beri beri, and guinea worm, and the latter deals with the increase and spread of cerebro-spinal fever in the Indian jail population, tubercle of the lungs in relation to overcrowding, and other subjects.

The remaining sections deal with the vital statistics and diseases of the general population, vaccination, and sanitary works. Section IX., under the head of General Remarks, is devoted to the history and progress of preventive medicine in India during the century which has just closed, with the last year of which this report deals. The progress which has taken place is regarded as in a great measure the harvest of the inspiration and work of one man, Parkes, who laid the foundations of army hygiene, and in another and larger aspect as an important contribution to State economics. This section, which contains a great deal of compressed information, is well worthy of being read and considered. We hope to see the subject followed up, as is indicated will be the case, by a fuller statement of the work that has been done and the results that have been achieved by the medical services in India during the past century.

THE HEALTH OF MANCHESTER

The "housing question" as it affects the vast urban communities of the County Palatine has in recent years become a problem of pressing national importance as it is certainly one of great complexity. So precious for manufacturing purposes is any description of vacant building land in a populous neighbourhood, especially where it is traversed by a watercourse, that every available yard of the former is greedily seized upon by the speculative builder and forthwith covered with bricks and mortar; consequently large areas of property which only a few years since consisted of green fields have now become sites for labourers' dwellings, and in many instances what used to be a clear running stream has been degraded into a foul open drain for the conveyance of sewage or scarcely less noisome trade refuse. Thus it is that the map of Lancashire (as published in the recent census report) is almost completely dotted over with industrial centres, and as these are expanding rapidly in all directions the county will doubtless become at no distant date one unbroken expanse of manufacturing or of mining industry.

But what shall we say concerning the health of the millions of human beings clustered round these industrial centres? Have the local sanitary authorities been alive to their legal responsibilities in this regard? Have they taken care that the thousands of dwelling houses which under their very eyes have sprung up like mushrooms everywhere and which will inevitably be tenanted by the working classes, should be reasonably fit for occupation? Alas for our boasted system of local self government, we fear that, except as regards the larger municipalities, of which fortunately there are many admirable examples in Lancashire, this is far from being the case. For fear of offending what may be termed "local susceptibilities" the State permits speculative builders to cumber the land bordering on our chief municipalities with damp, ill-drained, and unventilated structures in which the veriest tyro could detect violations of the first principles of healthy house construction and which are therefore obviously unfit to live in. Consequently in the course of time the local ratepayers, panic-stricken at the first epidemic that ensues, are called upon to spend large sums of money to remedy evils which on the first covering of the ground might readily have been averted without real hardship to anyone. Figuratively speaking, in matters of sanitary administration it is in too many cases the practice not to close the stable door until after the steed has been stolen.

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[1] The Lancet, May 24th, 1902, p. 1429.
[2] The Lancet, May 24th, 1902, p. 1479.
[3] The Lancet, April 19th, 1902, p. 1141.

In such circumstances it is easy to comprehend how it happens that local building by-laws become a dead letter—how long rows of ill-drained, unventilated cottages, destitute of proper foundation, come to be crowded together on insufficient ground space, abutting on streets so narrow that access of sunlight and of air is alike impossible; in a word, how conditions obtain in which there is a glaring absence of those requisites which are known to be essential to the health and well-being of the people. In no other civilised country but our own would such a state of things as we have depicted be allowed to continue. The laws of health are simple and nowadays are fairly well known. To a certain extent these laws are embodied in existing statutes for the protection of the public health, and Parliament should see that they are not violated in the construction of dwelling houses for the labouring classes, whether these are situate in the country or in the suburbs of our chief towns.

We have received the annual report for 1901 of the medical officer of health of the City of Manchester—a volume of 340 pages—which is full of instruction for the student of preventive medicine. The report is one of a series which has attained uniform excellence and is complete in every department. We should like to see it adopted as a pattern by the medical officers of health of other cities similarly circumstanced to Manchester.

We have carefully studied this book and have thought it advisable to preface our notice of it with the foregoing remarks in the hope that they may explain some of the difficulties which an earnest and public-spirited authority like that of Manchester has to encounter in dealing with the accumulation of sanitary evils inherited from its predecessors.

The boundaries of the city of Manchester have been extended more than once since its original incorporation—the last time about 10 years ago, on which occasion a large area of extra municipal territory was annexed—and Dr. J. Niven's report contains interesting details concerning the sanitary condition of the newly-added districts referred to. These districts, before their inclusion in the city, were under the control of local boards and we are aware of no evidence to show that they were governed otherwise than according to the fashion which is usual among such authorities. Fortunately, they are now under the able administration of the city council and we have confidence that in future reports we shall have to note steady improvement in the conditions which obtain locally at the present time.

Leaving aside administrative details, which are mainly of local concern, the report before us is divided statistically into two portions—the first relating to the 10 years 1891–1900 and the second to the year 1901, to which the report more especially refers. Dr. Niven has availed himself of the recently published census figures to revise the whole of the populations on which his rates of mortality are based; this must have been a laborious process, but it is precisely the one that an officer of Dr. Niven's mathematical ability would regard as essential and we congratulate him on the expedition with which his results have been achieved. With the help of the newly-revised death-rates Dr. Niven proceeds to compare the mortality of Manchester and its constituent districts in the recently ended quinquennium with that of the quinquennium immediately preceding. Thus we find that in the entire city the average death-rate in the five-year period ending with 1900 was lower than that in the previous five years by 0·7 per 1000 persons living. This corresponds roughly to the improvement which was observed during the five years between 1893 and 1898 and if it were continuous the decrease would mean an improvement of 1·4 per 1000 in the death-rate of the last 10 years. Even in the old township of Manchester there is an improvement amounting to 0·3 per 1000, but this if continued will correspond to an improvement of double that amount in the 10 years. In South Manchester the improvement is still less, being 0·28 only, or equal to 0·56 per 1000 in the 10 years. In North Manchester the improvement is equal to 0·77 or for the 10 years to 1·54 per 1000 on the annual death-rate.

Coming to the individual districts of the Manchester township we find that Ancoats (in which district much old property has been recently demolished) shows a handsome improvement of 1·2 per 1000, or 2·4 per 1000 in the 10 years. The central district shows an average annual improvement in the quinquennium of 0·40 per 1000. St. George's, on the other hand, retrogresses to the extent of 0·8 per 1000, equal to 1·6 on the 10 years. Dr. Niven rightly observes that "this must be regarded as a serious recession."

We have not space to notice Dr. Niven's remarks on the variation in the death-rates of other parts of the city; we must accordingly refer our readers to the report itself, which will be found in the libraries of both of the Royal Colleges in London and consequently will be available to many of our medical brethren. For the same reason we are compelled for the present to pass over without notice several other portions of the report, notably Dr. Niven's timely and instructive remarks on the voluntary notification and hospital isolation of phthisis, his comments on return cases of scarlet fever, on the bacteriological investigation of suspected cases of diphtheria, and on the inter-relations between conditions of the soil and the spread of enteric fever. Dr. Niven's account of the work done by the Manchester Ladies' Health Society, by the Society for Visiting the Jewish Poor, and by the Special Jewish Health Visitor will prove instructive reading to those who contemplate the initiation of similar philanthropic sanitary work in other great centres of population.

In conclusion, we desire to congratulate the citizens of Manchester on their choice of a governing body which is not only keenly alive to the sanitary needs of the district but is resolutely determined to take no rest until the shortcomings of the city shall have been fully redressed, and we congratulate the city council on the possession of a medical adviser whose latest report proves him to be untiring in his efforts to promote the health and general well-being of the community.

THE METROPOLITAN WATER-SUPPLY: THE LONDON WATER BILL.

AT the sitting of the Joint Committee of the two Houses of Parliament on the London Water Bill on May 28th, Mr. FITZGERALD, K.C., on behalf of the Local Government Board, proposed a new clause drawn up in accordance with the recommendation of the Committee in regard to the question of arbitration. The proposed new clause was as follows:—

> The Court of Arbitration shall determine the sum to be paid to a metropolitan water company as if, with the necessary qualifications, the law of compensation for the purposes of the Lands Clauses Act was applicable to the case.

On behalf of the London County Council Mr. BALFOUR BROWN, K.C., proposed that the word "sum" should be substituted for the words "value of the undertaking."

Lord BALFOUR of BURLEIGH said that the committee had an objection to the word "compensation." No such objection was felt to the words "value of the undertaking to the vendor." The Local Government Board, however, objected to the words "to the vendor" because that form of words had not hitherto been so used in an Act of Parliament. A long discussion ensued and ultimately the committee decided that the form of words used should be as follows:—

> In fixing the sum to be paid by the Water Board as hereinafter provided the Court of Arbitration shall determine, the value of the undertaking of a metropolitan water company as if, with the necessary modifications, the law of compensation for the purposes of the Lands Clauses Act were applicable to the case.

Mr. LITTLER, K.C., on behalf of the water companies, proposed an amendment giving an instruction to the Court of Arbitration to make an allowance to the water company's shareholders as recoupment for any loss that might arise in finding an equally good investment yielding the same income as that paid by their present holdings in water companies' stock. Mr. Littler argued that the principle was clearly laid down by the Committee that they wanted everyone to be put into exactly the same position as they would have been had the Act not passed. The Court of Arbitration therefore should have power to effect this and the question should be dealt with in the Act itself. Under sub-section 9 no allowance was to be permitted for compulsory sale but it was reasonably fair that the shareholders should not lose the amount which might be necessarily spent to secure re-investment in a stock of equivalent value. Lord Llandaff's Commission had reported that "the dispossessed shareholders would be properly entitled to be recouped for the delay that might occur in finding an equally good investment yielding the same income as well as the cost of reinvestment."

Mr FITZGERALD on behalf of the Local Government Board, did not object to the principle but he objected to the wording of the amendment as proposed by the water companies He said that he was prepared to admit that the shareholders of the companies ought to have interest during the period taken up in reinvestment. The question had arisen because the committee had decided that payment was to be made in cash and not in water stock. He suggested that the words in the amendment should be, "Any loss of interest pending re-investment as well as for the cost of re investment and for covering any expenses which have been or are likely to be, incurred in consequence of the passing of this Act"

Lord BALFOUR of BURLEIGH in regard to the suggestion that the words used should be "an equally good investment yielding the same income" thought that the words might give rise to debate. Every member of the Stock Exchange might differ as to whether the conditions of the amendment were complied with. In reply to Mr LITTLER'S suggestion that this would be a question for evidence for the arbitrator, Lord BALFOUR of BURLEIGH said that he would be sorry for the arbitrator in such a case. The Committee accepted the amendment suggested by the Local Government Board.

Mr THESIGER, on behalf of the London County Council, proposed that the following words should be inserted at the end of sub-clause 9 —

> In any case in which any such allowance is claimed the items in respect of which such allowance is claimed and the amount claimed in respect of each such item shall be separately stated in the award

The object of this amendment was that the Water Board should know what claim was going to be made by each of the water companies in respect of these various extra items. This amount of protection for the Water Board was fair and the suggestion a moderate one on behalf of the London County Council.

Mr PEMBER, on behalf of the water companies, opposed the amendment.

Mr FITZGERALD, on behalf of the Local Government Board, did not think he could accept it and it was not agreed to by the Committee.

Mr PEMBER asked the Committee to make a declaration on a matter of principle. He would assume that they desired that all costs, charges, and expenses to which the water companies were put in consequence of having to sell their undertakings should be borne by the purchasers and that the "compensation money" for the value of their undertakings would be paid "clear"—that was to say, in full. In that case expenses connected directly or indirectly with arbitration expenses incurred in the winding up "and all the rest of it" would be paid by the purchasers.

In the Bill under consideration the sub sections 10 and 11 which apply to this matter are as follows —

> The costs of any metropolitan water company incurred in an arbitration under this Act shall, except and so far as the Court of Arbitration otherwise determine, be borne by the Water Board and the costs of any other person attending an arbitration under this Act shall be in the discretion of the Court of Arbitration, and that Court may order the taxation of any costs in such manner as they think fit
>
> The Arbitration Act, 1889 shall not apply to arbitrations under this Act

On behalf of the Local Government Board Mr FITZGERALD said that only costs "as between party and party" should be allowed by the arbitrators It was impossible to know what claims might be brought in under such a provision as that proposed by the water companies.

The amendment was rejected.

Mr LITTLER, K.C., asked the Committee to insert an amendment to provide that the arbitrators shall commence their sittings within six months after the passing of the Act.

The Committee decided to fix the time at a period of nine months

Clauses 19 and 20 of the Bill deal with subsidiary powers of the Water Board. Clause 19 was passed with some amendments Clause 20 gives power to the Local Government Board to make provisional orders. Some of the extra metropolitan authorities objected to portions of the clause on the ground that if passed it might be possible that power should be given to the Water Board to encroach on outside districts The portions of the clause which bore on this question were deleted.

At the sitting held on May 29th the chief matters which came under consideration were connected with the custody of, and property in the books and documents of the water companies and the fixing of the "appointed day" on which the properties of the companies would vest in the Water Board

The water companies contended that the property of the books and papers should vest in them until the end of the liquidation. The Committee decided that every book and document should belong to the Water Board but that the companies should have the most full, free, and perfect access to them for as long as might be necessary

In regard to the appointed day Mr LITTLER, K C, and Mr PEMBER, K.C, on behalf of the water companies, contended that it should be fixed at such a date that it would be morally certain that the arbitration would, when it arrived, be completed and the awards made On behalf of the London County Council Mr FREEMAN, K C, supported the date given in the Bill and Mr FITZGERALD K.C, on behalf of the Local Government Board, suggested that the day appointed should be Dec. 25th, 1903, or such later day (not being more than 12 months from that date) as the Local Government Board might appoint.

The Committee ultimately decided to accept the day suggested as the "appointed day" (Dec. 25th, 1903) and to give to the Local Government Board the power to postpone the "appointed day" to any date not more than 18 months afterwards—that is to say, until June, 1905.

At the sitting of the Committee which took place on May 30th Mr BALFOUR BROWNE, K C., on behalf of the London County Council, proposed that part of Clause 3 should be omitted from the Bill. The clause deals with the payment of dividends to companies until such time a water stock is issued and the part objected to by the London County Council is that which provides for the payment of such sums as may be agreed upon or determined by arbitration in respect of the reasonable expectations of increasing dividends It was contended that if prospective increase were to be taken into account prospective decrease should in like manner be taken into account also The Committee allowed the clause to stand The sub-section is as follows —

> The Water Board shall from and after the appointed day, pay by way of interest on purchase money to each metropolitan water company half yearly until the water stock to be issued to the company is issued a sum of money equal to the dividend on the ordinary and preference capital of the company calculated on the average rate of dividend paid thereon respectively in respect of the two half years preceding the publication of the notice for the Bill for this Act together with in respect of the reasonable expectations of increasing dividends (if any) such additional sums (if any) as may be agreed or in default of agreement as may be determined by arbitration under this Act

Section 36 of the Bill makes provision in regard to existing "officers and servants" of the metropolitan water companies It is as follows —

> 1 Subject to the provisions of this Act every officer and servant employed by a metropolitan water company upon or in connexion with the undertaking immediately before the appointed day (in this Act referred to as "an existing officer" and "an existing servant") shall as from the appointed day become an officer or servant of the Water Board and shall hold his office or situation by the same tenure and upon like terms and conditions under the Water Board as he would have held the same under the company if this Act had not been passed, and while performing the same duties shall receive not less salary wages or pay and be entitled to not less pension (if any) than he would have been entitled to if this Act had not been passed.
>
> 2. Every existing officer and existing servant shall perform such duties in connexion with the water undertaking of the Water Board as they may be required to perform by the Board
>
> 3. The Water Board may abolish the office or situation of any existing officer or servant which they deem unnecessary, and any existing officer or existing servant required to perform duties such as are not analogous, or which are an unreasonable addition to those which as an officer or servant of the company he was required to perform, may relinquish his office or service
>
> 4 Every existing officer or existing servant whose office is so abolished or who so relinquishes his office or service as aforesaid or who otherwise suffers any direct pecuniary loss in consequence of this Act shall be entitled to be paid by the Water Board compensation for such pecuniary loss regard being had to the conditions on which his appointment was made the nature of his office or employment the duration of his services and any other circumstances affecting the case
>
> 5. Subject to the provisions of this section the provisions contained in section one hundred and twenty of the Local Government Act 1888, relating to compensation to existing officers shall apply to any claim for compensation by an existing officer or an existing servant with the substitution of references to the Water Board and water fund for references to the County Council and county fund.

Professor Dewar, F.R.S., and Sir William Crookes, who are employed by some of the metropolitan water companies to report on the water supplied by them, gave evidence to the effect that they wished "for the purposes of compensation" to be deemed officers of the companies. They received from the companies about £1800 a year, and the amount left over after paying expenses was between £600 and £700 a year.

Mr. BRYAN and Mr. PARKES, engineers to the East London and Lambeth Companies, gave evidence in regard to the pensions and retiring allowances usually made by the companies to their officers and servants.

Lord BALFOUR of BURLEIGH said that the Committee wished that the officers and servants of the companies should be put into as good a position as they would have been if the Water Bill had not been proposed, and finally the settlement in regard to the clause was deferred and the remaining clauses of the Bill were agreed to.

At the meeting of the Joint Committee which was held on June 3rd the most important questions which were brought forward had reference to the protection of the inhabitants of the extra-metropolitan districts of Middlesex, of Kent, of Essex, and of East Ham. On behalf of the County Council of Middlesex it was proposed to insert a clause into the Bill to compel the Water Board to give to all the water consumers in the area of that county which is within the limits of supply water as ample in quantity and as good in quality as that distributed by the metropolitan water companies at the time of the passing of the Act. Further, the Middlesex County Council wished to ensure that the charges at present exacted by the water companies should not be increased in amount by the Water Board. They asked, moreover, that property in the county of Middlesex should not be subjected to any charge should the Water Board incur any expense by obtaining water from any new source of supply beyond the confines of the county of Middlesex.

The County Council of Kent wished that a clause should be inserted to ensure that nothing done in carrying out the Act should be allowed to prejudice any future application to Parliament by the Kent County Council for the acquisition by it of the means to supply those portions of Kent which are at present provided for by the Kent Company.

Lord BALFOUR of BURLEIGH, on behalf of the Committee, said that they did not approve the insertion of these clauses and their objection to them was that they were outside the purview of the Bill.

On behalf of the Local Government Board Mr. FITZGERALD, K.C., gave an undertaking to the effect that neither the Local Government Board nor the Water Board would found an argument against any future application which might be made to Parliament by the County Council of Middlesex or the County Council of Kent on the ground that the Committee had decided against them on the points mentioned above. [It is not easy to conceive how the Water Board, should such a body come into existence, could be in any way bound by any "undertaking" given by any learned counsel at the present juncture.] Ultimately, the clauses were withdrawn, and similar clauses which the Essex County Council and the authority of East Ham desired to introduce were likewise withdrawn.

The water companies proposed to introduce a clause into the Bill for the compensation of the water company directors for their loss of salary and Mr. BOULNOIS and Colonel LOCKWOOD, two water company directors who are Members of Parliament, gave evidence in favour of the clause.

Lord BALFOUR of BURLEIGH said that the committee accepted the principle of compensation to such directors as were in office at the date at which notices of the Bill were sent; the sum to be paid should be given after arbitration (for the expenses of which apparently the Water Board will pay).

A clause was proposed by the Urban District Council of Sunbury to ensure that for rating purposes reservoirs should be assessed at their full annual value and not, as at present, at one-fourth of this sum. A society called "The Association for Promoting the Equitable Rating of Reservoirs" supported this contention.

Lord BALFOUR of BURLEIGH announced that the Committee could not recommend that the general rating law should be amended at the present time in the manner proposed.

Looking Back.

FROM

THE LANCET, *SATURDAY, JUNE 12*, 1824.

SMALL-POX HOSPITAL.

On Thursday the Governors held their Half-yearly General Court at this Hospital. At one o'clock F. G. HANROTT, Esq. was called to the chair; and after the confirmation of the minutes of the last meeting, Mr. HIGHMORE the Secretary read the Committee's report, in which some legacies were stated, and a handsome testimony expressed to the meritorious services of Dr. GEORGE GREGORY, their physician, and to the assiduity of Mr. WM. WHEELER, their resident surgeon.

The officers and visitors were all re-elected; and Dr. G. GREGORY, the physician, presented a Medical Report, to which we are too conscious of not doing justice by the abbreviations which the pressure of our other numerous articles oblige.

It stated, among other things, that the arrangements made with the several adjoining parishes, particularly St. Giles-in-the-Fields, had caused an unusual number of infants and children to be admitted lately, with many of whom the disease had proved fatal; that of 151 patients in the last year 67 had been previously vaccinated; of these, in the ordinary course of the disease, and without the protecting influence of vaccination, 12 at the very lowest computation would have died. It must, then, be highly satisfactory to the Governors to know that the whole of these persons have been restored to society.—It is not indeed to be denied that seven of them suffered severely under the attack of the disorder, and that it required from four to six weeks for their perfect cure; but it is no light praise of vaccination to say, that even when imperfectly performed (and there was too much reason for presuming that such had been the case in most of these instances), it still had the power of mitigating the horrors of this dreadful disease, and of preserving life, even though it proved insufficient to resist the inroads of the contagion.—In one of the former cases it was ascertained by inquiries on the spot, that vaccination had been performed unskilfully and imperfectly, and that no reasonable confidence could at any time have been placed in it. The melancholy result of the case, however, will not be without its use, if it impresses upon all those who are engaged in vaccinating the indispensable necessity of a close attention to every stage of that process, upon which the safety of the individual in after-life so immediately depends. With most unfeigned satisfaction, he added, has the confidence of the lower orders of people in this town in the security which it is capable of affording, appeared to him greater than at present. Those whom a few unfavourable cases have impressed with an undue sense of the imperfections of the vaccine influence would receive an useful lesson by attending at this Hospital at the hours appropriated to vaccination: they would then learn to appreciate, in the grateful acknowledgments of thousands, the true value of that inestimable blessing which it was the glory of JENNER to have diffused; and though occasional failures will undoubtedly occur to warn us, like spots upon the sun, that nothing is perfect, yet to the eye that contemplates in a wide scale the results of vaccination, these are lost in the brilliancy of its general career, no where more conspicuous than in the annals of your useful and excellent Charity.

The meeting offered their united thanks to Dr. G. for this Report, and ordered it to be entered upon their minutes, &c.; and after expressing thanks to his Royal Highness the Duke of York, President, and to the Chairman, the Court separated.

It appears by the Bills of Mortality, that during the month of May, 32 died of small-pox, and six in this Hospital.

SYRACUSA CONVALESCENT HOME FOR SOLDIERS, TORQUAY.—At a special meeting of the subscribers to this institution held on May 31st it was reported that the subscriptions to the home had amounted to £3142 and the expenditure to £2581. As the convalescent home is now closed it was decided to hand the balance of £561 to the Soldiers and Sailors Help Society for the assistance of invalided soldiers belonging to Devon and Cornwall.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD

REPORTS OF MEDICAL OFFICERS OF HEALTH

Finsbury Urban District.—Dr George Newman furnishes in his current annual report a very interesting account of a milk borne outbreak of scarlet fever in which the milk responsible for the spread of the disease had come from a Staffordshire farm. The outbreak illustrates the difficulty of tracing food borne illness in London and shows how far afield the Londoner may have to look for the source of infection Referring to the deaths which occurred from phthisis during 1901 Dr Newman points out that they took place mainly in those houses which were overcrowded on area, were without sufficient open space and were of comparatively low rental. He has noticed the remarkable fact that under the above circumstances, but in localities which were in immediate proximity to open spaces, the deaths from phthisis have been few He finds, too, that a large number of cases have occurred in the same house—i.e., between 18 and 20 per cent. of these deaths took place in houses in which there were during the last six years two or more deaths from phthisis. Much of the report under review is devoted to the very important but too little attended to subject of the protection of our food-supply, and it is fortunate that the Extra Corporation meat market, which is the second largest dead meat market in London, has come beneath the control of a medical officer of health who evidently devotes much attention to our food supply In the matter of tuberculous meat the Finsbury Borough Council resolved despite Dr Koch's statement of opinion at the British Congress on Tuberculosis, "to continue to use all the powers at their disposal and to relax no effort whatever to protect the public against the spread of tuberculosis by milk and meat, and that the medical officer of health and inspectors continue to act as heretofore." The report now being dealt with also contains an account of the outbreak of illness due to cheese-poisoning which occurred in Finsbury in October, 1901. The symptoms in all the 17 cases began from two to eight hours after eating the cheese—a fact which, as Dr Newman states, points rather to poisoning by ptomaines already formed than by means of bacteria themselves, in which case a longer time would be likely to elapse between the consumption of the food and the onset of the symptoms. From the cheese in question the public analyst was able to isolate a body resembling the tyro-toxicon first isolated by Vaughan in America in 1883. It seems, too, that a similar outbreak occurred in Bermondsey in the autumn of 1901 as a consequence of the consumption of Dutch cheese, and cases were also reported from Deptford and Croydon. The cheeses involved were all eventually traced to one factory in Holland Although the outbreak was carefully worked out it cannot be said that much light has been thrown upon the subject, and it is not probable that we shall succeed in preventing occurrences of this nature until places where food is manufactured and prepared are placed under more adequate supervision than they are at present. Dr Newman evidently recognises this point, as he tells us that he made during 1901 inspections of sweetmeat and other factories and that attention has also been paid to restaurants, dining rooms, eating houses, &c. It is to be regretted that operations such as these are not more general. The necessity for some such supervision was accentuated in the recent report of the Departmental Committee on Food Preservatives and it would be well if its recommendations were acted upon.

Bournemouth Urban District—Mr P W G Nunn paid a visit during the year under review to certain oyster beds or ponds in Poole Harbour and he was accompanied by Mr F T Tanner, the borough bacteriologist They found the beds so situated that pollution by sewage was inevitable and the bacteriological examination of oysters procured from the source in question revealed the presence of sewage organisms in large numbers. Enteric fever was, it is alleged, traced to the consumption of oysters taken from this source. This is a most unsatisfactory condition of affairs more particularly as it is practically impossible to remedy it under the present law It is eminently desirable that there should be such legislation as will enable a county or other local authority to prevent the laying down of oysters near a sewer or drain outfall. Until this takes place there will always be some danger from the promiscuous consumption of oysters

Chesterfield Rural District—Dr Herbert Peck describes in his annual report the outbreak of epidemic jaundice which occurred in this district during 1901. It began in August and continued until the advent of the cold weather 69 cases were brought to the notice of the medical officer of health who thinks that the evidence pointed clearly to infection as a means of spread. There were multiple cases in several houses. As regards sex distribution there was a material preponderance in the male sex and the bulk of the attacks occurred in the age period from 26 to 30 years The illness appears to have had a gradual onset with vomiting, shivering, and some rise of temperature. The jaundice supervened about the third day of the illness Dr Peck states that the period of incubation was six or seven days and the duration of the malady about four days. The origin of the disease is still obscure albeit infectivity played a part in its spread

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8182 births and 4569 deaths were registered during the week ending June 7th The annual rate of mortality in these towns, which had been 17·3, 16·7, and 16·5 per 1000 in the three preceding weeks, further declined to 16·0 per 1000 last week. In London the death rate was 14·9 per 1000, while it averaged 16·6 in the 75 other large towns. The lowest death rates in these towns were 6·6 in Handsworth, 7·6 in Hornsey 8·5 in East Ham, 8·8 in West Hartlepool, 9·8 in Newport (Mon.), 10·0 in Aston Manor, and 10·2 in Croydon and in Bournemouth, the highest rates were 22·9 in Sunderland 23·0 in Tynemouth, 23·1 in Gateshead, 24·3 in Preston 24·4 in Bootle, 24·5 in Oldham, 25·7 in Middlesbrough and 29·7 in Wigan The 4569 deaths in these towns last week included 555 which were referred to the principal zymotic diseases, against 516 531, and 505 in the three preceding weeks, of these 555 deaths 173 resulted from measles, 132 from whooping-cough, 59 from diphtheria, 55 from scarlet fever, 49 from small pox, 47 from diarrhœa, and 40 from "fever" (principally enteric) No death from any of these diseases was registered last week in Hornsey, Brighton, Northampton Devonport Handsworth, Stockport, York, or Newport (Mon), while the highest zymotic death rates were recorded in St Helens, Wigan, Barrow in-Furness, Sunderland Newcastle Tynemouth, and Rhondda. The greatest proportional mortality from measles occurred in Tottenham, Plymouth Wigan, Rochdale, Rhondda, Bradford, Stockton on Tees and Sunderland, from scarlet fever in Burnley and Middlesbrough, from diphtheria in Grimsby, Middlesbrough, and Rhondda, and from whooping-cough in Coventry, Wigan, Barrow in Furness, South Shields, Newcastle, and Tynemouth. The mortality from "fever" showed no marked excess in any of the large towns Of the 49 fatal cases of small pox registered last week 29 belonged to London, six to West Ham, five to Swansea, two to Willesden, two to Croydon, two to Tottenham two to East Ham, and one to South Shields The number of small pox patients under treatment in the Metropolitan Asylums hospitals which had been 1360, 1344 and 1274 at the end of the three preceding weeks, had further declined to 1162 at the end of last week, 188 new cases were admitted during the week, against 233, 307, and 251 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday, June 7th was 2314 against 2207 2236, and 2206 on the three preceding Saturdays, 310 new cases were admitted last week, against 270, 260 and 319 in the three preceding weeks The deaths referred to diseases of the respiratory organs in London, which had been 216, 237, and 261 in the three preceding weeks, declined again last week to 200, and were 20 below the average. The causes of 43, or 0·9 per cent, of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in West Ham, Bristol, Salford Newcastle-on Tyne, and in 48 other smaller towns, the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Rochdale, Bradford, Sheffield, Middlesbrough, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·4, 20·3, and 19 3 per 1000 in the three preceding weeks, was again 19·3 per 1000 during the week ending June 7th, and showed an excess of 3·3 per 1000 over the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·6 in Leith and 15·4 in Dundee to 23·4 in Greenock and 27·5 in Paisley. The 623 deaths in these towns included 22 which were referred to measles, 16 to diarrhœa, 15 to whooping-cough, three to scarlet fever, three to diphtheria, and two to "fever." In all 61 deaths resulted from these principal zymotic diseases last week, against 55 and 57 in the two preceding weeks. These 61 deaths were equal to an annual rate of 1·9 per 1000, which corresponded with the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 21, 16, and 13 in the three preceding weeks, rose again last week to 22, of which seven were registered in Glasgow, seven in Paisley, four in Edinburgh, and two in Dundee. The deaths from diarrhœa, which had been 14 and 15 in the two preceding weeks, further increased to 16 last week, and included six in Dundee, four in Glasgow, three in Aberdeen, and two in Edinburgh. The fatal cases of whooping-cough, which had been 14 and 22 in the two preceding weeks, declined again last week to 15, of which 13 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 114, 156, and 129 in the three preceding weeks, further declined last week to 116, but were 18 in excess of the number in the corresponding period of last year. The causes of 17, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·1 and 22·3 per 1000 in the two preceding weeks, declined again to 19 8 per 1000 during the week ending June 7th. During the past four weeks the death-rate has averaged 21·5 per 1000, the rates during the same period being 16·0 in London and 18·3 in Edinburgh. The 144 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 18 from the number in the preceding week and included six which were referred to the principal zymotic diseases, against 13, six, and eight in the three preceding weeks; of these, three resulted from measles, and one each from scarlet fever, diphtheria, and whooping-cough. These six deaths were equal to an annual rate of 0 8 per 1000, the zymotic death-rates during the same period being 2·1 in London and 1·5 in Edinburgh. The fatal cases of measles, which had been three, two, and two in the three preceding weeks, rose again last week to three; the mortality both from scarlet fever and from whooping-cough corresponded with that shown in the preceding week, while that from diphtheria was slightly lower. The 144 deaths in Dublin last week included 30 of children under one year of age and 24 of persons aged upwards of 60 years; the deaths of infants were slightly below the number recorded in the preceding week, while those of elderly persons showed a very considerable decline. Eight inquest cases and six deaths from violence were registered; and 52, or more than a third, of the deaths occurred in public institutions. The causes of 10, or more than 7 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING MAY, 1902.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the cities and boroughs in the county of London. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 10·3 per 1000 of the population, estimated at 4,579,107 persons in the middle of the year. In the three preceding months the rates had been 11 4, 11·9, and 10·5 per 1000 respectively. The rates were considerably below the average in Paddington, Kensington, Hammersmith, St. Marylebone, Hampstead, and Stoke Newington, while they showed the largest excess in Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, and Lewisham. The prevalence of small-pox last month showed a marked decline from that recorded in the preceding month of this year. The greatest proportional prevalence of this disease occurred in Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, and Lewisham. The Metropolitan Asylums hospitals contained 1274 small-pox patients at the end of last month, against 1309, 1526, and 1442 at the end of the three preceding months; the weekly admissions averaged 260, against 390, 461, and 319 in the three preceding months. The prevalence of scarlet fever during the month under notice exceeded that recorded in any of the three preceding months; this disease was proportionally most prevalent in Hackney, Finsbury, Poplar, Camberwell, Deptford, and Lewisham. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 2250, 2113, and 2176 at the end of the three preceding months, had further risen to 2222 at the end of last month; the weekly admissions averaged 274, against 234, 258, and 258 in the three preceding months. Diphtheria showed a slightly increased prevalence during May as compared with that recorded in April; among the various metropolitan boroughs this disease was proportionally most prevalent in St. Pancras, Hackney, City of London, Stepney, Poplar, and Lewisham. There were 960 diphtheria patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 1154, 1123, and 1035, at the end of the three preceding months; the weekly admissions averaged 146, against 154, 156, and 140 in the three preceding months. The prevalence of enteric fever last month was slightly greater than in either of the two preceding months; the greatest proportional prevalence of this disease occurred in the City of Westminster, Shoreditch, Bethnal Green, Southwark, and Bermondsey. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 142, 121, and 115 at the end of the three preceding months, had risen again to 127 on May 31st; the weekly admissions averaged 19, against 17 in each of the two preceding months. Erysipelas was proportionally most prevalent in Paddington, Holborn, Bethnal Green, Southwark, and Bermondsey. The 26 cases of puerperal fever notified during the month included four in Southwark and two each in Fulham, City of Westminster, Hackney, Stepney, Poplar, and Lewisam.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the various boroughs in which the deceased persons had previously resided. During the four weeks ending May 31st the deaths of 5601 persons belonging to London were registered, equal to an annual rate of 15·9 per 1000, against 25·9, 20·4, and 16·8 per 1000 in the three preceding months. The lowest death-rates last month in the various metropolitan boroughs were 9·8 in Hampstead, 10·1 in Stoke Newington, 12·0 in Lewisham, 12·3 in Wandsworth, 13·1 in Paddington, and 13·9 in Hammersmith; while the highest rates were 19·3 in the City of London, 19·7 in Stepney, 20·4 in Bethnal Green, 20·9 in Holborn, 22·1 in Southwark, and 23 8 in Chelsea. The 5601 deaths from all causes included 153 from small-pox, 221 from measles, 42 from scarlet fever, 88 from diphtheria, 155 from whooping-cough, 23 from enteric fever, and 56 from diarrhœa; in all, 738 deaths were referred to these principal zymotic diseases. These 738 deaths were equal to an annual rate of 2·1 per 1000, the lowest death-rates from these zymotic diseases being recorded in Paddington, Kensington, City of Westminster, St. Marylebone, Stoke Newington, and Greenwich, and the highest rates in Chelsea, St. Pancras, Bethnal Green, Stepney, Poplar, and Southwark. The 153 fatal cases of small-pox were 100 less than the number in the preceding month; the greatest proportional mortality from this disease occurred in Hackney, Stepney, Poplar, Southwark, and Woolwich. The 221 deaths from measles showed a decline of 79 from the average number in the corresponding periods of the 10 preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Chelsea, Holborn, the City of London, Stepney, Southwark, and Battersea. The 42 fatal cases of scarlet fever were 17 below the corrected decennial average number; the greatest

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MAY, 1902.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1902.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,579,107	928	1340	796	1	161	5	26	364	—	3631	10·3	153	221	42	88	155	—	23	—	56	738	2·1	5601	15·9	117
West Districts.																										
Paddington	145,107	12	33	11	—	1	—	1	17	—	75	6·7	2	1	1	2	—	—	—	—	5	11	1·0	146	13·1	116
Kensington	177,605	13	32	11	—	2	1	1	15	—	75	5·5	2	4	3	—	1	—	1	—	1	12	0·9	220	16·1	164
Hammersmith	114,210	10	27	12	—	5	—	1	5	—	60	6·8	—	5	—	3	1	—	1	—	3	13	1·5	122	13·9	138
Fulham	143,102	12	40	35	—	4	—	2	4	—	97	6·8	2	9	—	2	4	—	—	—	1	18	1·6	162	14·8	127
Chelsea	74,018	8	20	9	—	1	—	—	5	—	43	7·6	1	29	—	1	1	—	—	—	1	33	5·8	135	23·8	229
City of Westminster	180,800	20	51	21	—	13	—	2	10	—	117	8·4	2	2	3	3	1	—	2	—	—	13	0·9	220	15·9	151
North Districts.																										
St. Marylebone	132,069	15	24	8	—	3	—	—	13	—	63	6·2	1	4	1	—	—	—	—	—	1	7	0·7	163	16·1	105
Hampstead	83,743	3	12	5	—	4	1	1	4	—	30	4·7	—	5	1	2	1	—	1	—	—	10	1·6	63	9·8	87
St. Pancras	235,596	35	68	69	—	9	1	—	21	—	203	11·2	10	11	4	12	7	—	1	—	3	48	2·7	309	17·1	82
Islington	337,268	43	91	59	—	11	—	1	23	—	228	8·8	14	8	3	8	8	—	2	—	1	44	1·7	376	14·5	121
Stoke Newington	51,700	1	11	4	—	2	—	—	3	—	21	5·3	—	—	—	—	2	—	1	—	—	3	0·8	40	10·1	93
Hackney	221,928	44	84	61	—	4	—	2	17	—	212	12·5	13	9	1	5	9	—	—	—	—	37	2·2	239	14·0	118
Central Districts.																										
Holborn	58,535	5	10	12	—	2	—	1	10	—	40	8·9	—	5	—	—	4	—	1	—	1	11	2·4	94	20·9	114
Finsbury	100,487	13	33	15	—	1	1	—	7	—	70	9·1	—	7	—	8	4	—	1	—	3	17	2·2	144	18·7	125
City of London	25,598	2	6	7	—	—	—	—	—	—	15	7·6	1	2	—	—	—	—	—	—	—	3	1·5	38	19·3	94
East Districts.																										
Shoreditch	117,980	33	14	19	—	8	—	—	9	—	83	9·2	6	5	—	1	7	—	—	—	4	23	2·5	144	16·9	101
Bethnal Green	129,889	78	38	19	—	9	—	1	14	—	159	16·0	6	4	1	6	10	—	—	—	1	27	2·7	203	20·4	142
Stepney	300,551	112	90	75	1	10	—	2	26	—	316	13·7	17	23	3	10	23	—	2	—	4	82	3·6	454	19·7	122
Poplar	169,214	103	63	46	—	4	—	2	10	—	228	17·6	16	7	4	5	4	—	—	—	1	37	2·9	217	16·7	115
South Districts.																										
Southwark	206,225	108	69	47	—	13	—	4	22	—	263	16·6	15	31	2	4	13	—	1	—	2	68	4·3	350	22·1	170
Bermondsey	130,218	45	29	22	—	9	—	—	21	—	126	12·6	5	9	—	—	8	—	1	—	1	24	2·4	183	18·8	132
Lambeth	306,102	45	99	43	—	13	1	1	21	—	223	9·5	8	6	6	5	7	—	3	—	7	41	1·8	380	15·4	94
Battersea	171,401	38	55	16	—	4	—	1	12	—	124	9·4	4	17	1	1	8	—	2	—	1	34	2·6	186	14·1	110
Wandsworth	241,810	7	78	45	—	8	—	—	19	—	157	8·5	1	9	2	3	7	—	1	—	3	28	1·4	229	12·3	70
Camberwell	262,775	74	93	42	—	5	—	—	24	—	238	11·8	13	—	4	4	13	—	—	—	3	37	1·8	296	14·7	112
Deptford	111,577	16	47	18	—	4	—	—	8	—	93	10·9	4	—	1	1	6	—	1	—	1	14	1·6	127	14·8	100
Greenwich	96,013	3	22	13	—	4	—	—	10	—	62	6·9	1	3	—	2	2	—	—	—	—	8	1·1	108	14·4	173
Lewisham	132,432	12	72	39	—	4	—	2	5	—	134	13·2	—	1	1	5	2	—	—	—	5	14	1·4	122	12·0	81
Woolwich	119,565	70	29	13	—	2	—	1	9	—	84	9·3	9	6	—	2	2	—	1	—	3	23	2·5	146	15·9	106
Port of London	—	—	—	—	—	2	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

proportional mortality from this disease was recorded in Kensington, City of Westminster, St. Pancras, Poplar, and Lambeth. The deaths from diphtheria last month numbered 88, against an average of 148 in the corresponding periods of the 10 preceding years. Among the various metropolitan boroughs this disease was proportionally most fatal in St. Pancras, Bethnal Green, Stepney, Poplar, and Lewisham. The 155 fatal cases of whooping-cough showed a decline of 40 from the corrected average number; the greatest proportional mortality from this disease occurred in Holborn, Bethnal Green, Stepney, Southwark, and Bermondsey. The 23 deaths referred to enteric fever were eight below the average number in the corresponding periods of the 10 preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Westminster, Islington, Stepney, Lambeth, and Battersea. The 56 fatal cases of diarrhœa were also slightly below the average; the highest death-rates from this disease were recorded in Paddington, Hammersmith, Finsbury, Shoreditch, Lambeth, Lewisham, and Woolwich. In conclusion, it may be stated that the aggregate mortality in London last month from the principal zymotic diseases was more than 7 per cent. below the average.

Infant mortality in London during May, measured by the proportion of deaths of children under one year of age to registered births, was equal to 117 per 1000. The lowest rates of infant mortality were recorded in Hampstead, St. Pancras, Stoke Newington, Wandsworth, and Lewisham; and the highest rates in Kensington, Chelsea, City of Westminster, Southwark, and Greenwich.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Deputy Inspector-General M. Fitzgerald to Haslar Hospital. Surgeons: A. K. Smith-Shand, W. N. L. Cherry, and E. L. R. Thomas to the *Duke of Wellington;* T. W. Miles to the *Wildfire;* J. Fullerton and J. G. Peebles to the *Pembroke;* L. M. Morris, O. Mills, and N. H. Mummery to the *Vivid;* and T. B. Shaw to the *Resolution.*

ROYAL ARMY MEDICAL CORPS.

Major Smith proceeds home from Sierra Leone on relief by Major Crofts.

Major B. M. Skinner is appointed Secretary to the Army Nursing Board in connexion with Queen Alexandra's Imperial Military Nursing Service. Captain O. O'C. Hodgens takes up duty at Dover.

Lieutenant-Colonel P. M. Ellis has arrived at Colchester.

ROYAL ARMY MEDICAL CORPS (MILITIA).

The undermentioned officers are seconded for service in South Africa:—Lieutenant G. J. D. Davies and Lieutenant S. G. McAllum.

VOLUNTEER CORPS.

Royal Engineers (Volunteers): 2nd West Riding of Yorkshire (Leeds): William Hearfield Galloway, to be Surgeon-Lieutenant.

Rifle: 1st (Exeter and South Devon) Volunteer Battalion the Devonshire Regiment: John Shirley Steele Perkins to be Surgeon-Lieutenant. 22nd Middlesex (Central London Rangers): Surgeon-Lieutenant A. Ehrmann to be Surgeon-Captain. 1st Tower Hamlets: Surgeon-Lieutenant O. A. Marrett to be Surgeon-Captain.

VOLUNTEER INFANTRY BRIGADE BEARER COMPANIES.

Devon: Surgeon-Lieutenant H. W. Webber, from 2nd Devonshire Royal Garrison Artillery (Volunteers), to be Surgeon-Lieutenant, and to command under paragraph 55A Volunteer Regulations. North East Lancashire: Surgeon-Captain J. M. H. Martin, from 1st Volunteer Battalion East Lancashire Regiment, to be Surgeon-Captain, and to command under paragraph 55A Volunteer Regulations; Surgeon-Captain T. Holt, from 2nd Volunteer Battalion the East Lancashire Regiment, to be Surgeon-Captain.

THE LOSSES IN THE LATE WAR.

The total reduction of the military forces through the war in South Africa up to the end of May last, according to the last monthly return published by the War Office, is stated to have been 28,434, which includes 1080 officers and 27,354 non-commissioned officers and men. Among those sent home as invalids the great majority have recovered and rejoined for duty. According to the statement of Lord Stanley on June 9th, in reply to a question in the House of Commons, the number of soldiers who, having been discharged as medically unfit for further service on account of disability during the South African war, have been awarded pensions is 14,398; the number of widows and children of soldiers who have died in the war, to whom pensions have been awarded is: widows, 2863; and children, 4184. It is not possible, of course, to give any estimate of the number of future recipients of such grants.

VOLUNTEER MEDICAL ASSOCIATION.

The annual challenge shield competition was held at the Guildhall, London, on June 7th, when the proceedings were witnessed by a large number of volunteer medical officers and ladies, including a contingent of the St. John Ambulance nursing sisters. The following are the names of the competing teams in the order of merit:—The 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry; the 3rd Volunteer Battalion the Queen's Royal West Surrey Regiment; the 1st City of London Rifle Brigade; the 21st Middlesex (Finsbury) Volunteer Rifle Corps; the 1st Cadet Battalion the King's Royal Rifles; the 2nd Volunteer Battalion Royal Fusiliers (City of London Regiment); the 1st Volunteer Battalion the Princess of Wales's Own Yorkshire Regiment; the 4th Durham Royal Garrison Artillery (Volunteers); and the 2nd Volunteer Battalion the Essex Regiment.

IMPERIAL YEOMANRY HOSPITALS.

The anniversary dinner to commemorate the capture of the Imperial Yeomanry Field Hospital and Bearer Company at the battle of Roodewal was held at the Criterion Restaurant on Saturday last. Major Stonham, C.M.G., presided, and there were present upwards of 90 members of all ranks of the company.

PAY OF THE ROYAL ARMY MEDICAL CORPS IN INDIA.

The Secretary of State for India has decided to approve an increase to the pay of officers of the Royal Army Medical Corps below the rank of Major while serving in India, and also the issue of charge allowances for senior medical officers of station hospitals in that country.

Correspondence.

"Audi alteram partem."

HOSPITAL SUNDAY.

To the Editors of THE LANCET.

SIRS,—Sunday next is the thirtieth anniversary of the institution of "Hospital Sunday" in the metropolis, and collections will then be made in every place of worship in the vast area of London in aid of the hospitals, dispensaries, and convalescent homes which do so much for the alleviation of the necessities of the suffering poor.

The rapid increase in the population of London intensifies the need for these beneficent institutions, but unfortunately the subscriptions do not sufficiently keep pace with the requirements. Thus the largest and wealthiest city in the world, and the capital of the British Empire, labours under serious disadvantage in dealing with its sick population.

To help to remedy this state of affairs it is necessary for at least £100,000 to be raised by next Sunday's offertories. Mr. George Herring, who has contributed large amounts in previous years, has now offered either to add one-fourth to the amount raised on Hospital Sunday by the various places of worship, or to give a donation of £10,000.

The Council decided to accept the former offer, believing that it would stimulate other donors. With this munificent proposal it is surely not hopeless to expect to raise the desired sum of £100,000.

The Hospital Sunday Fund neither clashes nor competes with any other organisation except in the friendliest rivalry, and it is hoped that this historic year may be rendered memorable in its annals by an unprecedentedly large collection in aid of His Majesty's suffering poor in London.

Those who may be away from London, or unable to attend houses in the borough of Godalming which drained into the river Wey above the mills there were some cases of typhoid fever in April and May; the specific poison of the fever, therefore, was probably passing into the river from that house at the time when it was distributed to the cisterns in the clay-room at the mills." (*Public Health*, vol. iv., p. 188.)

An outbreak of typhoid fever at King's Lynn and Gaywood (Norfolk) was reported on in 1892 by Dr. Bruce Low. This outbreak was particularly interesting because it was ushered in by a "sudden outbreak of diarrhœa attacking all classes and all parts of the town during the last few days in February, followed by development of numerous typhoid cases about a fortnight later." This outbreak was due to the fact that the water-supply of the town was derived from Gaywood river which flows through cultivated fields and gardens. The intake of the water is within the borough boundary and the filtration adopted is very insufficient. The contents of privy pits in the town into which the discharges of some typhoid fever cases have been thrown were spread before the time of the outbreak on part of a market garden abutting on the river and about a mile above the intake of the water-supply and the "excreta from a house outside Gaywood wherein eight persons were attacked one after the other with typhoid fever between November and March had been placed in a pit in the garden, from which it was washed into the river above the intake by the melted snow and heavy rainfall that occurred in the third week in February."

Dr. Bruce Low reported in 1893 on an outbreak at the villages of Nunnington and Ness-in-Ryedale (Yorks). The water-supply of these villages is derived from the river Rye which is largely polluted by the sewage of Helmsley and by the washings from land on which local privy "muck" and Leeds town manure are spread from time to time The chief interest in this outbreak is that it was cut short by all the water used for all domestic purposes being boiled. In 1895 Dr. Bruce Low reported on an outbreak of typhoid fever in September in certain riverside villages below Helmsley, just after the outbreak at that town caused by infected milk (see page 1022). This outbreak was "confined to those persons who drank raw river water taken from the Rye at points below that at which it is polluted by the sewage of Helmsley."

In 1897 Dr. F. St. G. Mivart reported on a sudden outbreak of typhoid fever at King's Lynn borough and Gaywood parish (Norfolk) early in October. The fever was distributed indifferently throughout both places. The water-supply was derived from the river Gaywood "which is exposed freely to pollution of all kinds throughout its course." The river water was delivered without filtration, an abundance of contaminating matters having been washed into the river by the excessive rainfall on Sept. 29th.

In 1899 Dr. S. W. Wheaton reported on an outbreak in the borough of Ilkeston (Derbyshire) as follows: "Fever prevalence in all probability due to pollution of the general water-supply of the town, which is derived from the Nut brook and imperfectly filtered. The water of the Nut brook is grossly polluted by liquid refuse from dwellings at Henor, effluent from the Henor sewage farm, and numerous other sources of contamination."

In the twenty-second annual report of the State Board of Massachussets for 1890 is a report on typhoid fever in its relation to water-supply by Mr. Hiram F. Mills, in which it is stated: "Twenty-five years ago the average number of deaths by typhoid fever in 10,000 inhabitants in the places which are now cities in this State was 7 8, the number now dying yearly from this disease in the same places is 4 6 in 10,000 inhabitants. In fact, the actual number of deaths from this disease 25 years ago in these places, when their population was only six-tenths as much as at present was as great as it is now, and if measures for its prevention had not been taken and the death-rate had continued as it was 25 years ago we should now have 1000 deaths yearly, when the actual number in the cities is about 600. By carefully plotting upon maps of the cities the residence of all cases reported to the local Board of Health, together with the deaths, the distribution, though not even over the whole city nor strictly proportioned to the density of population, was so general that it could not be attributed to possible cases of typhoid fever at two or three of the large number of farms that supplied milk to the 100 or 200 milkmen who distributed milk through the territory where the cases of disease were found. On the other hand, the cases found in Lawrence were all within the territory supplied with water from the city waterworks, and several of the cases were in the thinly settled and apparently very healthy portions of the city, near the outer limits of the water-pipes. In Lowell the cases were very generally distributed throughout the territory, the numbers following nearly the density of the population. These conditions and the discovery of a probable cause of the contamination of the Lowell water-supply by fæces of typhoid patients discharged into Stony Brook, only three miles up stream from the intake of the Lowell waterworks, followed in a few weeks by the very rapid increase in the number of deaths from typhoid fever in Lowell, and these deaths followed in about six weeks by an alarming increase in the number of deaths in Lawrence, whose water-supply is drawn from the Merrimack river nine miles down stream from where the Lowell sewage enters the river, and the further discovery in December of typhoid fever germs in water from the service-pipes of the city of Lawrence, induced the board to send to the Mayor of Lawrence" a letter "warning the citizens not to use the city water for drinking until after it has been boiled for at least 15 minutes; and that when boiled it should not be cooled by putting into it ice obtained from the river this winter. This precaution should be continued as long as typhoid fever prevails in Lowell."

And he sums up the results of his investigation as follows: "We have found this relation existing between typhoid fever and water-supply—viz., that in general in the cities of the State the death-rate by typhoid fever has been greatly reduced by the introduction of a pure public water-supply; that in the one city, where there has not been such a reduction, a portion of the people use for drinking water from canals or from wells subjected to serious pollution by sewage; and that the deaths from this disease are much more frequent among that portion of the community than among others. The only two remaining cities which have not decreased death-rates by typhoid fever after the introduction of public water-supplies receive their supplies from a river polluted by sewage; and the seasons in which this disease prevails in these cities are later than those of other cities, and in the lower city on the river later than in the upper city, at a season when other cities are nearly free from the disease and at the time when it would follow if produced by the sewage from the upper city; further, that when the water of the river which passed the upper city and received its sewage during the greatest prevalence of the disease there had reached the service-pipes of the lower city, and there was the greatest prevalence of the disease in the lower city, typhoid fever germs were found in water from these service-pipes."

In the twenty-fourth volume of the reports and papers of the American Public Health Association for 1898 an account is given by Dr. John Leal, health officer, Paterson, New Jersey, of an outbreak of which he says: "No possible common means of infection could be found except the public water-supply, upon which all of those affected, with the possible exception of two or three, were dependent for at least a portion of the 24 hours. It also appeared that the only section of the city which did not contain a single case of the disease was also the only section not furnished with the public water-supply." It appears that "a resident of Little Falls (a place on the river above Madison) returned from a summer resort ill with typhoid fever on August 28th. The fever subsided about Oct. 1st but a relapse followed, lasting from about Oct. 8th to the end of the month, when finally convalescence began. The water-closet receiving the discharges of the patient was connected with a series of cesspools, connected with each other by overflow-pipes, and the last cesspool of the series discharged through a hidden pipe into the river. These cesspools, having thus become infected about Sept. 1st, continued to receive fresh infection until about Nov. 1st, when the patient was actually convalescent." Bacteriological examination of the water above Little Falls gave a negative result both as to bacillus coli and bacillus typhosus, but "below Little Falls the chemical evidence of harmful pollution was found, the average number of bacilli per cubic centimetre was 600, and in 90 per cent. of the specimens examined colonies of the common colon bacillus appeared." On a specimen taken at the intake on Sept. 23rd Dr. Connolly reported as follows: "Tests for typhoid bacilli revealed the presence of a non-liquefying active-motile bacillus which did not produce gas in the presence of culture media containing sugar, nor did it produce indol, and in other respects was identical with the typical bacillus of typhoid fever."

their accustomed place of worship, are invited to send their contributions direct to me at the Mansion House.

I am, Sirs, your obedient servant,
JOSEPH C. DIMSDALE, Lord Mayor
The Mansion House, London, E C., June 11th, 1902.

PAYING WARDS AND PAYING HOSPITALS.

To the Editors of THE LANCET.

SIRS,—Will you kindly lend me a little of your valuable space to congratulate Dr R. Saundby and Mr. B. W Housman on their excellent letters in THE LANCET of May 10th, p. 1356. They show, in both cases, a proper grasp of the situation and they proceed on lines of real reform in the best interests of all classes of medical practitioners. Our profession, like all other professions, must live; and, as society is now constituted, it ought to be paid for its labours on a proper financial basis. The time is past for medical men to lay the burthen of paying for the poor entirely upon the rich With civilisation advancing and wages increasing money has become the universal medium of exchange. Each class is getting more and more independent of other classes and must stand on its own feet in the different relations of life, and so it has come about that charity to the working class is unnecessary and uncalled for, and the doctor has to manage his professional work as all other professions have to manage theirs, on true business lines all round. The ideal state of matters, then, would be that we medical men should be paid on a fitting scale for every form of work done, whether in a hospital or club, or any other *quasi*-benevolent institution, and that the charitable element, so far as our duties are concerned, should be entirely eliminated. I need scarcely add that practically such a dream cannot be realised *per saltum*. So complete a change in our relations with the public must, we know, take a long time to effect. *Above all, we ourselves must learn to combine* Looking at matters not only as they affect us, but as they react on the public at large, if time and your space were available it could be clearly shown that such a reform would encourage on the part of our people the best of all qualities in the wear and tear of life—good, honest independence. It is because there is so much of this spirit in the letters I have referred to that I welcome them as I do.

Dr Saundby, having scored a victory over the ill-considered and impracticable, if well intentioned, scheme of the Birmingham Consultative Institute, has shown much good sense and magnanimity in recognising what was really valuable and sure ultimately to emerge from that conception. He very properly argues for taking time by the forelock and invites the opinions of others on the principles which should regulate a self-supporting scheme of paying hospitals open to the better-paid working man and to lower middle-class patients.

Having bestowed some time and attention on the consideration of this subject I venture to suggest certain propositions—not by any means as if I considered them as proved to the satisfaction of everybody but as the basis of further discussion of the subject. The first proposition I would venture to advance is that the scheme should be worked on coöperative principles on both sides Every person, without distinction as to wages, salary, or otherwise, should be able if he chose to avail himself of such an institution and every regular consultant, medical, surgical, or specialist, should be, if he or she chose, on the list of the recognised staff. Secondly, board, lodging, and nursing should be fixed at a moderate rate, while the fee for medical and surgical attendance should be left to the particular physician or surgeon in attendance. Thirdly, a list of physicians, surgeons, and specialists, with their fees, should be posted up in the hospital, patients being at liberty to select their own doctor. Consultations would be arranged for on similar lines.

In order to start such a hospital sufficient funds would require to be guaranteed. After a time the institution would have to be self supporting The friends of the working men and the working men themselves would have to be convinced of the wisdom of the scheme and agree heartily to help it in every way so as to make it successful. As to management a joint board of management should be formed, of which the medical element would have to constitute a full half and the representatives of the classes to be benefited the other half. The bargain must be a fair one between those who are giving their services and those who are accepting the same, both parties meeting on equal terms. The establishment would be run on strictly business lines. One objection to the scheme suggested which occurs to me is that there might be a press of cases waiting to be admitted and consequent grumbling on the part of those members of the staff who failed to get their patients into the hospital. The remedy would naturally be the provision of more beds and the hospital might be originally built on a plan which would readily admit of extension, and there would be no reason why another hospital might not be set up if the first one became, so to speak, too successful.

It will be seen that I have said nothing as to limiting those admitted so as to exclude the rich. I do not believe in any such tests They are too inquisitorial and invidious to work well. But I would be in favour of getting as many as possible subscribers of 6*d*. weekly with a preferential right to admission and that on a reduced scale. This plan of itself would naturally limit the class of applicants and if the contributors were numerous would provide for a more certain and steady income at all times and seasons than if the scheme depended merely on the number of beds occupied.

One word in conclusion in favour of paying hospitals As things are constituted at present patients with only moderate means must choose between expensive nursing homes and large fees and hospitals with no charge of any kind. Who can doubt that most prefer the latter alternative, and in this way the profession as a body (and I should think more particularly operating surgeons) lose very heavily! Surely, here the middle course is best and I believe that a *via media* will most easily be found by adopting some such plan as I have attempted all too ineffectively to sketch. I have left myself no room to deal with Mr. Housman's suggestions But I hope, with your leave, to take them up by and-by I believe the principles I have tried to enunciate would equally well apply to clubs and club doctors.

I am, Sirs, yours faithfully,
WILLIAM BRUCE.
May 27th, 1902.

ON THE USE OF THE TERM "BLASTOMA."

To the Editors of THE LANCET

SIRS,—In THE LANCET of May 31st (p. 1562) there is a letter from Professor Adami criticising my use of the term "blastoma." I must confess that I was not aware of the fact that the term had been used by Professor Klebs and I must thank Professor Adami for calling my attention to it Since reading his letter I have referred to Klebs's work ("Allgemeine Pathologie") and I find that Professor Adami's description of Klebs's classification is not quite accurate. Klebs uses the term "blastomata" as a synonym for "true tumours," but he includes under this term many conditions which are not considered tumours at the present day. He divides the blastomata or true tumours into *three* primary classes. The first class he calls "typical blastomata" and uses the synonym "giant growths" (*riesenwuchse*) They are those conditions which I called progressive hypertrophy The second class is that of the "atypical blastomata" and includes all the ordinary tumours and also tubercle, leprosy, &c. The third primary class is that of the "teratoblastomata" or "teratomata" which, besides dermoid cysts, &c., includes tumours arising from fœtal remains, such as those originating in branchial clefts, &c. Thus the term "blastoma," as used by Klebs, includes all tumours, progressive hypertrophies, and tubercle, leprosy, &c. I think that no one at the present day would defend this use of the term.

Professor Adami uses the term to designate the ordinary tumours as opposed to the teratomata—a use different to that of Klebs. Professor Adami's classification[1] is one rather of the antecedents of tumour formation than of tumours themselves. As a classification of tumours it is useless owing to the overlapping of the different subdivisions. Carcinoma, for instance, would occur in all the subdivisions of his group "blastomata." He draws too sharp and artificial a line between the teratomata and other tumours. He defines the blastomata as "tumours composed of the products of aberrant growth of cells and tissues of the individual in whom they develop," and the teratomata as "tumours composed of the products of growth of one individual within the tissues of another individual of the same species." He states that ovarian and testicular dermoids probably arise from the germ cells, and he therefore includes them in the teratomata, but what about dermoids in other situations? Are they, then, blastomata, or do they arise from wandering germ cells? Can Professor Adami tell us at what point an ovarian ovum ceases to belong to the ovary and becomes a separate individual? Again, in the case of transplantation of tumours from one animal to another does a tumour which is a blastoma in the first animal become a teratoma in the second. I do not think that any single term is necessary to designate collectively the ordinary tumours as distinct from the teratomata, and, if it were, the term "blastoma" would not be suitable since this meaning is not implied in it.

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[1] The Causation of Cancerous and other New Growths, Brit. Med Jour., 1901, vol. i., March, 16th.

The tumours to which I have applied the term "blastoma" are best illustrated by the congenital mixed tumours of the kidney and many parotid growths. These tumours are neither sarcomata nor carcinomata in the accepted meanings of these terms. The fundamental cells of these growths are indifferent cells, and as proliferation proceeds some of them become differentiated into epithelial cells and others into the various forms of connective tissue cells and sometimes into muscle cells.

Now, Sirs, in the terms "fibroblast," "erythroblast," &c., the termination *-blast* signifies that the cells to which these terms are applied are immature. The term "blast" (βλαστός, germ) without any prefix would naturally signify an undifferentiated cell—that is, one which is not the precursor of any definite kind of cell but which may become differentiated into any kind of mature cell. We have also the old term "blastema" which was used to designate the undifferentiated substance from which the cells were supposed to be formed. The natural meaning, therefore, of the term "blastoma" is a tumour the essential components of which are undifferentiated cells and it is in this sense that I have used it, and I think that both by derivation and by analogy with cognate words I am justified in so using it.

In conclusion I must apologise to Professor Adami for not having, through an oversight, referred in my lectures to his use of the term "blastoma."

I am, Sirs, yours faithfully,
CHARLES POWELL WHITE.
Medical School, Leeds, June 9th, 1902.

OBSERVATIONS ON DIET.

To the Editors of THE LANCET.

SIRS,—"When doctors disagree," &c. Here is a point in question and in emphatic contrast. Dr. Harry Campbell, in a highly theoretic and erudite contribution to your pages,[1] says: "I cannot too emphatically impress upon my readers the desirability—nay, the necessity—of keeping the aged on a spare diet. Do not let us extinguish the flickering fire of age by piling on too much fuel." With your kind permission I have the honour to join issue here with Dr. Harry Campbell in no uncertain terms. Speaking from actual practical experience with many cases I should be inclined to be equally emphatic but would substitute the word "full" for the word "spare" and the word "withholding" for the words "piling on" in the above quotation. Many of the reasons advanced by Dr. Campbell I personally regard as indications for the exact reverse in the treatment. The only modifications experience has led me to introduce into the above are the words "suitably prepared full diet."

In the *British Medical Journal* of Oct. 13th, 1900, is published a paper by myself on the Dietetic Treatment of Cardiac Failure in the Aged, based on a matured practical experience of full feeding of aged persons, and inasmuch as heart failure is the main cause of death in the aged (lung and kidney diseases not being excluded) and a full diet having been found in my hands far and away more satisfactory than the reverse, I may be excused for appearing over enthusiastic and dogmatic on this matter. So much does my own experience (I cannot speak of the experience of others) force me to a contrary opinion to that expressed by Dr. Campbell that I have now come to look at the word "metabolism" as a veritable pitfall for those who have the care of an aged and failing patient. Rather "meta(dia)-bolism" *of starvation than* "*diet*"—*secundum artem* where the aged are concerned. "Lived in spite of them all" is often the grim chuckle of the wilful, disobedient aged person who has transgressed repeatedly and constantly "laid-down diet on restricted lines."

It is quite time we as a profession began to revise our practice and preconceived notions in certain directions where diet is concerned, and as an ounce of practice is worth a pound of theory, here goes. Of the cases quoted by me in the afore-mentioned paper every one is at present alive and well, after periods ranging from three to seven years, living on the fat of the land now, where previously they sank rapidly to dissolution on moderate diet. To these have since been added many others quite as, if not more, striking illustrations of the success of the reverse of a "spare diet." I feel confident that were it possible to take ten aged persons (cardiac, lung, and kidney complications included)—not ten healthy aged persons, but ten downright "broken-downs," typical "foot-in-the-grave" old people—and to place five on an anti-anything-one likes "spare diet" and the other five on a generous, good, full diet (not omitting the provision of false teeth), the whole of the spare diet seniles would be dead and gone before two (any two) of the full-fed seniles had succumbed. *Verb. sap.*, but *cui bono?*

I am, Sirs, yours truly,
June 9th, 1902. F. W. FORBES ROSS, M.D. Edin.

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[1] THE LANCET, May 31st, 1902, p. 1554.

THE ROYAL NAVY MEDICAL SERVICE AND THE ROYAL ARMY MEDICAL CORPS: A COMPARATIVE VIEW.

To the Editors of THE LANCET.

SIRS,—As you have done me the honour in THE LANCET of June 7th, not alone of publishing my letter with the above heading (p. 1645), but also of commenting upon it in an annotation (p. 1613), may I be allowed to reply to some points raised in the latter. I shall not trouble you again, the time involved in the necessary searching through intricate regulations is too much for me to spare, and but for the kindly assistance of a retired naval officer would have compelled me to silence on the present occasion. Your annotator implies that my comparison is "partial, incomplete, and misleading." I hope to show that this is not so and that to some extent the latter term may be fairly retorted on him in regard to certain omissions he has made. Let me begin, as he does, with the question of allowances and take them as applying to a Staff Surgeon, R.N., and a Major R.A.M.C., each of 12 years' service. As your annotator states, the former has a furnished cabin and a servant, but he omits to state that he has to pay rent for the furniture of the former and wages to the latter; he has, as stated, a mess which costs him 2*s.* per day, but this is for food only, I am told, and takes no account of other mess subscriptions and all this has to come out of his pay of £438 per annum, whereas the Major R.A.M.C., in addition to his pay of £430 per annum, has allowances (*vide* Appendix to New Warrant) of £157 12*s.* 10*d.* with which to meet the same expenses, his pay being left intact apparently. Wherefore I venture to doubt your annotator's confident statement that the army man cannot live as well with his allowances as the navy man can without them. He must be poor at getting an equivalent for his money if he cannot. On the general question of these allowances I would like to refer your annotator, as I have been referred, to a letter by Mr. James Cantlie in the *British Medical Journal* of May 10th, p. 1182.

Now to take up your annotator's remarks on the points I raised. 1. Surely it is not the intention of those drafting new regulations for the King's service to insert words which "can be safely ignored." 2. It is a fact that there are officers now on the staff surgeons' list "with but four or five years' service as surgeons," but your annotator omits to state that these early promotions have been for war service (*vide* Lean's Royal Navy List), and these are not unknown in the Army Medical Service. But all this is entirely beside the question raised in paragraph 2 of my letter which referred to promotion by examination. 4. The hospital allowances mentioned as given to naval doctors when so serving are said to be in "lieu of provisions for themselves and their servants and for fuel and light." I am *told* that in England they are £53 for a fleet surgeon or a staff surgeon, and that it is only abroad they reach the higher figures named, and surely they should be compared with the army doctor's allowances for the same sort of thing and not with his charge-pay for being in charge of beds—a very different thing. 5. Your annotator's statement that this applies to all naval officers does but emphasise the truth of my comparison, by extending the area of its application. The consolation to be derived by A from seeing B in the same hole as himself while he sees C and D are out of it is a very remote one. 6 The army warrant provides specialist's pay in many other subjects than the solitary one of sanitation.

Trusting to your courtesy to insert this rejoinder,

I am, Sirs, yours faithfully,

June 9th, 1902. PARENT.

SANITATION AT THE DÜSSELDORF EXHIBITION.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

ACCORDING to official announcements the Düsseldorf Exhibition is the most important yet held in Germany Nevertheless, it is confined to the manufactures, industries, and art of the Rhine provinces, but these are of the very first importance. They illustrate the enormous progress achieved in Germany of late years and testify to an economic evolution which is of necessity attended by many grave social and sanitary problems. Consequently, of the 23 sections into which the exhibition is divided the twenty-first section, organised under the direction of Dr. Aug. Hoffmann, is devoted to "sanitary arrangements and social institutions." But questions affecting public health arise in other sections and notably in the very elaborate exhibitions illustrating the mining industries. At the same time it must be recognised at once that though this is essentially a technical exhibition it is only incidentally that matters dealing with the technicalities of medical and sanitary science may be studied. But Düsseldorf is within half an hour's journey from Cologne—a town where so many travellers stop on their way to the Rhine, Switzerland, Germany, and the East. Then and apart from the exhibition Düsseldorf is a beautiful town, well worth a visit. The ornamental waters, the parks, the majestic trees, the verdant avenues, situated not on the outskirts, but in the very centre of the town, constitute a most remarkable and attractive feature of this great German centre of art and industry. Then the town seems to be well drained, very clean, and skilfully administered. The service of electric tramways is one of the most perfectly organised of any town in Europe and there can be no doubt that all who are interested in the technique of urban administration will find useful indications at Düsseldorf. On the other hand, the mere pleasure-seeker will rapidly exhaust the few attractions that have been provided. The exhibition is intensely technical and it is not given to the ordinary tourist to appreciate the functions of blast furnaces or the engineering difficulties of iron bridges that span the deepest stretches of the Rhine. The extensive Krupp exhibits and those of rival manufacturers in the production of modern engines of destruction and defence are of sinister, though of more general, interest, but in any case the magnificent art gallery with its numerous paintings will prove attractive to all.

Leaving, however, all these topics to those whom they especially concern, I will briefly mention what may interest those who study public health questions. Following the monumental Rhine embankment to the Rheinthor entrance of the exhibition the visitor will see immediately on the right a wooden lazaret or barrack and other portable structures. These are put up by the Deutsche Barackenbau Gesellschaft on the Brümmer system. This system is based on the principle that every separate piece of the building shall be of the same size and these shall be joined together in the same manner Consequently the building can be made large or small or reduced in size or enlarged according to varying requirements. Also, if a window is in an unsuitable position it is only necessary to unscrew that portion of the wooden wall which contains the window and to carry it elsewhere. Here the portion of the wall which has no window is in its turn unscrewed and exchanged for the portion of the wall which has a window. A good-sized barrack hut can be put up in about 24 hours, and if it does not occupy a surface of less than 100 square metres it will only cost £2 per square metre. For a quarantine station that has to be hastily constructed or for an isolation hospital this is, in any case, a ready and cheap contrivance. The manager, whom I questioned, assured me that these huts were strong enough to resist a hurricane.

A few steps further there is a pavilion mainly devoted to the exhibition of gigantic kitchen ranges and other domestic objects. Here Herr A. Ballauff shows some closets, baths, &c., which are in keeping with modern sanitary exigencies and the fittings for soap and sponges are thoughtfully devised. Then there is a new system of removeable handles for heavy tailoring and laundry irons and a closed stove for warming them By reducing the risk of burns and the escape of fumes these contrivances will be of service in many workshops. The greater part of the kitchen pots and pans, which in England would be black, more or less covered with soot, and treated as useful but not as æsthetic articles, are here enamelled and elaborately decorated with designs representing various flowers, &c. The kitcheners also are very delicately ornamented. Some are of a creamy white colour, with subdued tints and flowers in the centre. They suggest kitchens wonderfully free from smoke, soot, and dirt. There can be no doubt that the converting of kitchen utensils into works of art must tend to encourage cleanliness in the kitchen, and this must contribute to preserve the purity of the food, thus very materially benefiting the health of all concerned.

On the left-hand side of the Rheinthor and close by the banks of this noble river there is a row of workmen's model cottages. These have in many cases the advantage of being picturesque and varied in design. One of these houses is exhibited by the workmen's building societies of Remscheid, a centre of the cutlery and metal working industries where a great deal has been done to improve the condition of the working classes In this workman's dwelling artistic furniture is exhibited, and as the price is fixed to each article the object is to show that art is not necessarily expensive or beyond the reach of the ordinary artisan. Thus a really handsome and ornamental wooden bedstead costs 34s., a large wardrobe with double doors 66s., and so forth. The tidiness of the kitchen arrangements is remarkable. For instance, an enamelled slab is suspended to the wall near the kitchener on which the spoons, &c., used in the kitchen are hung up. The lower part protrudes so as to catch the drops that fall from the spoons or ladles and thus prevents grease spots on the floor. The side walls as well as the roof of this house are all covered with slates. Doubtless in a very rainy climate this must keep the interior dry. Other cottages close by showed very evident proofs of dampness inside; in many cases the wall-paper was absolutely discoloured.

The Arbeiterwohnungsgenossenschaft, Köln Süd also seeks to apply new art to workmen's furniture in a practical and economical manner Thus instead of one large wardrobe two smaller ones are placed at the head of the double-sized bed with a little shelf protruding to form a bed table to hold a watch, a candle, &c. Each wardrobe, therefore, serves a double purpose. The wood is painted and polished a dark green seaweed colour. A very choice dark-blue repp for the upholstering of the furniture matches the painting of the wood and harmonises with variegated yellow art muslins that are used wherever drapery is required. The kitchener is artistically enamelled and ornamented with flowers of subdued tones and costs 85 marks. The sitting- or drawing-room might be described as "a melody in brown," yet the entire cost of the furniture including a small bed is only 318 marks. The furnishing of the entire house suitable for a man and wife and an adult child or lodger costs £40. The kitchen measures 13·50 cubic metres and the two other rooms 18·50 and 13·50 cubic metres respectively; and the cost of building is 110 marks, or shillings, per square metre of surface. There can be no doubt that if workmen could be induced to live in such artistic homes cleanliness and tidiness would be the natural consequence, and this would contribute to maintain their health Thus art and sanitary science may well be considered as natural allies. Nor is this only an ideal conception The fact that such furniture is made and that the manufacturers have gone to the expense of exhibiting it shows that there is a demand among the working classes of Germany for such articles; though, of course, this is as yet exceptional.

On the other hand, the workman's cottage built by the Rheydter Actien-Baugesellschaft furnishes three rooms in a simple and ordinary manner and there is no attempt to introduce the teaching of the new art school. Yet this furniture, also for three rooms, costs £36, so that it is not much cheaper. The workman's cottage, as built at Essen-Ruhr for the workmen of the Krupp factory, is also simple and solid. This house looks thoroughly habitable and in the kitchen there is a wonderful store cupboard for provisions, &c., but the centre opens out and forms a writing-desk, with pigeonholes for account books, cookery books, bills, and receipts. If this does not suggest high art it certainly implies great and systematic economy and order. It would be difficult to conceive a spendthrift, slatternly housewife possessing such a piece of furniture. The chief defect in these exhibits of workmen's dwellings is the fact that no indication is given as to the method which it is proposed to employ to effect their drainage. The places for the sink and the closets are there, but nothing shows how it is proposed to flush, trap, and disconnect these services, nor are there any bathrooms provided, though an installation for a douche is shown in one of the cottages. Again, I failed to detect any trace of damp-proof course for the walls. On the contrary, the damp was very perceptibly spoiling the wall-papers and this without any let or hindrance. In quite another part of the grounds the directors of the Gelsenkirschen steel and ironworks exhibit two pretty double dwellings similar to the cottages which this company builds for its workmen. There is little or no art here, in regard at least to the furniture, and what can be seen of the drainage is not promising, for though the sink-pipe passes through the wall it gives into the rainwater spout and there is no interception. With regard to the technique of domestic drainage none of these German workmen's dwellings can compare with the installations of the "Sunlight" cottages exhibited at the Vincennes *annexe* of the Paris Exhibition in 1900.

The mining associations of Germany have quite a palace to themselves at the Düsseldorf exhibition, surmounted by a dome 130 feet high. Here much of what is done—or, perhaps in some cases it would be more correct to say what should be done—to protect life in the mining industries is exhibited. Indeed, what with the show uniforms which the miners wear—for in Germany even pitmen have uniforms—the elaborate system for giving warm douches when the men leave off work, the beautiful offices at the pit brow, the surgery with its aseptic fittings, the extensive machinery for ventilating the mine, and the underground galleries clean swept as if they were fashionable boulevards, it would really seem as if coal-getting was a most cleanly and agreeable occupation. Nobody perhaps is more surprised when they see all this than the working miner himself. In any case the picture thus presented shows what can and what should be done. It is not, therefore, without its useful purpose. There are among other life-saving contrivances sections of pit galleries fitted with large air-tight metal doors which on being closed can stop the circulation of dangerous gases. Then there is the breathing apparatus provided for the use of rescue parties when they venture in the midst of choke-damp, and, of course, many varieties of safety lamps are shown. There is also a pretty model of the Workmen's Colony Society which has built semi-detached cottages surrounded by large gardens where 470 miners' families live at Niederevving, near Dortmund. The coquettish appearance of these cottages and gardens is certainly a great improvement upon the ordinary mining villages to be seen in England.

The Social Economy and Hygiene Section has a hall of its own, and on entering we find a display of surgical and dental instruments, a model operating room, bandages, orthopædic instruments, &c. The operating tables are light, of enamelled metal, but there is no provision made for heating them, nor do they seem to present any particularly new feature. Asepsis appeared to be well observed throughout. There is also a model pharmacy in the German style. Messrs. Max Werner of Düsseldorf exhibit here various food buffets suitable for restaurants, clubs, &c., constructed on aseptic principles. The shelves are of plate-glass and the sides of enamelled tiles. Then there are partitions for holding ice and a system of ventilation by which the air must pass over the ice before it reaches the food. Undoubtedly there is in this a useful idea, for there is much room for improvement in the keeping of food both before and after it has been cooked. All around on the walls there are fine sectional drawings of the Düsseldorf Rhine embankment and the celebrated Koenigs Allee, showing the sewers, the water, and other underground services, together with the gullies for preventing the sand from reaching the sewers. But I failed to see how the sewers were ventilated. Then there are elaborate plans of asylums, hospitals, sanatoriums, schools, reformatories, slaughter-houses, and so forth. A photograph of the interior of the lying-in ward of the Aix-la-Chapelle Maternity shows that the infant incubators are used in that institution. The photographs of the children's colonies at Wiesbaden are interesting as indicating what can be done for weakly children coming from overcrowded large towns. Some of the great factories exhibit health statistics of their workmen and there are here more toy models of workmen's dwellings. The great work done by private charity in providing employment and shelter for tramps is likewise explained by publications and photographs. Then there are large plans of the Eberfeld and other hospitals and a very fine model of the Dortmund irrigation farm for the disposal of sewage, together with maps and illustrations of the Düsseldorf drainage scheme, the sewer outlet in the Rhine, and the various levels of the river water. Each of these subjects, and many more that I have not mentioned, would supply material for a lengthy study. For instance, there is a middle-class society which has for its purpose the provision of suitable country homes for the treatment of 130 of its members who are suffering from phthisis. Such a movement cannot be described in a few lines, nor would it be safe to venture upon an opinion without a very close investigation of the whole question. In this section therefore, many interesting problems are raised. There is here much food for thought but all these subjects must be studied separately and in detail. Fortunately, a very excellent description of the entire section has been published for the modest sum of 2*s.* It has been prepared by 20 different authors or compilers who, between them, have addressed 2500 questions to the exhibitors concerned. Anyone, therefore, who has time to study this book and then to visit the section in detail would find much here to repay the trouble and would also obtain a general idea of the progress made of late in Germany. As a recreation after such serious investigations there are a few side shows. A miniature Switzerland with an Alpine village and a splendid panorama is well worth a visit, while opposite there is a Cairo street with dervishes, Bedouins, odalisks and other phases of oriental life. Bands, restaurants, and beer-gardens attract the weary visitor on all sides and sweeping past in front of the entire exhibition is the majestic Rhine thronged with pleasure boats suggesting pleasant excursions in various directions.

Düsseldorf, June, 1902.

THE SWISS MEDICAL CONGRESS.

(FROM OUR OWN CORRESPONDENT.)

THE central committee of Swiss medical men held their annual spring meeting at Berne on May 30th and 31st. It was attended by about 200 medical men from all parts of Switzerland.

Professor KOCHER demonstrated a number of cases at his Clinique. A case of fracture of the left parietal bone in a child had called for surgical interference as craniometry and the clinical symptoms localised the lesion and pointed to destruction of brain tissue; there were hemiplegia and aphasia. The operation, which took place three weeks after the accident, was completely justified, a portion of bone being found to be detached and fixed transversely in the brain tissue, while meningocele had commenced. Such cases often gave rise in later years to epilepsy. The most experienced were sometimes at fault in their diagnosis of sarcoma of the antrum of Highmore, where rapid growth seemed to point to inflammation and suppuration only. In one case, that of a girl, aged 10 years, Professor Kocher diagnosed sarcoma. Tapping the antrum showed that fluid was present, but Professor Kocher persisted, opened the antrum, and examined the mucous membrane, which appeared to be normal. He then excised a small portion, microscopic examination of which proved that sarcomatous tissue had invaded the normal structure. A radical operation was thus indicated and performed. To improve the appearance of the face Professor Kocher made injections of paraffin into the subcutaneous tissue, where it remained *in situ* for months. For extensive operations about the mouth and the fauces he declined to perform preliminary tracheotomy, as he did not wish to accumulate dangers by adding a new operation.

Where the danger of pneumonia from inhaling septic substances was great he operated with the patient lying on one side and kept the patient in bed at night in the same position. The day after the operation the patient had to get up as expectoration was freer and the chances of recovery were improved. This method gave good results. He showed a case of tuberculous ulceration of the bowels operated on four and a half years ago. The ascending colon was so adherent owing to masses of secondary glandular tumours that an entero anastomosis had to take the place of a radical operation. The patient recovered and was fairly well for years but lately had come again for operation. Laparotomy revealed that the primary lesions had all healed, including the swollen glands, but now ulcers had formed higher up, leading to 11 strictures. He again performed entero-anastomosis, uniting the jejunum with the transverse colon, hoping thus to alleviate the sufferings of the patient. Convalescence was retarded by acute pneumonia occurring. Referring to cases of obstinate neuralgia of the trigeminal nerve he warmly recommended excision of the Gasserian ganglion as giving the best results and demonstrated a case in an old man, aged 70 years, who suffered pain so excruciating that he meditated suicide. The operation was a very difficult one and care had to be taken not to cut the facial nerve. In cases of so-called "distortions" of the joints he urged the practitioners to consult the surgeon. Cases left to themselves, especially knee cases, became hopelessly chronic and the joints never recovered their proper functions. Very often all that was required was suture of a torn ligament, a condition of things existing in two cases shown. Professor Kocher concluded his demonstrations by speaking on the operative results of diffuse peritonitis. A hernia in a labourer descended while he was at work, which he put back, as he said, without much difficulty. A quarter of an hour afterwards the bowel came down again. He returned it again somewhat energetically, but pain ensued, so that the patient was transferred to the hospital. Reduction *en masse* was diagnosed. Laparotomy showed the existence of fresh diffuse purulent peritonitis. On further examination rupture of the bowel was discovered to be the cause of the inflammation. The man had doubtlessly ruptured his own gut whilst performing reduction of the hernia; he mentioned that he employed considerable force "as he was in a hurry." Though such cases very generally proved fatal the man recovered and could be dismissed as cured. Professor Kocher was of opinion that recovery was dependent on three facts: first, the possibility of removing the cause of the peritonitis, secondly, the proper disinfection of the peritoneum; and, thirdly, prevention of an accumulation of fluid in the peritoneal cavity, in which the microbes in question could develop. The peritoneum could absorb and render innocuous innumerable quantities of micro-organisms, but it could not perform these life-saving functions if fluid was allowed to accumulate. Professor Kocher prevented the accumulation of fluid by free drainage with three tubes. He always closed the peritoneum with a suture. At the close of his lecture Professor Kocher showed half a dozen cases of Basedow's disease cured by surgical interference. He proved them to be true instances of the disease both by clinical reports and by photographs. The successful results of these operations showed, he considered, that the disease was a hyperthyroosis. Professor Kocher performed preliminary ligature of the two superior thyroid arteries and then excised one half of the thyroid gland.

Professor SAHLI, professor of clinical medicine, spoke upon the Diagnosis and Treatment of Aneurysm of the Aorta. He disapproved very strongly of the treatment by gelatin injections. He then proceeded to discuss Diagnostic Methods in Diseases of the Digestive Tract. Their present methods gave doubtful results. They did not distinguish between fluid which they introduced and fluid which was secreted in the stomach. Professor Sahli had introduced a "butyrometric method" which his assistant, Dr. Seiler, had described at length. He introduced a test breakfast consisting of a carbohydrate in solution together with a known amount of fatty substance. After performing lavage the percentage of fat was again determined and he obtained the data he wanted to know. The acidity could thus also be determined more correctly. Professor Sahli had also investigated in a most detailed manner the question of the origin of motor insufficiency of the stomach. At present exclusive stress was laid on *mechanical* causes; these called for operative interference which was sometimes unnecessary. The new physiological school (von Mering, Moritz, &c.) had drawn their attention to the reciprocal influences of intestine and stomach. In health all went well even if each organ looked to its own interest. In case of disease discordant action ensued. The intestine could close the pylorus by reflex action as soon as the stomach evacuated improperly digested food containing noxious substances, such as a surplus of hydrochloric acid. In such cases of obstruction there need be no hypertrophy of the pylorus or any stenosis whatever. In cases of retarded intestinal digestion with retention of a surplus of food, together with insufficient peristalsis, the intestine shut the pylorus by reflex action in self-defence. How could the peristaltic force of the stomach be determined? Certainly not by means of the usual test breakfast. Only *pure water*, say one pint, must be introduced; any addition might provoke the reflex action (von Mering) of the pylorus and lead the observer into false conclusions. Lavage with due precaution would, after one or two hours, demonstrate whether this fluid had passed on into the intestine. To test the permeability of the pylorus Professor Sahli first determined the shape of the stomach and the position of the pylorus by inflation, then introduced a round piece of cork into the stomach, and kept it floating on water so that it could easily pass the pylorus. The patient must occupy a special recumbent or inclined position according to the dimensions and position of the stomach. If the piece of cork was afterwards found in the fæces the permeability of the pylorus was proven. The piece of cork had a diameter of one centimetre.

Professor STOOSS demonstrated the newly-erected Children's Hospital and spoke on Barlow's Disease, which seemed to be fairly rare in Switzerland. He also showed an interesting and very rare form of Miliary Tuberculosis of the Skin in a tuberculous infant.

On the afternoon of May 30th Professor KOCHER spoke on So-called Primary Tuberculosis of the Intestine. There were about 80 cases on record. Professor Kocher reported about 29 cases, in 21 of which he operated. The fact that primary tuberculosis was so rare spoke in favour of the thesis that Koch supported at the British Congress on Tuberculosis, that the disease was not transmittable from animals and that bovine and human tuberculosis were two different diseases. Secondary tuberculosis was very general; 500 out of Fenwick's 863 cases of consumption had some tuberculous lesions in the intestines. Professor Kocher wished to call his cases localised tuberculosis of the intestines, yet the previous history of the patients was generally doubtful as to freedom from tuberculosis, for they came from a tuberculous stock or had suffered from lengthy bronchitis or even pleurisy, or in infancy from glandular swellings; thus there was a possibility or probability of there being some primary latent tuberculous focus somewhere. In cases of constipation infection of a slight lesion with tubercle bacilli was possible; generally the ulcers were localised in the cæcum. Ulcerations were followed by stenosis, the multiplicity of the ulcerations excluding the diagnosis of carcinomatous ulceration. For the diagnosis the diazo-reaction was of importance; the symptoms might be very slight; only localised recurrent pain might assist the physician who should do all he could to get the patient into the surgeon's care in the first ulcerative stage, where excision could still be performed. Generally the surgeon only saw the patient in the second stenotic stage suffering from all the symptoms of the chronic form of ileus with intermittent symptoms. Large glandular tumours lead to false diagnosis, such as floating kidney, for the tumour might have a smooth surface and be very moveable; the age of the patients (from 20 to 30 years), also their relatively good physique, generally excluded cancer. If an ulcer perforated fatal peritonitis ensued, or a chronic form of peritonitis that was often diagnosed as "recurrent appendicitis." Excision gave the best results, while entero-anastomosis was a fairly satisfactory palliative operation. It was desirable to feed patients with ulceration of the bowels probably due to tuberculosis exclusively on *sterilised* milk diet out of sterilised cups or glasses. This might induce or promote a cure.

Professor GIRARD of Berne and Professor MULLER of Basle spoke respectively on the legal and ethical side of the question of professional secrecy with regard to the desirability of a paragraph being inserted in the new Federal Law. This was not considered desirable.

FOREIGN UNIVERSITY INTELLIGENCE.—*Vienna*: Dr. Ritter Friedländer von Malheim and Dr. Oscar Föderl have been recognised as *privat-docenten* in surgery.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Decline of the Plague Epidemic.—Increase of Famine: Monsoon Prospects.—Diphtheria in Calcutta.

THE mortality from plague throughout India during the past week has shown a great improvement. As the epidemic has been raging during the hot weather of the past month or more this decline must be attributed to the natural course of the disease rather than to seasonal changes. There has been a diminution of over 4000 in the number of deaths, the returns giving 7008 deaths, as against 11,612 during the previous seven days. In the corresponding week last year there were only 1918 deaths from plague. The decrease has been general throughout India, but the chief drop has been in the Punjab. The virulence of the disease seems to lessen with the subsidence of the epidemic. In the Lahore district 547 deaths were recorded with 1164 seizures, but from experience in some of the chief cities I should say that it is very doubtful about all these living cases coming under observation. In Calcutta there is a decline from 280 to 209, in Bombay city from 391 to 300, and in Karachi from 122 to 65. In Bengal the deaths have fallen from 337 to 136, in the Bombay districts from 583 to 429, in the United Provinces from 417 to 266, in the Punjab from 9192 to 5453, and in Kashmir from 212 to 27.

While the plague is diminishing the famine is increasing. More than 8000 were added to the list this week, which now shows 431,000 people receiving relief. Of these, 346,000 are on relief works and 84,000 receive gratuitous relief. It is, perhaps, satisfactory to record that there is a prospect of an early monsoon. Rains are falling daily at Colombo. The western portion of the monsoon current is said to be promising. This is all-important to the districts affected with famine.

There is at present no indication that the dengue fever which has attacked Rangoon has as yet spread westwards. No cases have been reported in Calcutta. Diphtheria has, however, of late claimed several victims in the metropolis. This is a matter of some moment because hitherto the disease has been extremely rare; in fact, its existence has by some observers been denied. There is little doubt about it now and if faulty drainage and bad smells do in any way favour its dissemination there is plenty of opportunity for it to spread. There is nothing like an epidemic, but several cases have been reported.

May 24th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Sanatoriums for Consumptives.

THE Birmingham board of guardians has carefully considered the question of the open-air treatment of consumption and has resolved to build a hospital near the present infirmary at a cost of £332 for the reception of phthisical patients. Some doubt has been expressed as to the suitability of the site for the purpose, which is not one to make a favourable impression even upon the more ardent supporters of the movement. But the scheme is one of a desirable kind and is justified by the knowledge gained of the effects of the open-air treatment in other places. A largely attended meeting was held in the city on June 9th in support of this project. The meeting was presided over by the chairman of the health committee, Alderman Cook. In his opening remarks he reminded the meeting that when certain of the guardians waited some little time back upon the health committee of the corporation asking it to establish a sanatorium for the treatment of consumptives the request was considered "rather a large order." While supporting the scheme in principle he thought at that time that the committee had sufficient responsibility laid on it in providing hospital accommodation for infectious diseases and that it should not undertake additional duties in this direction. He considered prevention to be better than cure and that by improving the dwelling-houses of the poor in the city and by appointing lady visitors much had been done to prevent phthisis. It was pointed out from the returns that out of a total number of 10,402 deaths in Birmingham last year 903 were from consumption, and of these 243 occurred in the various workhouses of the district. The meeting appeared to support the view that open-air sanatoriums should not be promoted by the municipality but that private enterprise should be seconded by contributions from the rates for the purpose of maintenance. A similar proposition was recently made to the Worcestershire County Council, an offer of a house and grounds being made by a generous donor. It was resolved not to accept the offer as being outside the scope of the work entrusted to the council, but it was decided that there could be no objection to the vote of £300 a year from the council towards the support of the scheme if other adequate management could be found.

Medical Benevolent Society.

The annual meeting of this society was held on May 30th, a satisfactory report being issued by the directors. It was shown that the invested funds amounted to £15,568. 18 annuitants were on the books, the annual grants being from £20 to £40. The total number of members was 405. Attention was drawn, as usual, to the large number of practitioners in the neighbourhood who had not availed themselves of the advantages of membership of the society. The area of the society's operations comprises a 50 miles radius of Birmingham and a vast amount of good might be done by an increased number of members. A dinner, which was subsequently held, was well attended by the members and their friends.

An Untimely Death.

The town is the poorer and the University the sadder by the early death from sarcoma of one of their most brilliant sons, Mr. William Henry Austin. After a most successful educational career at King Edward's School and Mason College Mr. Austin went to Cambridge where he graduated as Senior Wrangler in 1897. Subsequently he became mathematical lecturer at the University of Birmingham, being assistant to the vice-principal, Dr. Heath. Ardent, enthusiastic, and of exceptional abilities he soon became a power in the teaching staff of the University.

June 10th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Infectious Hospitals.

AN inquiry was held at the Municipal Buildings by Dr. S. W. Wheaton, Local Government Board inspector, in reference to the application of the Liverpool City Council to borrow £16,500 for the purposes of the city hospital at Fazakerley and the small-pox hospital at Fazakerley, respectively. Mr. Cripps, the solicitor to the city council, stated that a letter had been received from the Local Government Board complaining that in regard to the expenditure of £20,000 on infectious hospitals at Fazakerley sanctioned last year the plans had been departed from, wooden buildings having been substituted for more substantial structures. The Board regarded this as very unsatisfactory and would instruct the inspector to inquire fully into the circumstances of the deviation. It appears that the two wooden pavilions were erected on the advice of the medical officer of health who represented that the accommodation for infectious cases was inadequate whilst an epidemic of scarlet fever was threatening the city. The chairman of the hospitals committee of the city council and the medical officer of health had an interview with the officials of the Local Government Board and came away under the impression that the modified scheme was approved. Later a small-pox scare occurred and accommodation being quickly required for small-pox patients nearly the whole of the money which was the subject of the present inquiry had been spent. Altogether the corporation intended to spend £42,000 and would apply for sanction for a further loan. Only £4816 had been spent on temporary buildings. The chairman of the hospitals committee, Dr. E. W. Hope (the medical officer of health), and the city surveyor spoke of the urgency of the matter and of the great advantages which had accrued from the temporary buildings in stamping out the outbreak of scarlet fever and small-pox. The chairman of the hospitals committee said that a marked change of public feeling had taken place in regard to these hospitals. Formerly it was difficult to get patients to go to the hospitals but now they clamoured for admission. Dr. Hope said that the committee had 700 beds available for ordinary infectious cases, 180 beds for small-pox, and 40 beds for sea-borne cases. Of the total 300 beds were on a site which did not belong to the corporation and it was proposed to replace these on land acquired by that body. To emphasise the urgency for further hospital accommodation it was pointed out by Mr. J. Utting, M.R.C.S. Eng., L.R.C.P. Edin., a member of the city council, that not long since 200 persons applying for admission could not be accommodated through lack of beds.

The Oliver Lodge Fellowship.

Mr. Charles G. Barkla has been elected to the Oliver Lodge Fellowship recently founded at University College, Liverpool, to promote research in physics. Mr. Barkla is a former student of the college and after graduating at the Victoria University was elected to one of the research scholarships by the Royal Commissioners for the Exhibition of 1851. As Oliver Lodge Fellow he will work in association with Professor Wilberforce in the physics laboratory at University College and will assist that gentleman in physical research. The annual value of the Fellowship is £100 and the holder is eligible for re-election. The Fellowship was founded in honour of Principal Oliver Lodge of Birmingham University, formerly the professor of physics at University College, Liverpool.

Bolton Infirmary Inquiry.

Judge Bradbury's report on the allegations of mismanagement at the Bolton Infirmary was issued on June 6th. His honour holds the charges of negligence of the staff in the treatment of patients entirely to be unfounded; neither was there any ground for the charge of negligence and inability of the house committee to manage the institution. It was admitted, however, that certain members of the honorary medical or surgical staff had received payment for professional attendance on patients at the infirmary. This was held to be a breach of the rules of the institution and was to be regretted. The judge also held that the refusal of the infirmary committee to admit the medical advisers of employers to examine patients could not be justified. With the exception of the two points indicated, which in no way affected the efficiency of the institution, the work had been carried on in a highly satisfactory manner and deserved the entire confidence and support of the public. As funds were required the judge enclosed a donation of £10, thus showing in a practical manner his appreciation of the good work at the hospital.

Proposed Coöperative Convalescent Home at Liverpool.

The Coöperative Union, Limited, North-Western Section, held a sectional conference at Blackpool last week with the view of deciding as to the establishment of convalescent homes on the lines of the Scottish Coöperative Convalescent Home, West Kilbride, Ayrshire, as a health-giving resort for indigent coöperators. Two convalescent homes are contemplated—one on the coast and one inland, probably in Yorkshire. Meantime the idea is to erect one at Norbreck, about two miles from Blackpool, at a cost of £25,000. The committee proposes to raise the money by shares, so that each coöperative society becoming a member of the Coöperative Homes Association may take up a £1 share for every 40 of its members, and for every £1 subscribed a society may be entitled to a recommendation.

June 10th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Resignation of the Medical Officer of Health of Gateshead.

Dr. Reginald Green, the medical officer of health of Gateshead, who has resigned his post, has been unanimously elected by the King's Norton Urban District Council to be medical officer and medical superintendent of the isolation hospital. Ten years ago Dr. Green graduated in medicine and surgery at Durham University; he was appointed junior medical officer of the Gateshead Dispensary and while working there he took his M.D degree. A little later he took his B.Hy. degree, having been trained in the Newcastle Sanitary Department. A vacancy occurring Dr. Green was appointed medical officer of health of Gateshead and about a year ago took the D.Hy. of Durham University. Dr. Green will be much missed in Gateshead, where he had become generally popular and not least amongst his professional brethren.

Consumption Sanatorium for Northumberland.

It is now some considerable time since the first sanatorium for consumption was built in the United Kingdom and ever since sanatoriums have been springing up in many of the different counties of England with one notable exception—Northumberland. The Northern Counties Hospital for Consumption and Diseases of the Chest made an attempt to collect subscriptions for this purpose many months ago and was successful in collecting about £1000. This is practically where the matter rests except for a public meeting which was held at the Royal Infirmary some weeks ago, at which meeting a free site was promised for the proposed sanatorium. This site, however, is a long distance from Newcastle and would be consequently difficult of access. One reason, perhaps, why more interest is not taken in this matter is the fact that the authorities of the Royal Infirmary are pretty fully occupied with the building arrangements of the New Royal Victoria Infirmary, but seeing that it will be almost four years before this building is finished and probably two more before it is in full working order I think that this matter is sufficiently pressing to require more attention than it has hitherto received. The building of the new infirmary is making slow but perhaps satisfactory progress. A large number of the foundations have been laid and this has entailed a very large amount of excavating work which, however, does not appear a great deal to the casual passer-by.

June 10th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Rhondda Health Report.

DR. J. D JENKINS, the medical officer of health of the Rhondda District Council, has just issued his first annual report, from which it appears that the estimate of the population made by the Registrar-General was not realised at the census of 1901, the official estimate being more than 20,000 in excess of the 114,000 persons actually enumerated The death-rate during 1901 was 21·6 per 1000, and the infantile mortality rate of 222 per 1000 births was only exceeded in one of the 33 great towns of England and Wales—viz., Burnley, where the rate was 223 per 1000 births. The birth-rate was 40·1 per 1000. The prosperity of the district is indicated by the fact that of the 19,578 houses only 134, or about one in every 200, were uninhabited at the time of the census enumeration. The division of one house into two tenements is strikingly shown in the statement that among 2399 houses in which infectious disease occurred in 1981 as many as 1270, or more than half, were occupied by more than one family. The average number of persons in these infected houses was 6·7, while for the whole district the average number per house was only 5·9 The water-supply of the Rhondda appears to be anything but satisfactory. One portion of the two valleys is supplied from works owned by the district council which obtained powers several years since to supplement its supply either by sinking below the coal measures or by enlarging the present catchment area. No progress has been made with either of these schemes and during summer drought supplementary supplies are obtained from undesirable sources, such as disused levels, while street watering and sewer-flushing have to be discontinued when they are most needed. To this last, indeed, Dr. Jenkins attributes in some measure the large amount of autumnal diarrhœa—as many as 327 deaths, equal to a death-rate of 2·85 per 1000—occurring during 1901. The portion of the district served by the Pontypridd Waterworks Company had an intermittent supply for more than two months during the summer of 1901 and the water was frequently discoloured. This discoloured water has in former years been the indirect cause of serious outbreaks of typhoid fever and it is a little difficult to understand why the district council does not insist upon efficient filtration.

Compulsory Closure of Sunday Schools.

In consequence of an extensive outbreak of measles in the district the medical officer of health of Blaenavon in Monmouthshire (Mr. A. B. Avarne) has advised the sanitary authority to require the closing of the public elementary schools for three weeks and has requested the religious bodies to close their Sunday schools for a like period. This action on the part of the medical officer of health was very much resented by a clerical member of the school board, who objected to close the Sunday school with which he was particularly connected and brought out the oft-exploded argument that disease was much more readily spread by children visiting one another's houses during the time the schools were closed than if they were congregated in school-rooms holding 40 or 50 scholars. The question of closing Sunday schools in Wales is always a difficult one to deal with and prompt day-school closure is frequently rendered of no avail on account of the assembling of children in schools on Sundays.

Treatment of Epileptics.

At the Poor-law Conference for South Wales and Monmouthshire which was held at Abergavenny on June 5th Dr. J. Milson Rhodes of Manchester opened a discussion upon the treatment of epileptics. Dr. Rhodes in the autumn of last year visited several colonies and special hospitals for epileptics in the States of New York, Ohio, Pennsylvania, Maryland, and Massachusetts, and has recently presented a report upon his visit to the committee of the proposed colony for epileptics to be established at Warford, near Manchester, so that he was able to put before the conference many details and suggestions of importance. Mr. F. T. Bircham (Local Government Board Inspector for Wales) suggested that an epileptic colony and an idiot school should be established for Wales where non-pauper as well as pauper cases might be treated, and it was eventually decided to approach the county councils of South Wales and Monmouthshire on the subject. The question has already been discussed within the past three years in the Glamorganshire County Council and endeavours to obtain information from private practitioners in the county as to the approximate number of non-pauper patients who would be likely to take advantage of such an institution if one were established were made.

Outbreak of Glanders.

An outbreak of glanders has occurred in the stables of the Pontypridd Tramways Company of such a serious character that the service on the short four-mile length of tram lines between Pontypridd and the Rhondda valleys has been discontinued. The Health Committee of the Glamorganshire County Council has recommended that all the horses belonging to the company should be slaughtered and that the council should pay to the company £2 for each horse found after post-mortem examination to be affected and full value for each animal not affected. This action on the part of the council is to be commended, for the disease might readily be carried to the horses stabled and working underground, of which there are many hundreds connected with each colliery.

Vaccination Questions.

At the meeting of the Exeter Board of Guardians held on June 3rd it was reported that there had been an increase of 1700 vaccinations and revaccinations as compared with the corresponding quarter of 1901. A discussion took place owing to the fact that persons who could well afford to pay the fees had been revaccinated at their homes at the expense of the ratepayers. One guardian proposed that these persons should be asked to refund 2*s.* 6*d.* each, being the difference between the cost of revaccination at their own homes and at the public vaccinator's residence. This was seconded. Another guardian wished to have the names published in the half-yearly reports as the recipients of parochial relief. Eventually, after it had been explained that people had a right to be vaccinated where they liked, the matter dropped.—At the meeting of the St. Germans (Cornwall) Board of Guardians held on June 5th it was stated that the vaccination fees for 1901 amounted to £29, whereas this year the amount was already £160. The finance committee recommended that revaccinated persons who were thought to be able to pay for the operation should be asked to do so. The chairman said that his name would be on the list and it was stated that the names of colonels, bankers, magistrates, and ex-judges would also be found. One gentleman had all his servants revaccinated at one time, costing the ratepayers £8. It was, however, explained to the guardians that everybody was entitled to be vaccinated free of cost.

June 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Association for the Prevention of Tuberculosis.

THE annual meeting of the Dublin Branch of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis was held on June 9th in the Hall of the Royal College of Physicians of Ireland, the President, Sir Christopher J. Nixon, being in the chair. The honorary secretary read the annual report which dealt with the failure of the public health committee of the corporation to bring about voluntary notification of pulmonary tuberculosis and with other matters. The report alluded to the fact that no provision exists in Dublin for the examination of the sputum of consumptive patients who are unable to pay a fee and to the necessity for a city bacteriological laboratory for the purpose of dealing with cases of tuberculosis as well as with patients suffering from diphtheria, enteric fever, and other infectious diseases. The adoption of the report was moved by the President of the Royal College of Surgeons in Ireland, Dr. Lambert H. Ormsby, who suggested that the Board of Agriculture and Technical Instruction for Ireland should include a bacteriological laboratory in the projected buildings to be erected in Upper Merrion-street. The Right Hon. Horace Plunkett, who was present, alluded to the matter later and said: "On the question of the establishment of a bacteriological laboratory which had been referred to by the President of the College of Surgeons, who had thrown out the suggestion that the department might include it in their multifarious institutions—they could not do it out of their own funds; but if the Treasury would defray the cost, and if the Colleges of Physicians and Surgeons would assist them to run it they would be very glad to add it to their responsibilities." The chairman in closing the proceedings bore testimony to the invaluable assistance given to the association by the Lord Lieutenant from its commencement. Referring to the establishment of a sanatorium for consumption he remarked that it was discreditable that the city of Dublin, in which the hospitals generally were out of all proportion greater than the wants of the people, should have nothing in the shape of such a sanatorium.

Royal College of Surgeons in Ireland.

The new Court of Examiners in Surgery at the Royal College of Surgeons in Ireland to hold office for the coming year has recently been elected as follows:—Dr. F. Conway Dwyer, Mr. Thomas E. Gordon, Mr. Joynt, and Dr. Edward H. Taylor.

The Outbreak of Small-pox in Belfast.

Up to the present time the number of cases of small-pox admitted into the fever hospital in the Belfast Union is 22. The type of the disease is so far, on the whole, mild, with a few severe cases, one of which, that of a woman, aged 70 years, proved fatal. No new cases have been admitted since June 5th. As stated in THE LANCET of last week, the public health committee has decided to erect temporary buildings for small-pox patients at Purdysburn, a course of action which has aroused considerable opposition. In the first place, at a meeting of the asylum committee on June 9th the resident medical superintendent of the Belfast District Lunatic Asylum, Dr. William Graham, pointed out that it was the duty of the committee to take every precaution for the protection against infection of a body of helpless and irresponsible persons, many of whom were quite incapable of exercising that forethought and prudence which sane persons adopted in protecting themselves against the risk of contagion. He pointed out that some of the blocks of the proposed permanent infectious diseases hospital were only separated from the asylum grounds by the county road, and that if the land was to be continued to be used for the patients' employment and recreation it would be absolutely necessary to isolate the infectious hospital ground by a high wall. Further, the present supply of drinking-water for the asylum was derived from springs rising from the infectious hospital site and once the buildings would be brought into occupation another supply would have to be obtained. Sir George P. O'Farrell, the Inspector of

Lunatic Asylums in Ireland, who was present, considered that either the hospital or the asylum would have to be abandoned. A permanent small-pox hospital near an asylum would not be tolerated in England in any circumstances. Of course, he referred to the permanent and not the temporary difficulty. Small-pox was different from any other disease and the distance was very great at which infection could be conveyed. A public meeting has also been held at Purdysburn, at which the inhabitants of the district—including the clergy, the medical men, and the farmers—protested very strongly against the proposal made by the Belfast Corporation to establish a hospital for the reception of small-pox patients at Purdysburn and called upon the Local Government Board to refuse its sanction. It was pointed out that other more suitable sites could be procured at a proper distance from inhabited houses and one of the speakers suggested the use of a hospital ship down the Belfast Lough—a course followed in other places. Some of the people who will, it is alleged, be most injured by the erection of the small-pox huts at Purdysburn are the dairy-farmers. The truth of the matter is the Public Health Committee of Belfast should have taken action years ago in the matter of the provision of an infectious diseases hospital and the present epidemic of small-pox will in the end have done good if it once and for all settles the question of the provision of a proper infectious diseases hospital. In the locale of the erection of the huts for small-pox cases the public health committee claims to have had the support of Dr. O. J. Clibborn, Local Government Board medical inspector, who inspected the site.

The Belfast Hospital for Sick Children.

At a special meeting of the board of management of the Belfast Hospital for Sick Children held on June 5th it was decided that the present hospital should be extended by adding sufficient accommodation for 10 new beds on the condition that no part of the expense should fall upon the existing funds of the institution. A sum of £250 has been promised to pay for the building until the funds show such an increase as will justify the board in adding these new beds. The extension is to be used for cases requiring quiet or special attention and will, of course, add to the air space and room of the wards.

June 10th.

PARIS.

(From our own Correspondent.)

The Law as to Workmen's Compensation and Medical Aid.

I HAVE on a previous occasion[1] referred to this new law, the application of which is full of difficulties and which though well intentioned is so badly drawn that in one way or another it offends all parties who have to do with it, whether workmen, employers, insurance companies, or medical men. As, however, the courts practically always find the workmen to be in the right the new law is a simple exploitation of the employer by the workman. The latter is in his turn preyed upon by unscrupulous inquiry agents (*agents d'affaires*) who get up his case and share the sum paid over for compensation. Medical men are also much concerned with the law and its difficulties. I have already mentioned how in the case of an accident the injured person is almost invariably taken to a hospital whether he be able to pay for medical attendance or not. Hospital surgeons are therefore often obliged to treat for a very small fee those who are perfectly able to pay, or those for whom a wealthy employer could pay the usual fees. The insurance companies also suffer, for the employer generally comes down on them. The companies, as is only fair, argue that the injured man should be attended by some medical man appointed by themselves. The law, however, says that the injured man may choose his own medical attendant, also a fair proviso. But the law also says that a medical man so called in shall only be paid at the reduced rate laid down for gratuitous medical assistance. If, then, a drunken carter who had fallen out of his cart were to call in a professor of the faculty of medicine, such professor would be paid at about the rate of two francs per visit. Naturally the professor would refuse to attend, which he would be quite within his rights in doing, and so it comes to pass that the workman's choice is in reality limited to that class of practitioner which accepts such small fees. The new law is much less beneficial to the workmen than was the old. By the latter the employer was simply obliged to see that the workmen received treatment and it might be that he sent his own medical man. By the new law the workman chooses his own medical man and, as a rule, will not have the medical officer of the insurance company, for he thinks that this practitioner's sole desire will be to get him back to work as soon as possible. Accordingly, he generally selects an unscrupulous practitioner chosen by the *agent d'affaires* who naturally wishes to prolong the illness and to increase the number of visits because he wants to get as much compensation as possible out of the insurance company to divide with the workman. The insurance companies are quite alive to this risk and they now demand that a medical man appointed by themselves shall visit the patient at least once a month in order to see how he is getting on. This is only fair and is the system employed by all the Government departments, for when an employé of one of those department is ill the medical officer of his department makes a visit of inspection from time to time.

Recognition of the Typhoid Fever Bacillus.

M. Chantemesse last year gave an account of a new method for the rapid recognition of the typhoid fever bacillus in suspected water or in the stools of patients. The essentials of his procedure consisted in obtaining superficial colonies upon carbolised agar, in cultivating them in a medium containing lactose and litmus, and in identifying them by agglutination with serum. M. Chantemesse has now simplified and shortened his method by adding the lactose and the litmus to the carbolised agar and he described the modification to the Academy of Medicine on May 20th. The process has now become very simple and is well adapted for clinical use since it gives results in 12 hours and requires only the ordinary media used in all laboratories. When suspected water is to be examined a large quantity of it is filtered through porcelain and culture media are inoculated with the residue separated by the filter.

Various Methods of Infant Feeding.

At the meeting of the Therapeutical Society held on May 14th M. Créquy said that he considered that bottle-feeding of infants was greatly inferior to breast-feeding. He was not an advocate of sterilised milk, for many infants had a difficulty in digesting it and many mothers relied on sterilised milk to the neglect of breast-feeding. Sterilised milk, moreover, tended to discourage the use of asses' milk, a substance which was of great value in certain forms of diarrhœa in infants and of gastric irritability in adults. M. Créquy maintained that there were differences in the milk of cows according to the breed of the animal. The milk of Dutch cows, for instance, was less rich in fat than was the milk of Normandy or Brittany cows, and this was the reason why the former was often preferable to the latter.—M. Bardet remarked that asses' or goats' milk was very expensive and therefore of restricted application; sterilised milk, on the other hand, had much in its favour and was distributed in the *crèches* to thousands of infants every day.—M. Sevestre said that asses' milk did not keep well and that sterilised milk generally agreed with the stomach, especially if it was freshly prepared.—M. Boulonié said that he was in favour of sterilised milk, for many women could not suckle their infants and would have to entrust them to wet-nurses if sterilised milk were not available.

June 10th.

EGYPT.

(From our own Correspondent.)

The Lunatic Asylum.

IN spite of much that has been done during the last 18 years to improve the question of lunacy in Egypt there is yet more which requires redress. There is still only one asylum of 500 beds for a population of more than 10,000,000, and it is in consequence always inconveniently full. Harmless cases, or rather those which are apparently harmless, cannot now be admitted. An Egyptian lunatic must prove that he is dangerous and unmanageable before the Government will recognise that it has any responsibility towards him, and if during his stay in the asylum he settles down into a quiet and apparently inoffensive individual he has too often to be discharged in order to make way for urgent arrivals from the country districts. During the past year, for instance, 1056 lunatics were under treatment but 326 of them were discharged still insane. Consequently it is found that more than one-third of the cases admitted had previously been inmates, for the majority of these re-admitted cases should never have been discharged. The number of Europeans admitted during the year has diminished and this is probably due to the introduction of legal certificates which require a consul's guarantee for payment. When I last wrote about the asylum the criminal lunatics were all kept in the same wards as ordinary lunatics, but now the Prison Department has recognised its responsibility in the matter and 63 criminal male lunatics were sent last year to the hospital in connexion with the Tourah convict establishment near Cairo.

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[1] THE LANCET, July 20th, 1901, p. 176.

In the large towns lunatics are probably not now ill-treated, but in far away villages where civilisation has hardly yet entered the insane are stoned, ridiculed, and incited to violence in the streets, while in their homes they are sometimes tied down or chained until ulcers form on their limbs (Dr. J. Warnock says that 29 patients admitted in 1901 bore the marks of ropes or chains) and their friends rub hot irons into their heads and backs, disfiguring them for life and causing weeks of needless torture. One's sympathy is entirely with the lunatic who has been known occasionally to turn on his persecutor and murder him. No less than 76 cases admitted last year bore scars of the actual cautery.

The structural improvements which have been many years in progress to convert the old palace buildings into a convenient hospital have now been completed at the very small cost of £21,000. Access to every part is now made more convenient, four new staircases have been built, and the administrative portions are separated from the patients' sections. Sanitation, ventilation, and lighting are completed and the asylum is one of the first hospitals in Cairo which has been provided with an electric light installation. The petroleum burnt every night to work the engine and dynamo is about as costly as the lamp oil previously used for lighting. The basement floors have been relaid with mosaic concrete and in the upper floors polished pitch-pine boards have replaced the old decayed and absorbent limestone. Among other economies the hospital sewage which used to be carted away at an annual cost of £105 is now dug into the desert land by the patients without any expense. It has often been pointed out that this is an ideal place for a sewage farm—free labour, free land, sewage undiluted by an excess of rain-water, and a market close at hand for the sale of vegetables and clover. The milk-supply now comes from buffaloes kept on the premises, for this is found to be more economical than buying watered milk from contractors.

Perhaps the greatest improvement of all is that the patients are now divided into sections of 35 each instead of being a confused herd as formerly. Each section is now to a great extent independent of every other section and individual attention to the patients has become possible. The ignorance of the attendants, who are all natives, is now the worst part of the asylum. 10 men were dismissed in the year for ill-treating patients and it is significant that 11 female and 10 male patients sustained fractures of bones in the asylum. Only one-tenth of the attendants know how to read and write and Dr. Warnock "finds it safer to confine an irritable excited patient in a single room than to trust him outside to the care of an incompetent or even unkind attendant who, instead of conciliating the patient, often provokes further excitement or accident by his injudicious conduct." The remedy for this and for some other defects is to appoint two English head attendants to instruct the men and women in their duties, but this will be impossible until the financial authorities grant the necessary salaries. Mechanical restraint is never used in the asylum now except to prevent the removal of surgical apparatus or dressings. Anyone who has closely followed the reforms of this asylum is amazed at what the present superintendent, who is the only resident European, has been able to do, but as it was obvious that help must be granted him Dr. Dudgeon, lately of the Cane Hill Asylum, has now been appointed as his assistant.

Monthly returns show that the greatest number of patients are admitted in the two hottest months of the year—June and July—and it is chiefly during the summer months that the excited patients are most troublesome. This is one of the reasons for thinking that a second asylum should be built near Alexandria rather than in Cairo, which is always hotter, and this will be the obvious place for providing in the future some accommodation for insane Europeans, so that they could eventually be shipped to Europe. But the various European communities must arrange this, it does not fall within the scope of the Egyptian Government at present.

Out of 561 patients admitted during 1901, 181 were classified as suffering from mania, 91 from different forms of hasheesh insanity (*Cannabis indica*), mostly being mania, 33 had pellagrous melancholia or dementia, 25 had general paralysis, and 12 were not insane at all. The general paralytics, who included nine women, were almost all syphilitic and came chiefly from the large towns; 21 of them were Egyptians, the remaining four being Persian, Greek, French, and English. Among the known causes of insanity in Egypt hasheesh comes first, then pellagra, grief, syphilis, epilepsy, and alcohol in the order named. Therefore the two crying ills for the Government to fight are hasheesh and pellagra. The total number of deaths last year was 75, to which general paralysis contributed 18, exhaustion from mania and melancholia 15, and pellagra 10 cases. In England asylum accommodation is maintained for exactly 50 times as many lunatics as are provided for in Egypt per head of population.

Cairo, June 2nd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Nurses in America.

THERE has been in New York—principally perhaps on account of the scandals in connexion with the nursing at Bellevue—an outcry against male nurses and a demand that female nurses shall be substituted for them. A recent article in the *Nineteenth Century* on the subject of Nursing in England is likely to modify somewhat the views of the enthusiastic supporters of female nurses here, although possibly the article in question is exaggerated and conveys on the whole a wrong impression regarding nurses in England, nevertheless it doubtless contains a substratum of truth. Nurses to be satisfactory must be thoroughly trained and it is the belief in America that hospital training alone is not sufficient and that a training school course is needful to produce a really efficient nurse. The personal factor, too, must always be taken into account, for like the poet the nurse is born and not made. Given other things equal, the female nurse for ordinary hospital work is superior to the male, and this opinion is beginning to take root in America.

The Good Side of the Meat Trust.

Most ills are said to be blessings in disguise; this is an exaggeration but there is probably no evil which has not some redeeming feature. In the United States at the present time the people are in the throes of a struggle with the meat trust, and meat has reached so high a price that the poor can scarcely afford to buy any, while the well-to-do are compelled to restrict its consumption. The *Medical Age* of May 10th, referring to the matter, says: "This probably will not be an unmixed evil. Meat three times a day, which it has been one of the glories of America to boast that she has provided for her poorest citizens, is certainly unnecessary. The pyramids were built on rice and corn, and much of the hard work of the world to-day is done by labourers whose daily quota of flesh food is much less than that which is normally consumed by the American." There is truth in this statement. The ordinary American eats practically an unlimited amount of flesh food, and perhaps to this fact are due the dyspeptic and uræmic tendencies of so large a number of the inhabitants of the United States. Meat once a day should be sufficient for a person not engaged in hard manual labour, and even then a surplus of flesh food does no good. The hardy Scotch peasant does his work on milk and oatmeal.

Mosquitoes and Dengue.

Much interest has been aroused by the publication in the *Medical Record* of an article by Dr. Harris Graham, professor of pathology in the American College, Beyrout, Syria, relating the result of his investigations concerning the parasite of dengue and the probable position of the mosquito as the intermediary host in the transmission of the disease to man. This was referred to in THE LANCET of March 22nd, p. 855. Most of the American medical journals have taken notice of

On Nov. 24th the discharge pipe from the last cesspool into the river "was discovered and further infection from that source prevented. Not more than 28 cases were infected after this date and of the 28 cases 18 were infected within the first week and seven within the second week after it. Thus it appears that within two weeks of the shutting off of fresh infection the typhoid bacilli already in the river had practically disappeared owing to surrounding conditions not being so favourable as in the cesspools and to the effect of the downward flow of the current. It seems reasonable to believe, however, that the infection of the river and its attendant results might have continued indefinitely, owing to the conditions favourable to bacterial life existing in the cesspools, had not those sources of infection been discovered and cut off."

In the twenty-fifth volume of the reports and papers of the American Public Health Association for 1899 Dr. Leal reported on an outbreak at Paterson which he showed was caused by the public water-supply derived from the river Passaic "which at least 98 per cent. of those infected were known to use for at least a portion of the 24 hours." In the course of his report he says "The suspicion thus cast upon the public water-supply as being the only factor common to the case was confirmed by the following facts: First. The only section of the city in which the disease did not appear is the only section not having the public water-supply. Second. The city of Passaic, supplied from the same source, was found to be suffering from an outbreak of typhoid fever at the same time. Third. The course of the epidemic was marked by sudden rises and falls. Fourth. Those rises and falls were preceded by heavy rains and, consequently, rising waters." He found that the outbreak was caused by the excreta from a case of typhoid fever which developed during the early part of August, 1898. "The drainage from the premises of said patient was through a pipe into a small tributary of the Passaic river about 8000 feet above the intake. The local board of health, learning of the case on August 23rd, at once cut off drainage from said tributary, so that infection directly from said case ceased on that date." The water from the tributary had to run through a swamp before joining the river and refuse from a glue and gelatin factory also contaminated the waters of the tributary.

The theory evolved by Dr. Leal from these facts is as follows. "That the said tributary was infected from said case of typhoid while high from the heavy rain of August 10th; that the infected water of tributary spread over said swamp and, falling, left numerous pools, puddles, &c., cut off from the natural channel. That *in these pools*, puddles, &c., existed the conditions favourable to the vitality and multiplication of the specific bacilli, these conditions being the low dilution, the unusual amount of organic matter on account of the glue and gelatin factory, the close and rank vegetation, &c. That a certain number of these bacilli were washed down the river by the rising water following each rain, with a certain amount of damage as a result—the greater the rainfall the greater the amount of damage done. That the infection of new cases ceased after the first week in February is explained by the fact that the general thaw following the heavy rain of Jan. 24th changed said swamp into a raging torrent, thoroughly washing it out and keeping its entire area under three to 10 feet of water for two or three weeks."

An interesting report by Dr. H. C. H. Herold, the president of the Board of Health, on an outbreak at Newark, New Jersey, is contained in the same volume. It appears that Newark was formerly supplied by the Passaic river, the water of which was contaminated, but that in April, 1892, that supply was abandoned and a supply known as the Pequannock water system was adopted. After this there was a steady decrease in the number of cases of typhoid fever until 1898 when there was a marked increase, especially in August and September. This was found to be due to shortages in the daily Pequannock supply having been met by *turning in contaminated* water from the Passaic river.

My friend Dr. Pistor of Berlin has kindly forwarded me a copy of a report by Dr. Räuber of Remscheid (Rhine Province) on a serious outbreak in that town in 1900. There had been a few cases yearly since 1890 and a small outbreak in 1899, but in 1900 the number of the cases rapidly increased until there were no less than 118 cases between July 9th and 21st. The cause was found to be from the water of one of the streams contributing to the water-supply having become polluted (*Zeitschrift für Medizinalbeamte*, Heft 19, 1901), and also one by Dr. Mewius of Cosel (Silesia) on an outbreak at Loukan and two other villages on the course of the same ditch which supplied them with water and which was contaminated by the excreta of two typhoid fever patients in a cottage higher up (*Zeitschrift für Medizinalbeamte*, Heft 17, 1900).

Dr. Maclean Wilson reported in 1893 on a sudden outbreak of typhoid fever at Chester-le-Street (Durham) which was followed after a short interval by another equally sudden. The sufferers in both cases were almost entirely persons using one public water-supply which had before the commencement of both outbreaks been contaminated by enteric fever discharges from some cases in a group of cottages about three miles above the intake of the water company. The sewage from these cottages ran by means of a covered drain into a small stream, a tributary of the Stanley burn which supplies the filter-beds of the company, but these filter-beds were quite inefficient for the purpose of preventing any germs of enteric fever contained in that water from gaining access to the street mains of the company.

Whereas the seasonal prevalence of typhoid fever is normally in the autumn months this disease is more prevalent and fatal in London during the winter months. Since 1890 I have pointed this out for St. George's, Hanover-square, for which I was formerly medical officer of health, and the following table from my report for 1900 shows that during every year except 1897, the monthly average for November and December was higher than that for August, September, and October.

Cases of Typhoid Fever.

Year.	August, September, and October.		November and December.	
	Number of cases.	Average per month.	Number of cases.	Average per month.
1891	6	2·0	12	6·0
1892	15	5·0	15	7·5
1893	16	5·3	18	9·0
1894	14	4·6	29	14·5
1895	11	3·7	10	5·0
1896	15	5·0	15	7·5
1897	16	5·3	6	3·0
1898	7	2·3	18	9·0
1899	14	4·7	11	5·5
1900	13	4·3	10	5·0

This rise in the number of cases of typhoid fever reported in the months of November and December "is coincident with the increase of organic matter in the drinking water due to the flooded state of the river." On account of my condemnation of the water supplied during the month of December, 1898, in my report for that month, in which I stated that the samples of water supplied by both the companies (Grand Junction and Chelsea) were, according to Mr. Cassal's analysis, of "decidedly inferior quality," both of the companies wrote letters on the subject, forwarding with them reports by Professor Sir Edward Frankland and by Sir William Crookes and Professor Dewar, on which I prepared the following report:—

"With regard to the letters from the water companies, on which you have asked me to report to you, I find that the reports sent with them confirm my opinion of the inferior quality of the samples of water supplied in December as deduced from the results of the analyses made by your public analyst, Mr. Cassal.

"Thus Professor Sir Edward Frankland, in his report, referring to the Thames companies, says, that 'owing to heavy floods and insufficient storage the water sent out by all the companies, except the West Middlesex, *contained an excess of organic matter* which was, however, almost entirely of vegetable origin' (the italics are mine). It is true that he says it 'was in every case efficiently filtered before delivery,' but this means that it contained no notable quantity of suspended matters and neither did Mr. Cassal's analyses show any excess of such matters.

"Sir William Crookes and Professor Dewar, in their report, make no remark on the amount of organic matter beyond stating that 'the purity of the water in respect to organic matter has been determined by the oxygen and combustion processes.' From the results of their analyses, as shown in their tables, I find that the 'oxygen required to oxidise the organic matter' averaged for the Grand Junction Company 0·071 of a grain per gallon, and for the Chelsea Company 0·063 of a grain per gallon whereas in the month of September last it averaged only 0·025 for each company; in other words, the amount of 'oxygen required to oxidise the organic matter' was for the Grand Junction Company nearly three times as much, and for the Chelsea Company two-and-a half times as much as that required in September.

Dr Graham's theory and have passed various opinions as to its validity Dr. Graham states that the red blood corpuscles of individuals stricken with dengue contain a parasite resembling the plasmodium malariæ, with this difference, that its cycle of production is much longer than is that of the malarial parasite In a series of experiments conducted by Dr Graham he obtained positive and negative results just as mosquitoes were and were not allowed to bite infected persons. He therefore drew the conclusion that dengue is not contagious, but like malaria the disease is carried by certain forms of culex from person to person.

Improvement in Market Milk

Mr R. A. Pearson of the United States Department of Agriculture has recently issued a pamphlet in which are set forth suggestions for the improvement of market milk. Mr. Pearson suggests that a milk commission should be formed consisting of a responsible body of citizens who are interested in an improved milk-supply The commission should select and secure the advice and assistance of four experts—a veterinarian, a physician, a bacteriologist, and a chemist—all more or less familiar with the conditions and possibilities on dairy farms. The commission should send to each dairyman who supplies milk to the city a circular naming all the particular conditions which should be found on every farm where milk is produced for city use and announcing that when any dairyman notifies the commission that he is fully conforming to the conditions specified, or endeavouring to do so, his dairy will be inspected, and if it is found to comply in letter and spirit to all the requirements his name will be placed on an "approved" list and he will receive an official endorsement in the form of a certificate testifying that the milk furnished by him has been thoroughly examined and found to comply with the conditions recommended by the commission. Great and intelligent interest is now being taken by the inhabitants of the United States generally in the milk-supply Milk commissions are in existence in New York and in Philadelphia, the former under the auspices of the New York Medical Society and the latter under the direction of the Philadelphia Pediatric Society In both cities the plan has worked well and it is thought that if Mr Pearson's scheme were adopted in the cities and towns throughout the United States the effect, so far as a pure milk supply is concerned, would be most beneficial.

June 2nd

Obituary.

ROBERT WHITTINGTON LOWE, M D EDIN., M R.C.S ENG

WE regret to have to announce the death on June 9th, after an illness lasting for some months, of Dr Robert Whittington Lowe, late of the Army Medical Department. Dr Lowe received his medical education at Edinburgh University, where he graduated as M D in 1863, becoming M.R.C.S in the same year After holding the post of resident medical officer to the St. Marylebone Infirmary, Dr Lowe, on the recommendation of Mr Syme, made an extensive tour abroad, accompanying a patient to Italy, Egypt, and Turkey On his return he entered the Army Medical Service and served as surgeon to the 5th Dragoons. He was for some time in India, serving chiefly in the Bombay Presidency, where he held the post of physician to the Rajah of Sundoor He was also Government medical officer during the cholera epidemic of 1872. In the Ashanti expedition of 1873-1874 he volunteered for active service and took charge of Sir William Butler's expedition, being mentioned in despatches and receiving the medal and clasp for Kumasi.

WEST HAM HOSPITAL, STRATFORD, E —For Saturday, June 21st, the staff of this hospital are arranging an "At Home." Mr Alfred Capper, the thought reader, has consented to help in the entertainment and a number of friends, amateur and professional, will do their best to provide for the amusement of the patients, the staff, and the guests A collection will be made in aid of the funds for the coronation festivities Any donations will be thankfully received by the secretary on behalf of the committee.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THE General Medical Council concluded its seventy-fourth session on Tuesday afternoon, June 3rd The proceedings of the Council on that day are reported in this issue of THE LANCET

On Friday, May 30th, the time of the Council was wholly occupied by a discussion of methods for the readjustment of the financial relations of the Council and Branch Councils. The Financial Relations Committee, appointed a year ago to consider the whole financial position of the Council, presented an interesting and suggestive report which, as well as the debate thereon, must have opened the eyes of the Council to the veritable state of its pecuniary affairs. Additional attention was drawn to the question by the report of the Finance Committee of the Council which came up for consideration on the following day and which showed certain unpromising tendencies towards increase of expenses and decrease of receipts. The result of a consideration of this report was the suspension of payments to the sinking fund.

On Monday, June 2nd, a report of the Public Health Committee led to a practical discussion of the training required for Public Health Diplomas which was continued on the last day of the sitting

The unfortunate subject of the Midwives Bill was also touched upon on Tuesday. The views of the General Medical Council with regard to this Bill have been absolutely ignored and the Direct Representatives have been unable to assist the profession at large to resist a measure which is in several directions a retrograde one even though certain reforms which it aims at effecting are admittedly for the public good

The session was a quiet one, its most distinguishing feature being the general recognition by the Council that its financial affairs required setting in order

TUESDAY, JUNE 3RD

THE Council met again to-day, Sir WILLIAM TURNER presiding

The Prevention of Personation.

The Council went into Committee for the further consideration of the following motion by Mr Horsley arising out of the report of the Committee on the Prevention of Personation viz. —

> All applications for restoration to the Medical or Dentists Register or for registration under exceptional circumstances in these registers shall be accompanied by a statutory declaration and shall be drawn in the terms stated in the forms included in schedules 6a 6b, 6c, 6d"

Mr HORSLEY explained that if the Council approved of this regulation proposed by the committee it would conclude the regulations about which there had been any dispute In their report the committee indicated that there were several minor matters which required settlement Among these there was a difference between the Medical Act and the Dentist Act. Under the latter Act when a man's name lapsed from the Register, not by reason of his own fault, but because of change of address or some such cause, the Registrar was empowered to write to him by registered letter to inquire as to the circumstances and this amount of liberty was not given under the Medical Act. The committee thought that if this power were extended to the Medical Act it would secure greater accuracy in the Medical Register He would suggest that after disposing of his motion the Council should not go further at present but leave the committee to bring up a document setting out clearly all the proposed changes in order that the Council might deal with them next session as a whole.

Mr. BROWN urged Mr. Horsley not to press his motion on the present occasion because he did not think that the Council was quite convinced of the practicability of the proposals made. For himself he saw great difficulty with regard to the identification of practitioners.

Dr. MACALISTER thought that the Council should decide this question now because it was cardinal and if it was carried much would follow consequentially. For the information of the Council he would read the following extract from the comments of Mr. H. E. Allen, the Registrar, viz.:—

> I am of opinion that in the interests of practitioners whose names have been removed from the Register for the trifling omission of not keeping the office properly advised as to their addresses, they should not have the path back to the Register made too difficult. The absence of a man's name from the Register frequently only becomes known to him at the last moment when he is intending to take up an appointment, or to certify a death, or to give medical evidence, and time may not allow for the obtaining of a certificate of identity signed by two medical practitioners or by two magistrates. Above all, I would respectfully submit that it is most important that the delegation of power to the branch registrars to restore names and report their action to the Executive Committee, which was found necessary in 1887, should be retained, seeing that if a meeting of the committee is to be waited for the unfortunate practitioner might be penalised by being retained in the category of illegal practitioners for an unnecessary period of some months.

Mr. HORSLEY pointed out that the Scottish Registrar did not see any objection to the proposed change, while the Irish Registrar only partly felt the difficulty.

On a division the proposed regulation was carried by 12 against 5 votes.

The Council then resumed.

Mr. HORSLEY moved—

> That the Prevention of Personation Committee shall prepare for the November session a complete report on the whole subject and submit a series of recommendations on which the decision of the Council may be taken and that the report be in the hands of members of Council a fortnight before the meeting.

This motion was agreed to and Dr. Finlay was appointed to the committee in the room of Dr. Reid.

Diplomas in Public Health.

Prints of the resolutions and rules for Diplomas in Public Health as amended at the previous day's sitting having been circulated,

Dr. MACALISTER proposed their adoption.

Mr. TICHBORNE seconded.

Dr. NORMAN MOORE said that before these resolutions and rules were finally passed he wanted to say a few more words about Clause 4 which on Monday had been adopted or rather readopted in the following terms:—

> Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has attended during three months the practice of a hospital for infectious diseases at which opportunities are afforded for the study of methods of administration.

He thought the Council had been under a slight degree of misapprehension in thinking that every effort had not been made to get leave for instruction in sanitary subjects in the metropolitan hospitals. Every effort had been made—unsuccessfully; and if this Clause 4 was passed as one of the rules it would put a stop, so long as it was in force, to candidates for the Public Health Diploma obtaining the necessary facilities for instruction in London. He held in his hand a letter received from the secretary of the Metropolitan Asylums Board on Jan 18th last, which stated that the Board had no authority to afford anything beyond medical instruction in their hospitals and at all events the arrangements there did not permit, under the present circumstances, the requirements of the General Medical Council in regard to public health instruction being carried out. Of course, the Council had the power to decree what they liked, but although this applied to London only it was of the very greatest importance in London; and he ventured to take up a little of the time of the Council in order to propose an addition to Clause 4, which would make it workable in London He could assure them that the English Royal Colleges were anxious to have the Council's Public Health Diploma regulations carried out in the fullest possible way, but they certainly thought that Regulation 4 was unworkable and they would simply be obliged to decline Diplomas in Public Health if that regulation remained as it was at present. What he proposed to add was this note:—

> The study of the methods of administration shall include the methods of dealing with patients at their admission and discharge as well as in the wards of the hospital.

That was to say, that the two points concerned with sanitary administration—namely, (1) admission and discharge of patients and (2) disinfection—must be studied, or the instruction would not be recognised. That would be the minimum studies. It was feared that something relating to accounts might be put into the regulations by bodies entitled to grant Public Health Diplomas, but under his proposal such studies would not be required. If such a note as he proposed was added he wished to emphasise this—that it would make Clause 4 workable in London; if the regulation stood alone it would absolutely prevent the English Royal Colleges from granting diplomas.

Dr. BENNETT seconded the proposal.

Mr. BROWN questioned whether every effort had been made to induce the London Fever Hospital to give the necessary facilities which it was quite capable of doing

Sir HECTOR CAMERON did not think it had ever been in the mind of the committee that investigating accounts of the hospitals was to form part of the instruction of administration. He thought that what they had in mind when framing the regulation was a necessary proportion of nurses, the serving of food, the question of what was to be done with the bed and bedding, and other such things, all of which really were embraced in the proposal submitted by Dr. Moore to the Council.

Dr. MACALISTER did not intend to oppose the proposal, for he believed it contained the gist of the whole matter. The matters involved under Dr. Moore's two points were those which candidates should know about before they were given diplomas. The matter of the accounts of an institution should be left to the managers of it. He had heard nothing to make him think that if the Metropolitan Asylums Board had the thing put clearly before them they would not give the facilities desired.

Dr. MCVAIL hoped the Council would not depart from the decision they so distinctly came to on the previous day in connexion with Clause 4. What was wanted was that before a man began work in a certain locality he should know everything about the administration of the hospital in that locality and he did not see why such a requirement should be modified for the sake of London. If there was to be modification there should be two classes of diploma, a London and an Imperial.

Sir CHRISTOPHER NIXON said it seemed to him that Dr. Moore's proposal did not alter Clause 4. It simply called particular attention to what would be required to be certified to. It simply specified that candidates should include in their studies the matter of the admission and removal of patients from the hospital and disinfection rendered needful by their presence in it. There was no attempt whatever to get rid of the requirements laid down in Clause 4.

Dr. PAYNE suggested that Dr. Moore might include the words "and generally the duties of a medical superintendent of such an hospital."

Dr. MOORE willingly consented to accept Dr. Payne's suggestion.

After Mr. BROWN had informed the President that the London Fever Hospital was not under the charge of the Asylums Board, after Mr. BALL had expressed the hope that the regulation would be left unaltered, and after Sir WILLIAM THOMSON had stated it to be his opinion that one of the most important matters of administration was the financial cost of running a hospital, of treating each patient therein, &c., the Council decided to vote on the proposed note formulated as follows:—

> Methods of administration shall include the methods of dealing with patients at their admission and discharge as well as in the wards and medical superintendence of the hospital generally.

This proposal was carried by 15 votes to 5; five members did not vote, while six were absent.

Dr. MCVAIL moved that the resolution which had just been agreed to should be referred to the Public Health Committee for their consideration and report to next meeting of Council. He urged that the reasons why this motion of his should be accepted were very strong. The chairman of the Public Health Committee (Dr. Bruce), who had had to leave for Scotland, and Mr. Power, the successor of Sir Richard Thorne, were not here; no objection had been taken to the regulation by the deputation of teachers on Public Health, and it was a regulation which had been framed with the greatest care and after much consideration and had been carried by a large majority of the Council. He did not see that the vote of 15 out of 31 members to-day should upset what had been so carefully decided upon, especially as some of these 15 were new members and were unaware of the long and troublesome deliberations which had taken place before the regulation was adopted. The regulations of which they began consideration on the previous day had been in force only since January last. Were the Council going to change its regulations every six months or so? Were they going to change these because of some difficulty in one given locality?

Mr. BALL seconded the motion.

Dr. MOORE said the proposition which had been adopted was not a change, it was an interpretation; and every licensing body was at liberty to add as much as it liked to it. In putting forward the proposition he thought he was not interfering with any previous decision of the Council in any way. He simply wished to have the regulation put into workable form.

Mr. BROWN maintained that there was a change involved of a kind so vital that it should not be made so near the end of the session. It was done obviously because of the attitude one board assumed towards the Council's requirements, but, as he had pointed out, London was not absolutely dependent on that board and the facilities which the Metropolitan Asylums Board would not give might be obtained in the London Fever Hospital.

On a division 7 voted for the motion and 14 against it; 4 members did not vote and 6 were absent.

Dr. MACALISTER then moved that the resolutions and rules for Diplomas in Public Health as amended should come into force from this day (June 3rd).

Dr. MOORE seconded and the motion was agreed to by 17 votes to 6; 2 members did not vote and 6 were absent.

The Preliminary Examination.

On the motion of Sir JOHN BATTY TUKE, seconded by Dr. MACALISTER, the following report by the Education Committee was received and entered on the minutes:—

The Education Committee have considered the following correspondence, referred to them by the Executive Committee on May 28th, 1902:—

(a)

"54, George-square, Edinburgh.
April 14th, 1902.

DEAR SIR,—In the regulations of the General Medical Council students of the Scottish universities are permitted to pass their preliminary examination in two parts, but students taking the preliminary examination of the Educational Institute of Scotland must pass all the subjects at one time.

Students are also permitted now to take the lower grade leaving certificates in two parts.

Will you please inform me whether candidates may, under these regulations,

(1) Pass a part of the subjects at the universities and the remaining part at the Educational Institute of Scotland, or

(2) Pass a part of the subjects at the leaving certificate examination and the remaining part at the Institute?

The question is one of construction, and it appears to this board that if the part of the university examination or the leaving certificate examination is considered to be of a standard that exempts the student from further examination in proceeding to university examinations there is no reason why students presenting themselves for the Institute's examination should be asked to repeat subjects passed (presumably) on that higher standard.

The board are also of opinion that it is easier for a candidate to attempt a university examination and pass in part and be allowed to try the remainder as often as he thinks fit than to be required to repeat all the subjects at the institute's examination at each appearance.

Yours faithfully,
JAMES ROBERTSON.

H. E. Allen, Esq., Registrar,
General Medical Council."

(b)

"General Medical Council Office,
299, Oxford-street, London, W.,
April 15th, 1902.

DEAR SIR,—In answer to your letter of the 14th instant I have to state (1) that a candidate for registration cannot pass part of his preliminary examination at one of the Scottish universities and the *remaining* part at the Educational Institute of Scotland; nor (2) can he pass part of the required subjects at the leaving certificate examination and the remaining part at the Institute.

The examination of the Educational Institute of Scotland is considered by this Council to be a junior examination and cannot be accepted unless it is complete *in itself*.

On the other hand, the lower grade leaving certificates of the Scotch Education Department are considered to be of a higher standard than the junior examinations recognised by the Council; hence the required subjects may be passed at two examinations. The first class certificates of the College of Preceptors are in the same category.

Yours faithfully,
H. E. ALLEN.

J. Robertson, Esq."

(c)

"54, George-square, Edinburgh.
April 16th, 1902.

DEAR SIR,—I am favoured with your letter of yesterday and will be obliged by your bringing the queries in my letter of 14th inst. before the next meeting of the General Medical Council.

If the General Medical Council considers the Educational Institute of Scotland's preliminary examination to be a junior one, and the examinations of the Scottish universities and of the lower grade leaving certificates to be of a higher standard, this board sees no reason why students who have passed subjects on that higher standard should be required to pass them again in the junior examination.

Yours faithfully,
JAMES ROBERTSON.

H. E. Allen, Esq."

It will be remembered that on Nov. 30th, 1901, the Council approved a report of the Education Committee in which it was stated that, along with two other examinations, the preliminary examination of the Educational Institute of Scotland was recognised for the year 1902 as an examination in which all the required subjects are to be passed at one time. Certain improvements in the examination had been proposed by the institute and the report proceeded: "When the committee have had further experience of the precise standard demanded by the examiners, and the general working of the examinations, they will be in a position to report whether any further modifications are desirable."

Apart from the question, whether in any case it is desirable to encourage students to pass their preliminary examinations in piecemeal *fashion before different educational bodies, the committee feel* that they are not yet in a position to report that the institute's examination is equivalent in scope and standard to the lower grade leaving certificate examinations.

They are of opinion that the answer forwarded to Mr. Robertson by the Registrar correctly expresses the purport of the Council's regulations and they have at present no information which would justify them in proposing that the regulations should be modified in the direction suggested in Mr. Robertson's letters.

Sir JOHN BATTY TUKE consulted the Council in regard to the reply to the deputation from the council of the British Medical Association who on Saturday last had had an interview with the Education Committee on the subject of the standard of the preliminary examination in general education. The deputation's arguments, he remarked, had covered a great deal of ground and it was impossible to give them an answer on the spot. He had undertaken to send a reply as soon as possible and what he proposed to do was to draft a report to be sent in the first place to each member of the Education Committee for their remarks. But he wished to know if it would be necessary to send that report to each member of the council before it was forwarded to the *deputation*.

After some conversation it was agreed to leave the matter entirely in the hands of the Education Committee.

The British Pharmacopœia.

On the motion of Dr. MACALISTER, seconded by Dr. PAYNE, the following report of the Pharmacopœia Committee was received and entered on the minutes.

The Pharmacopœia Committee have to report that up to the present date 32,068 copies of the British Pharmacopœia 1898, and 354 copies of the Indian and Colonial Addendum 1900, have been disposed of.

The Government of *India edition of the Addendum*, authorised by the Council on Dec. 3rd, 1901, was prepared for the press by the Chairman and published by direction of the Executive Committee on Feb. 28th, 1902 (Minutes, vol. xxxix., pp. 42, 43). Of this edition the 3500 copies ordered by the Indian Government have been delivered and paid for, and 112 other copies have been disposed of.

As the stock of the British Pharmacopœia, 1898, now in hand is reduced to 440 copies, the committee recommend that the President should be authorised to direct the preparation during the summer of a further issue of 1500 copies.

Since the last report of the committee two meetings of the Conference with Representatives of the Pharmaceutical Societies of Great Britain and of Ireland have been held, at which useful discussions have taken place as to the preliminary researches which are necessary in preparation for the next Pharmacopœia. The conference has also had before it a series of reports containing the results of a minute and exhaustive inquiry into the solubilities of the chemical substances included in the Pharmacopœia. This inquiry has been conducted by Professor Greenish under the direction of the Research Committee of the Pharmaceutical Society of Great Britain in the laboratories of the society. In order to ascertain the purity of the drugs under examination it has been necessary to scrutinise afresh the chemical tests given for them in the Pharmacopœia. This scrutiny has led to suggestions for the improvement of these tests which promise to be of great value in relation to pharmaceutical chemistry and will certainly call for the fullest consideration in the revision of the Pharmacopœia. Similar researches are in progress in relation to the percentage of ash which should be yielded by good specimens of the official vegetable drugs, and here again collateral inquiries have been instituted bearing on the identification of the vegetable drugs and of their powders.

Methodical and laborious inquiries of the above nature cannot be carried on without incurring considerable expense and the committee understand from the representatives of the Pharmaceutical Society of Great Britain that in this case the cost has been unexpectedly heavy. The committee highly appreciate the service rendered by the society and its officers to pharmaceutical science in general and to the revision of the Pharmacopœia in particular; and they desire to express their appreciation by recommending that a grant of £100 be made to the society as a contribution towards the expense incurred by it in carrying on these valuable investigations.

The committee are further of opinion that it is desirable that a digest of the criticisms and researches bearing on the Pharmacopœia which have been published from 1875 to the present time should be procured, and they recommend that the sum of £50 be placed at the disposal of the committee for this purpose.

The recommendations contained in this report were adopted. They were (1) that the President direct a further issue of 1500 copies of the Pharmacopœia; (2) that a grant of £100 be made to the Pharmaceutical Society of Great Britain towards the expense incurred by it in special investigations carried on to assist in the preparation of the Pharmacopœia; and (3) that £50 be placed at the disposal of the committee to pay for a digest of the criticisms and researches bearing on the Pharmacopœia which have been published from 1898 to June 1st.

The Midwives Bill.

Sir JOHN WILLIAMS, seconded by Mr. BROWN, moved that the following report of the Midwives Bill Committee be received and entered on the minutes:—

The committee submit to the Council as its report the resolutions at which it arrived on March 10th, as embodied in the following minutes of the sitting:—

MONDAY, MARCH 10TH, 1902.

Present: Sir John Williams (in the chair), Mr. Horsley, Mr. Brown.
H. E. Allen, Registrar.

1. Sir John Williams, at the request of the committee, took the chair.

2. Read: The request made by the General Council on Tuesday, Feb. 25th, 1902, viz.:—

"That in the event of the Midwives Bill, at present before the House of Commons, passing the second reading Sir John Tuke be requested to communicate the resolutions of the Council on the subject to the Grand Committee on Law."

3. Clauses 1 and 2 of the Council's resolutions were adhered to and after discussion it was resolved:—

"(3) That any measure which proposes merely to protect the title of 'midwife,' however defined, and does not make illegal and penal the unlicensed practice of midwifery for gain, cannot be regarded as offering a sufficient safeguard in the interest of the public health in the present Bill."

4. Clause 3 of the Bill was then considered and it was agreed to leave out the words on page 2, lines 4 and 5, from "from" to "certificate."

5. After discussion it was carried that the words "Incorporated Midwives' Institute" should be omitted and "Royal British Nurses" be substituted in Clause 4.

6. In Sub-section 2 of Clause 4 it was carried that Sir John Tuke be requested to press for the omission of the word "persons" and the substitution of the words "registered medical practitioners."

7. In line 31 of the same clause it was agreed to press for the omission of the words "the Privy Council after consultation with."

8. In Clause 10, pp. 5 and 6, it was agreed to press for the omission of the first two paragraphs in favour of the following amendment of which Sir John Tuke had given notice.—

"No woman shall hold herself out as a practising midwife in any county or county borough without having previously obtained from the local supervising authority a licence enabling her to practise therein, which licence shall be granted on proof by the woman that her name is on the midwives' roll. The licence shall remain in force till the 31st day of December following and shall be revocable at any time by the local supervising authority in case the holder be proved to the satisfaction of the Central Midwives' Board to have infringed any of the regulations framed under this Act. The licence shall be issued on payment of a fee of 1s, it shall only be available in the county in which it is issued, and it shall be renewed annually on the first day of January."

9. It was agreed that Sir John Tuke should be requested to press for the insertion in the present Bill of Clause 9 in the Bill of 1898, which provided for the appointment of medical officers of health as the local supervising authorities. (See Bill in Minutes, vol. xxxv., p. 30.)

10. Amendments of which Dr. Ambrose, M.P., had given notice were considered. So far as they did not cover the same points as those provided for in Sir John Tuke's amendments it was agreed to leave them in his hands.

Then committee then adjourned. JOHN WILLIAMS.

The motion was agreed to.

Dr. MACALISTER said that there had been no motion made for the approval of the report. If there had been he should have opposed it because so far as Section 5 of the report was concerned it went beyond the instructions which the committee had received.

Mr. JACKSON moved the approval of the report omitting Section 5.

Mr. BRYANT seconded.

Dr. MACALISTER thought that perhaps after all there was no use in passing this motion, for the report was now on the minutes and such as it was it might be allowed to stand.

On a division the motion was supported by only three votes and was declared to be lost.

Mr. BROWN moved—

That in the opinion of this Council the Midwives Bill, as amended by the House of Commons' Grand Committee on Law, does not contain the safeguards necessary to protect the public against the practice of midwifery by ignorant and incompetent persons.

The PRESIDENT pointed out that the Council had already passed a resolution to the same effect and, as the report of the Midwives' Bill Committee just placed on the minutes showed, in almost the same words. Was it necessary to go further?

Mr. BROWN considered it necessary in the interests of the profession and the public that the Bill should not go further without a strong representation being made by the Council as to its inadequacy and the harm rather than good that it would do if passed. It was a duty incumbent on the Council to repeat at this time, or pass in even stronger terms, any similar representation they had made.

The PRESIDENT explained that the Privy Council had been informed of the views the Council held as to the Bill. The only change since made was that it had been provided that before the rules for the Midwives Board were adopted the General Medical Council were to be consulted in regard to them.

Mr. BROWN wished to press his motion.

Mr. JACKSON seconded it.

Sir WILLIAM GAIRDNER thought the Council should have nothing further to do with the Bill because of the way in which the Council's views had been ignored. His opinion was expressed in the following words, which he proposed to ask the Council to accept as a finding, viz.:—

That in consideration of the fact that the Midwives Bill at present in Parliament, as amended by the Grand Committee of the House of Commons on Law, &c., does not in any respect embody the principles unanimously adopted by the General Medical Council on April 6th, 1898, and directed to be forwarded to the Lord President of the Privy Council, the General Medical Council hereby resolves that it would not be in the public interest that the latter part of Clause 4 of the Bill should remain a part of the statute in the event of its passing the remaining stages in the House of Commons.

The PRESIDENT asked if this was to be an amendment to Mr. Brown's motion.

Sir WILLIAM GAIRDNER replied that it was not an amendment. It was a proposal to be taken after Mr. Brown's was disposed of.

On a vote Mr. Brown's motion was carried by 13 votes to 5.

Sir William Gairdner's proposition was then considered.

The PRESIDENT pointed out that it raised an absolutely new question.

Mr. BROWN: Of which notice ought to have been given.

The PRESIDENT: Is the proposal seconded? (After a pause): If there is no seconder the proposal falls.

The subject dropped.

The Birmingham Dental Degree.

Mr. BRYANT, as chairman of the Dental Education and Examination Committee, submitted the following report:—

The Dental Education and Examination Committee report that they recommend that, as an application has now been made by Mr. Harold Round, Lic. Den. Surg. R. Coll. Surg. Eng., May, 1900, for the registration of his degree of Bachelor of Dental Surgery of the University of Birmingham, dated July 6th, 1901, the General Council should make an order for the registration in the Dentists Register of the degree of Bachelor of Dental Surgery of the University of Birmingham as an additional diploma granted in respect of a higher degree of knowledge than is required to obtain a certificate of fitness under the Act (Sec. xi. 6 of the Dentists Act, 1878).

In moving that this report be received and entered on the minutes and that the recommenation it contained be adopted Mr. Bryant reminded the Council that Birmingham gave degrees only to the already qualified. A high measure of knowledge was necessary before it could be obtained; it, in fact, was an honours degree and he thought that the Council should therefore have no hesitation in recognising it.

Mr. TOMES seconded and the motion was adopted.

A Protest from Scotland.

On the motion of Dr. MACALISTER the following correspondence addressed to the Scottish Branch Council and referred by that Branch to the General Council was received and entered on the minutes:—

The Glasgow Southern Medical Society,
1, Berlin terrace, Pollokshields,
Glasgow, April 18th, 1902.

DEAR SIR,—I inclose a formal protest from the above society against the edict recently issued by the General Medical Council.

I am, yours truly,
JOHN FRASER ORR, M.D., Secretary.

James Robertson, Esq.,
Registrar of Scottish Branch of the General
Council of Medical Education and Registration.

The Glasgow Southern Medical Society,
Glasgow, April 18th, 1902.

JAMES ROBERTSON, Esq.
Registrar of Scottish Branch of the General Council of Medical Education and Registration.

SIR,—We, the undersigned, in name and on behalf of the Glasgow Southern Medical Society, hereby protest against the notice of the General Medical Council to registered medical practitioners published in the *Glasgow Herald* of 14th December, 1901, as being unwarrantable, oppressive, and vexatious

Signed on behalf of the Glasgow Southern Medical Society.

JOHN STEWART, President.
D. MACGILVRAY, Vice-President.
THOS. FORREST, Treasurer.
JOHN FRASER ORR, Secretary.
AND. WAUCHOPE.
JAMES FORRESTER.
LACHLAN BURGES.

[COPY]

64, George-square, Edinburgh,
April 22nd, 1902.

DEAR SIR,—I have to acknowledge receipt of your letter of 18th inst. and the formal protest therein specified, which I will submit to the first meeting of the Scottish Branch Medical Council.

Yours faithfully,
(Signed) JAMES ROBERTSON

John Fraser Orr, Esq , M.D ,
Secretary, The Glasgow Southern Medical Society,
1 Berlin terrace, Pollokshields, Glasgow

Dr MACALISTER said that so far as he could ascertain the Scottish Branch Council made no comments. They had simply sent the correspondence to the General Council

Mr BROWN I second the motion that it be entered on the minutes, but should a copy of the "edict" not accompany it?

Dr MACALISTER thought not. They could only guess that the "edict" was one of the official notices issued by the Council as an advertisement.

The General Registrar

Mr H. E ALLEN was reappointed Registrar to the Council The appointment of Registrar is an annual one and by standing orders requires to be made at the termination of the business of the May session.

Thanks to the President

Mr BRYANT I think we all should like to return thanks to our President for the careful way in which he has conducted the business of the session.

Sir CHRISTOPHER NIXON I second that, and must acknowledge the great consideration you, sir, have always shown to the members of the Council.

Sir WILLIAM TURNER Thank you, gentlemen.

The minutes of the sitting were then read and confirmed and the Council rose till November next.

Medical News.

UNIVERSITY OF CAMBRIDGE —The following medical degrees were conferred on June 5th —

Doctor of Medicine —H A. Gaitskell Clare; H. F Panker, Emmanuel, W J Lindsay, Sidney; R. J Reece, Downing; and J A. Wright non-collegiate.

Bachelor of Medicine.—H. I Claxton, King's; J A. Andrews (and B C.), St. John's; E. R. Clarke, St. John's; A P. Laycock (and B.C), St John's; R Rolfe, Clare; C H Glenn Pembroke; B B Sapwell (and B.C) Corpus Christi; H. O Butler, Emmanuel

Bachelor of Surgery —J F Alexander, Trinity; C de C Pellier, Clare.

UNIVERSITY OF LONDON: FACULTY OF MEDICINE —A meeting of the Faculty of Medicine was held on June 6th at the University, Mr H. T Butlin, the Dean of the Faculty, presiding A report from the committee on the proposed Institute of Preliminary and Intermediate Medical Sciences was received and adopted without dissent. The report was in the nature of a reply to the Senate in response to a request that it should be furnished with information as to the capital outlay, the annual cost of maintenance, and the accommodation and staff necessary for the proposed Institute of Medical Sciences, with suggestions for the administration of the institute. The committee had dealt with all these points and submitted two alternative schemes for staffing the institute and remunerating the teachers—one which they regarded as the ideal if funds were available and the other which was feasible if no other source than students' fees were forthcoming for the maintenance of the institute. The report also made some recommendations as to the site of the institute and concluded by urging the Senate "to make the provision of the proposed Institute of Medical Sciences one of the chief items in the public appeal for funds shortly to be issued by the University" The Faculty also considered the regulations proposed by the Board of Advanced Medical Studies for the Degrees of M.B. and B.S The three most important changes proposed by the board are as follows —

(a) The M.B., B.S examination shall be united so as to form a single entrance to those degrees both of which shall be conferred on each successful candidate

(b) No separate examination shall be held for honours

(c) The subject of examination may be divided into two groups one of which shall comprise surgery and midwifery and diseases of women and the other medicine pathology forensic medicine and hygiene Either group may be taken first at the option of the candidate or the groups may be taken together

These three proposals were allowed to be sent to the Senate without comment from the Faculty Some other proposals of the Board of Advanced Studies aroused a good deal of discussion, more particularly the large number of compulsory lectures required and the shortness of the period of clinical study On these and some other points the Faculty passed definite resolutions to be forwarded to the Senate. The consideration of the proposed regulations for the M S and M.D degrees was adjourned till the next meeting of the Faculty on Friday, June 20th, at 5 P M , at the University

BARKER ANATOMICAL PRIZE.—This prize, which is given by the Royal College of Surgeons in Ireland, is of the value of £21 and is open to any student whose name is on the anatomical class list of any school in the United Kingdom. The prize for 1903 is offered for the best dissection of the sole of the foot and preparations must be placed in charge of the curator of the museums of the Royal College of Surgeons in Ireland before March 31st in that year Further particulars may be obtained from Mr Arthur H White, curator of the museums, Royal College of Surgeons in Ireland, Dublin.

FREEMASONRY —At the quarterly communication of the United Grand Lodge of England held on June 4th at Freemasons' Hall, London, certain appointments to office in Grand Lodge made by the M W Grand Master in view of the Coronation of His Majesty King Edward VII. were announced. They included the following names T G A. Burns, M A. Oxon., M R.C S Eng , W Wynn Westcott, M B. Lond , M R.C.S Eng , C. Vincent Cotterell, L.D S R.C S I., as Past Junior Grand Deacons , J Beresford Ryley, M D Brux., M.R.C.S. Eng , as Past Deputy Grand Director of Ceremonies , and R. J Maitland Coffin, F R.C.P Edin , and A. G Sandberg, M.D Vermont, L.R.C P & S. Edin., as Past Assistant Grand Directors of Ceremonies

THE ST JOHN AMBULANCE BRIGADE MEMORIAL.—On June 11th the Prince of Wales, Grand Prior of the Order of St. John of Jerusalem in England, unveiled at the Church of St. John, Clerkenwell, the memorial tablet which has been erected there to the memory of members of the St. John Ambulance Brigade who have died while on service in South Africa. Many distinguished members of the Order were present at the ceremony The tablet is inlaid with mosaic and above the names the figure of an angel bears a shield with the arms of the Order. On the centre panel appears the following inscription . "To the Glory of God, and in memory of those members of the St. John Ambulance Brigade who died of disease contracted while engaged in attendance on the sick and wounded during the South African campaign, 1900-1902. Erected by His Majesty King Edward VII., Sovereign head and patron, H.R.H. the Prince of Wales, Grand Prior, and the Chapter-General of the Grand Priory of the Order of the Hospital of St. John of Jerusalem in England "

SOCIETY FOR THE PREVENTION AND CURE OF CONSUMPTION IN THE COUNTY OF DURHAM.—The annual meeting of this society was held on June 11th in the town-hall, Sunderland, when the report of the general committee was read From this report we extract the following passages —

> As regards the prevention of consumption your committee have tried to teach the public that the disease is communicable and have urged the sanitary authorities of the county to take steps to stop its ravages Over 2000 copies of the society's pamphlet, 'Consumption: its Prevention and Cure,' in addition to other literature on the subject have been sent to nearly every member of the 40 sanitary authorities as well as to others; addresses have been given to meetings of workmen, members of the Sunderland Board of Guardians and the Co-operative Society and letters have been sent to the various local authorities asking them to adopt preventive measures. Several authorities now offer the free disinfection of rooms vacated by consumptives and distribute leaflets showing the great danger of indiscriminate spitting, of breathing close and vitiated air, and the need for the better ventilation and lighting of cow byres as well as the more stringent supervision of the milk-supply Voluntary notification of cases of consumption has been in force in Sunderland for a year and the medical officer of health states that 96 cases have been reported and that much good has been done by the information affording opportunities for instructing the patients and their friends in the steps necessary to prevent the spread of the disease, and nine of the cases obtained admission to the society's sanatorium. The Borough of Gateshead has also adopted voluntary notification so that this measure is now in force amongst over a quarter of a million of the population of the county ..... The Boroughs of Sunderland and Gateshead and the Durham County Council have arranged that medical practitioners may have suspected sputum examined for tubercle bacilli free of charge on application to the medical officer in each district During the year 55 cases were discharged after treatment in the sanatorium at Stanhope Of these 33 of the cases on admission had the lungs consolidated only but eight of these were complicated with pleurisy or laryngitis and seven others had extensive consolidation so that only 15 of the 55 had the disease in an early stage The

remaining 25 were found on admission to have the lungs broken down into cavities and were therefore advanced cases. Of the 30 consolidation cases 23 were enabled to return to work, 12 were apparently cured and left free from all signs of disease, 14 were much improved, and four were improved. Two of the four "improved" were complicated with other diseases and, after leaving, relapsed and died. The average stay of the 30 consolidation cases was 14·2 weeks and the average gain in weight was 1·25 pounds per week.

Money and offers of suitable employment for discharged patients are much needed.

Donations and Bequests.—By the will of Mr. Benjamin Buck Greene the Seamen's Hospital at Greenwich, the Homœopathic Hospital, the Royal Berkshire Hospital, and the Newbury District Hospital each receive £100.—By the will of Mr. Richard Ovey £500 are bequeathed to the Royal Berkshire Hospital, Reading.—By the will of Mr. George Fergusson Wilson £1000 are bequeathed to King's College Hospital and £1000 to the Royal Free Hospital.

Literary Intelligence.—We have received a copy of *Al-Tib Al-Hadisse*, a new medical review edited by Dr. A. Eid. The *Al-Tib Al-Hadisse* is the only Arabic periodical of the native medical man and chemist, so that its pages put the native practitioner in touch with international scientific discovery, especially with regard to such diseases as are prevalent in Egypt and other tropical lands.

Medical Magistrates.—Mr. Thomas Mather Querney, M.R.C.S. Eng., L.R.C.P. Lond., has been gazetted a justice of the peace for Port St. John, Pondoland.—The name of Dr. C. T. Brookhouse of Brockley, has been placed on the Commission of the Peace for the County of London.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Midwives Bill.

So far as the House of Commons is concerned the Midwives Bill has only one stage to pass—namely, the third reading—and that will be taken to-day (Friday, June 13th), the second and last day reserved for Bills promoted by private Members. The future of the Bill rests, however, with the Home Secretary. His speech during the report stage was strongly hostile to the amendment making it an offence for a woman who is not certified to practise as a midwife habitually and for gain, and when he allowed it to pass with the period of grace for women now in practice extended till 1910 he reserved to himself the right to consider the whole question. In the House of Lords it will be within his power either to have the amendment struck out or modified or to have the whole Bill rejected.

HOUSE OF COMMONS.

Thursday, June 5th.

The Small-pox Hospital at Hanworth.

Sir Frederick Dixon-Hartland asked the President of the Local Government Board with regard to the small-pox hospital that was being erected at Hanworth, Middlesex, and which the officers of his department had just inspected and stated that there was no fear of pollution provided that the cesspools on the site were emptied regularly and their contents were not allowed to overflow or soak away into the soil, whether, seeing the importance of the question, he would give instructions by which all refuse, solid or fluid, should be first treated with lime and afterwards burnt as a means of ensuring safety to the public.—Mr. Walter Long replied: As I stated on a previous occasion, I have no authority to interfere with regard to this hospital, as it is not proposed to defray the cost out of borrowed money. Hence I am not empowered to give instructions of the kind desired, but I will recommend the urban district council to take all necessary measures for the safe disposal of refuse from the building when it is used as a hospital.

The Treatment of Epileptics.

Mr. Norman asked the President of the Local Government Board whether he proposed to take any action, by legislation, by general order, or otherwise, to bring about the separation in workhouses of the epileptics of both sexes who for the greater part of the time were sane and well behaved from the hopeless and permanent imbeciles.—Mr. Walter Long replied: Section 24 of the Lunacy Act, 1890, requires that a person shall not be allowed to remain in a workhouse as a lunatic unless the medical officer certifies that the accommodation in the workhouse is sufficient for his proper care and treatment separate from the inmates of the workhouse who are not lunatics, except where his condition is such that it is not necessary for his convenience or that of the other inmates that he should be kept separate. It follows that any sane epileptic is required to be kept separate from the imbeciles unless the condition of the latter is such that their separation from other inmates is not necessary. It does not at present appear to me that fresh legislation on this subject is requisite. If it should be shown that further regulations are needed I should be ready to consider the matter.

Uncertified Deaths in the Scottish Highlands.

Mr. Weir asked the First Lord of the Treasury whether he was aware that of the deaths which occurred in the highland crofting counties last year no less than 1479 were uncertified; and would he consider the expediency of introducing legislation on the subject.—Mr. Balfour replied: The Government are aware of the facts mentioned in the question but no pledge can be given at the present time to introduce the necessary legislation.

Monday, June 9th.

Death under Chloroform.

Mr. Delany asked the Secretary of State for War whether he was aware that Charles Vernon Freer, a private in the Cape Mounted Specials, when recovering from a wound received at Tweebosch, died at the General Hospital, Kimberley, after being put under chloroform for the purpose of extracting teeth; whether he would order an inquiry into the circumstances of this man's death; whether he would state why his parents received no official notice of his death and why the friends of deceased at Kimberley were not permitted to see the remains or to attend the funeral; and whether compensation would be made to his parents for the loss sustained by his death.—Mr. Brodrick replied: The man died as stated in the question. As the verdict at the inquest was to the effect that "due care was observed by the professional men engaged in the operation and no blame attaches to either the surgeon or to the dentist," no inquiry appears necessary. I have no information regarding the notification of the death or the treatment of the friends of the deceased. No question of compensation arises.

Tuesday, June 10th.

The Sale of Butterine.

On the motion of Mr. Hanbury a Bill was introduced and read a first time to amend the Sale of Food and Drugs Acts, 1875 to 1899, with respect to the sale of butterine.

THE MIDWIVES BILL.

REPORT STAGE DEBATES: IMPORTANT MODIFICATION INTRODUCED.

On Friday, June 6th, the House of Commons devoted several hours to the consideration of the Midwives Bill as amended by the Grand Committee on Law.

Mr. T. P. O'Connor moved to insert the following new clause—viz.:

"Where a person whose name is entered on the roll of midwives has, either before or after the passing of this Act, and either before or after her name is so entered on the roll, been convicted either in His Majesty's dominions or elsewhere of an offence which if committed in England would be a felony or misdemeanour, or been guilty of any disgraceful conduct in her practice as a midwife, that person shall be liable to have her name erased from the roll. The Midwives' Board shall cause inquiry to be made into the case of a person alleged to be liable to have her name erased under this section, and on proof of such conviction or of such disgraceful conduct shall cause the name of such person to be erased from the roll."

Mr. Heywood Johnstone, who had charge of the Bill, said that if the hon. Member did not consider the words in Sub-section 5 of Clause 3 to be sufficient he (Mr. Johnstone) would be quite willing to accept the new clause. The sub-section he referred to said that among the powers and duties of the Central Midwives' Board should be the following: "To decide upon the removal from the roll of the name of any midwife for disobeying the rules and regulations from time to time laid down under this Act by the Central Midwives' Board or for other misconduct and also to decide upon the restoration to the roll of the name of any midwife." In his opinion these words did all that the hon. Member desired.

The new clause was accepted by the House.

Mr. Galloway moved to insert a new clause in these terms, viz.:—

"Every council of a county or of a county borough shall inspect or cause to be inspected from time to time any premises wherein any woman receives or proposes to receive as a midwife a pregnant or lying-in woman, and if such premises shall in the opinion of the council be fit for the reception of a pregnant or lying-in woman the council shall issue a certificate to that effect upon payment by the midwife of such fee as may be fixed by the council and shall enter such premises upon a register to be kept by the council. 2. Any woman, whether certified or licensed under this Act or not, who after the first day of January, one thousand nine hundred and three, shall receive as a midwife a pregnant or lying-in woman in premises which shall not have been certified by the county council or council of a county borough as fit for the reception of such a woman under the provisions of this Act shall be guilty of a misdemeanour and on conviction on indictment shall be liable at the discretion of the court to a fine not exceeding £10, or to imprisonment for any term not exceeding two months with or without hard labour, or to both fine and imprisonment, or on summary conviction to a fine not exceeding £10."

Mr. Heywood Johnstone said that he appreciated the object of the hon. Member and to a large extent sympathised with it, but the clause he had proposed went far beyond the scope of the Bill and he could not accept it. If the local authority had the power and the duty to exercise general supervision over all midwives practising in their district they would exercise that supervision over the woman's home just as much as over the woman herself and they would be able to see whether it was a fit and proper place for the reception of lying-in women.

Mr. T. P. O'Connor, speaking in support of the proposed new clause, urged that something must be done to meet the case of lying-in homes, some of which had become the source of the greatest public danger.

Sir Walter Foster said that if this Bill became law this question would have to be faced in some form. At present in these lying-in homes there was the guarantee of the presence of a registered medical man, but if this Bill became law these institutions would be officered and worked entirely by persons certified under the Bill, and he submitted that the guarantee under the Bill was inferior to the guarantee under the Medical Acts. The Bill created a new class of practitioners and one of the means by which these women would be able to carry on their practice of midwifery and reap profit would be by running private homes and private hospitals for lying-in women. That was a danger to society which ought to be guarded against in the Bill and it would be the duty of Parliament to pass some such legislation as the proposed new clause. He therefore supported it.

Dr. R. **FARQUHARSON** said that he quite appreciated the necessity for inspecting the lying in homes which had been referred to but as the proposed new clause was drawn he was afraid that it would apply to private houses.

Mr. **RITCHIE** said that when he saw this clause on the paper he thought it hardly came within the title of the Bill. It certainly did not deal with any matter which was germane to the main point in the Bill. As the clause was drafted it would apply to every private house, to the case of a lady who took a relative into her home for this particular purpose. As to the matter of lying-in homes he would undertake to consider it and to see whether in another place something could not be done to prevent houses being used for this purpose which were not fit to be so used.

Mr. **GALLOWAY** explained that he had no thought of including private houses and if the right hon. gentleman would undertake to put in some words in another place to deal with homes he would not press this clause.

Mr. **RITCHIE** said that he would consider the question with a view of seeing whether it could be done, but he had no command over the other House. The point would be considered; that was all he said.

Mr. **GALLOWAY** suggested that in the circumstances the proper course would be to insert the clause now and have it amended afterwards.

On a division being taken the clause was rejected by 98 votes against 63.

Mr. T. P. **O'CONNOR** moved to insert the following clause by way of substitute for Clause 9 in the Bill, viz.:—

"No woman shall hold herself out as a practising midwife in any county or county borough without having previously obtained from the local supervising authority a licence enabling her to practise therein, which licence shall be granted on proof by the woman that her name is on the midwives' roll. The licence shall remain in force till the thirty-first day of December following, and shall be revocable at any time by the local supervising authority in case the holder be proved to the satisfaction of the Central Midwives' Board to have infringed any of the regulations framed under this Act. The licence shall be issued on payment of a fee of 1s., it shall only be available in the county for which it is issued, and it shall be renewed annually on the first day of January."

He argued that this clause would inflict no hardship upon midwives, while it would be a safeguard against malpractice and crime.

Mr. **HEYWOOD JOHNSTONE** said that the object of the proposed clause was to identify and trace a woman who was practising midwifery in any part of the United Kingdom, but this was already provided for in the Bill. Clause 9 in the Bill said that any woman certified under the Act shall, before holding herself out as a practising midwife or commencing to practise as a midwife in any area, give notice in writing of her intention so to do to the local supervising authority and shall repeat the notice every year. It had seemed to those responsible for the Bill better to follow the precedent of the Infant Life Protection Act and to substitute for licensing a system of notification which they believed would carry out every one of the objects of this proposed new clause.

Sir **FRANCIS POWELL** said that while at one time he had been in favour of licensing he now favoured the scheme in the Bill, having come to the conclusion that licensing would create prejudice and difficulty.

Dr. **THOMPSON** argued in favour of licensing as likely to give greater control over the midwives.

Captain **NORTON** said that if this clause were added to the Bill the measure would be inoperative in a district like South London because a woman would have to take out half-a-dozen licences.

Mr. **ROBERT AMBROSE** saw no objection to a woman being required to take out a license for each of the areas within which she carried on her practice.

On a division the proposed clause was rejected by 128 votes against 59.

The House then proceeded to the consideration of the clauses in the Bill.

Clause 1 said that "from and after the first day of January, 1905, no woman shall be entitled to take or use the name or title of midwife (either alone or in combination with any other word or words), or any name, title, addition, or description implying that she is certified under this Act or is a person specially qualified to practice midwifery or is recognised by law as a midwife, unless she be certified under this Act."

Mr. **ROBERT AMBROSE** moved to insert after "shall" the words "habitually and for gain attend women in childbirth or shall." He explained that these words were in the Bill of 1900 and argued that they were necessary to prevent unqualified women from practising

Mr. T. P. **O'CONNOR** appealed to the Government to reconsider this matter. In his opinion the insertion of these words would strengthen the Bill. He had been asked by the British Medical Association and the General Practitioners' Association to support this amendment and he believed that the General Medical Council was also in favour of it. Though he might not be able to say that the entire medical profession stood behind the amendment he was entitled to say that it had the support of all the great representative medical bodies. The object of this measure was to diminish mortality and suffering which arose from bad midwifery and, in his opinion, it required amendment to achieve that object. The training of these women would be very much inferior to the training of registered medical practitioners who practised midwifery, but quite apart from the trained women the Sairey Gamps would be left absolutely free to go on with their operations. He felt sure that those members of the House who would vote with the promoters of the Bill would do so under the impression that the Bill was going to do away with the old, bad, dirty, and incompetent Sairey Gamp. That was the reason why so many Members were in favour of the Bill and he did not blame them. But he would point out that the Bill in its present form did nothing of the kind. There was not a provision in the Bill which would interfere with any woman who chose to practise midwifery. The Bill gave a right to take up certificates, but there was no penalty for those who went on practising without certificates. It was understood that the objection to the amendment came from the Home Office rather than the promoters of the Bill. Indeed, he understood that if they had to deal only with these gentlemen the amendment would be accepted. What was the objection? The objection was that this would make the practice of midwifery by uncertified women a penal offence. Why should it not be? If a woman chose to take upon herself all the risks involved in attending women in labour it was surely right that she should be called upon to give some proof of her fitness for the work. In his early days he had known many unqualified medical men. They were men of great practical experience and competence. But the unqualified medical assistant had under the operation of the Medical Acts disappeared ...

Mr **HEYWOOD JOHNSTONE**: Do I understand that the unqualified assistant would be subject to a penalty if he attended a case?

Mr. T. P **O'CONNOR**: I know this, that if a medical man employs an unqualified assistant he gets into trouble

Mr. **HEYWOOD JOHNSTONE**: That is another matter.

Mr. T. P. **O'CONNOR**: The medical man is liable.

Mr. **HEYWOOD JOHNSTONE**: Is the unregistered practitioner punished? That is the point

Mr. T. P. **O'CONNOR** said that the unqualified assistant had disappeared He could see nothing in the objection of the Home Secretary. If the law was not strong enough to keep the quack from practising, then the Law should be strengthened It was intolerable that so many lives should be lost or darkened by these practices and that the law should not be allowed to interfere If the law was defective in regard to the quack, that was no reason why in creating a new profession they should not make the law sufficiently strong. If the Home Secretary were to meet him upon this amendment his main objection to the Bill would be removed. He knew there were some difficulties but they were not insurmountable. Undoubtedly, a large number of these women had been in practice for years, and it might be regarded as a harsh thing that they should be at once deprived of their livelihood, but if the Home Secretary would accept the amendment in principle he would be quite willing so far as he was concerned to accord them a period of grace.

Mr. **RITCHIE** said he wished to remind the house of the object of this Bill. That object was a very proper one and a very simple one. At present, as the House knew there was nothing whatever to indicate to any person who wished the assistance of a midwife whether the woman was qualified or not. The authors of the Bill thought, and in his opinion rightly thought, that it would be very desirable that when a person required the assistance of a midwife the person should be in a position to know who had got and who had not got the qualification. Therefore there was set out in the Bill a means by which this knowledge could be obtained. If this amendment were carried the Bill could not proceed.

Several Members: Why not?

Mr. **RITCHIE** said that it could not proceed because it would be most unjust and most injurious. If carried this amendment would mean that no one would be allowed to practise at all for gain unless she was certified. Any poor woman in need of assistance would be unable to avail herself of any assistance of this kind except at the hands of a medical man.

Several Members: No, no.

Mr. **RITCHIE**: I beg pardon, that is so.

Several Members: Why?

Mr. **RITCHIE**: Because there would be no one in a position to obtain a certificate. I do not mean to say that the time might not arrive.

Mr. **ROBERT AMBROSE**: There is the word "habitually" in the amendment.

Mr. **RITCHIE** said that no woman would be of any value unless she had been in the habit of practising They could not call a person out of the street to practise. If this amendment were carried many women who had been in the habit of practising would be barred and there would be much suffering and hardships in consequence The hon. Member (Mr. O'Connor) spoke very strongly and with deep conviction as to the necessity of this amendment and it would probably surprise the House to learn that the hon. Member in the Grand Committee voted against it.

Mr T. P. **O'CONNOR** said that he was not ashamed to confess that he had changed his opinions on the subject.

Mr **RITCHIE** quite accepted this, but the House hearing him speak would scarcely have imagined that the hon. Member in the Grand Committee had voted against this amendment. The House was asked to reverse the opinion of the Committee in a matter vital to the Bill. He could not support the Bill if this amendment were put in and he did not believe the House would for one moment consent to a step which would at once deprive poor women of the assistance which they had been in the habit of receiving from women who though not certificated were in the habit of attending midwifery cases and doing good work. That was the reason why as Home Secretary he objected to this amendment.

Mr. T. P. **O'CONNOR** reminded the Home Secretary that it had been suggested that a period of grace should be given to women now in practice.

Mr. **RITCHIE** admitted that that was a considerable modification, but his own view was that it was very much better to pass a moderate Bill such as now they had before them, and then in course of time—he did not think that it need be any very prolonged time—they might be able to bring forward before the House with a chance of success something much more drastic in its provisions than anything in this Bill. He thought that they should be content to proceed by degrees, and the fact that everything that medical men desired was not in this Bill should not deter the House from taking this proposed step in the direction of reform

Sir **WALTER FOSTER** said that he supported the amendment. It was a matter of profound disappointment to him and to others who for many years had been working for the education of midwives that an amendment like this should not be accepted. The Home Secretary had said that this amendment would deprive people of a means of livelihood who had been in the habit of practising Nothing of the kind would occur because under the Bill every one of those women who was of good character and competent and suitable for the work would be able to obtain certification if she applied within two years of the commencement of the Act; and, again, no woman would be prevented in the terms of the Bill from giving such assistance to her fellow women as humanity demanded What was desired was to have some effective means of preventing ignorant and improper persons from adding to the number of puerperal deaths in the country. The Bill of 1900 contained this provision, and he thought that the Home Secretary should have the courage to accept it. It was notorious that hundreds of lives were sacrificed through the error of these incompetent persons It was contended that there were no precedents in the statutes for making it an offence for an unqualified person to practise and that if they enabled the poor to find out who were properly qualified that was all that was necessary for their protection. All the experience of registration was against that view. In the medical profession they had had 40 years of registration which enabled the public to find out who was on the Medical Register and who was not, and he would assert this—that not one person in 1,000,000 of the population of this country ever looked at the Medical Register or ever took any notice of it when he selected a medical attendant. When the Medical Act was passed it was fondly hoped that it would do away with unqualified practice, but, as a matter of fact, that practice flourished as much as ever and the Act had done nothing to stop it. At the present moment there were thousands of herbalists carrying on their practice in all the large towns. Bonesetters, too, flourished as of old, as well as people who used spiritual healing and things of that kind. The Medical Act drawn upon the same lines as it was proposed to draw this Bill had had no power to stop the practice of such unqualified practitioners or to protect the public against impostors. He did not wish that a similar mistake should be made in this very delicate and serious matter with which they were now dealing. This Bill created a new class of practitioners and did not touch in any way a class of incompetent women who were now engaged in practice. All that these women would be prevented from doing would be to call themselves midwives and these women rarely so called themselves.

Mr. Jessie Collings said that the practical effect of this amendment would be to prevent in country places lying-in women receiving the assistance to which they had been accustomed. They could not afford to pay for medical men and their habit was to call in a neighbour who not only attended the confinement, but looked after the other children and the general household affairs, receiving perhaps 7s. or 8s. a week for her services. It might be that there were Sairey Gamps among them, but many of them did their work well and were entitled to consideration.

Mr. Richards supported the amendment and suggested that special provision might be made for the class of persons referred to by Mr. Jesse Collings.

Mr. Heywood Johnstone admitted that there was something to be said for the amendment, but he said that there was no precedent for anything of this nature except the Apothecaries' Act. He appealed to the House to consider the existing state of things and the need for a remedy, while at the same time he expressed some sympathy with the idea of according to women at present engaged in practice a period of grace.

Mr. T. P. O'Connor asked for some assurance on this point.

Mr. Heywood Johnstone said that he was not entirely free in this matter, but he would do what he could to meet the wishes of the hon. Member.

Mr. T. P. O'Connor asked whether he might take it that the hon. Member would have the assistance of the Home Secretary.

Mr. Ritchie said he did not wish in the least degree to fetter the freedom of action of his hon. friend (Mr. Heywood Johnstone), but he would undertake to consider the question. He could go no farther than that.

Mr. Bousfield suggested that the period of grace should be extended to Jan. 1st, 1910.

Mr. Dillon supported that idea.

Mr. Heywood Johnstone said that he did not feel justified in putting the responsibility for this upon the Home Secretary, but he himself would undertake to consider the matter.

Sir Walter Foster asked the Home Secretary whether he would give the matter his favourable consideration.

Mr. Ritchie replied that he did not propose to oppose the amendment—at any rate at the present stage.

The House then agreed to the amendment with the extension of the period of grace to Jan. 1st, 1910.

Sub-section 6, saying that "no woman shall be entitled after the first day of January, 1905, to recover any fee or charge for attendance as a midwife unless she is certified under this Act," was struck out of the Bill.

In Clause 2 the special recognition was extended to the Coombe Lying-in Hospital and Guiness's Dispensary and the Rotunda Hospital for the Relief of Poor Lying-in Women of Dublin, and provision was made for the practice having lasted at least a year.

In Clause 3, dealing with the constitution and duties of the Central Midwives' Board, an amendment was inserted providing that one of the members of the board shall be a person appointed by the Royal British Nurses' Association who shall be a member of that body

One or two other amendments of a drafting nature were also introduced.

Mr. Griffith-Boscawen moved to extend the application of the Act to Scotland and Ireland. He did not know, he said, that there were fewer cases of preventable mortality in these countries than in England and he saw no reason why they should be excluded from this legislation.

Mr. T. P. O'Connor said that if a Bill of this kind for Ireland were introduced he should support it but he did not think that the present Bill could be extended to Ireland.

The Solicitor-General for Scotland (Mr. Scott Dickson) said that the Bill was drawn as an English Bill and many of its provisions could not apply to Scotland.

Dr. Farquharson hoped that on some future occasion a Bill for Scotland would be introduced.

Mr. Heywood Johnstone agreed that it would be difficult to apply the Bill either to Scotland or Ireland.

On a division the amendment was rejected by 237 votes against 23.

This completed the report stage and the Bill was ordered for third reading.

BOOKS, ETC., RECEIVED.

"Chemist and Druggist," The (Editor of), 42, Cannon-street, E.C.

Practical Methods of Urine Analysis. For Chemists and Druggists. With Notes on the Composition of the Normal and Abnormal Renal Secretions. Second and enlarged edition. Price 2s. 6d. net.

Churchill, J. & A., 7, Great Marlborough-street, W.

A Manual of Practical Anatomy. By the late Professor Alfred W. Hughes, M.B., M.C. Edin., F.R.C.S. Edin., F.R.C.S. Eng. Edited and completed by Arthur Keith, M.D. Aberd., F.R.C.S. Eng., Lecturer on Anatomy, London Hospital Medical College. In three parts. Part III.: The Head, Neck, and Central Nervous System. Price 10s. 6d.

The Schott Methods of the Treatment of Chronic Diseases of the Heart. By W. Bezly Thorne, M.D., M.R.C.P. Fourth edition. Price 6s

Deuticke, Franz, Leipsic and Vienna.

Epilepsie. Von W. R. Gowers (London). II. Auflage. Deutsche Autorisierte Ausgabe, von Dr. Max Weiss (Wien). Price M.7.

F. A. Davis Company, 1914–16, Cherry-street, Philadelphia.

The Neuroses of the Genito-urinary System in the Male with Sterility and Impotence. By Dr. R. Ultzmann, Professor of Genito-urinary Diseases in the University of Vienna. Second edition, revised, with notes and a supplementary article on Nervous Impotence, by the Translator, Gardner W. Allen, M.D., Surgeon in the Genito-urinary Department of the Boston Dispensary, Instructor in Genito-urinary Surgery in Tufts Medical School.

Fischer, Gustav, Jena.

Ueber die Kunst gesund und glücklich zu leben und Krankheiten zu verhüten. Rede gehalten am 270. Stiftungstage der Universität Amsterdam von Professor Dr. P. K. Pel, Rector Magnificus. Uebersetzt von Dr. Albrecht Rosenstein in Berlin. Abdruck aus dem "Klinischen Jahrbuch," Band ix. Price 60 Pf.

Lehrbuch der Allgemeinen und Speciellen Pathologischen Anatomie. Von Dr. Ernst Ziegler. 10. Auflage. Band II. Specielle Pathologische Anatomie. Price, Broschüre 16 Marks, gebunden 18 Marks.

Die Specielle Chirurgie in 60 Vorlesungen. Ein Kurzgefasstes Lehrbuch für Arzte und Studirende. Von Dr. Edmund Lesser, Professor an der Universität in Halle, Mitglied der Kaiserlichen Leopoldino-Carolinischen Deutschen Akademie der Naturforscher. Fünfte Vermehrte und Verbesserte Auflage. Price 20 marks Brosch; 22 marks 50 pf. gebunden.

Griffin, Charles, and Co., Limited, Exeter-street, Strand, W.C.

Trades Waste: its Treatment and Utilisation. With Special Reference to the Prevention of Rivers Pollution. A Handbook for Borough Engineers, Surveyors, Architects, and Analysts. By W. Naylor, F.C.S., A M.Inst.C.E. Price 21s. net.

Kegan Paul, Trench, Trübner and Co., Limited, Paternoster House, Charing-cross-road, W.C.

Text-book of Physiological and Pathological Chemistry. In 29 lectures for Physicians and Students. By G. Bunge, Professor of Physiological Chemistry at Bâle. Second English edition, translated from the fourth German edition by Florence A. Starling and edited by Ernest H. Starling, M.D., F.R.S. Price 16s.

King, P. S., and Son, Orchard House, Westminster, S.W.

The Sanitary Inspector's Guide: a Practical Treatise on the Public Health Act, 1875, and the Public Health Acts Amendment Act, 1890, so far as they affect the Inspector of Nuisances. By Henry Lemmoin-Cannon, Surveyor; Certificated Inspector of Nuisances; Professional Associate, Surveyors' Institution. Price 3s. 6d. net.

Longmans, Green, and Co, 39, Paternoster-row, E.C.

The Earth in Relation to the Preservation and Destruction of Contagia. Being the Milroy Lectures delivered at the Royal College of Physicians in 1899, together with other Papers on Sanitation. By George Vivian Poore, M.D., F.R.C.P., Professor of the Principles and Practice of Medicine, University College, London. Price 5s. net.

The Norwegian North Polar Expedition, 1893–1896. Scientific Results. Edited by Fridtjof Nansen. Volume iii. Published by the Fridtjof Nansen Fund for the Advancement of Science. Price 32s. net.

Longmans, Green, and Co., 39, Paternoster-row, E.C. (Published for the University Press of Liverpool.)

The Thompson Yates Laboratories Report. Edited by Rubert Boyce and C. S. Sherrington. Vol. iv., Part II., 1902.

Macmillan Company, New York, and Macmillan and Co., Limited, London.

Principles of Sanitary Science and the Public Health. By William T. Sedgwick, Ph.D., Professor of Biology and Lecturer on Sanitary Science and the Public Health in the Massachusetts Institute of Technology, Boston. Price 12s. 6d. net.

Pentland, Young J., Edinburgh and London.

Gibson and Russell's Physical Diagnosis. Third edition, revised and rewritten by Francis D. Boyd, C.M.G., M.D., F.R.C.P. Edin., Assistant Physician, Edinburgh Royal Infirmary. Price not stated.

Radical Publishing Company, Philadelphia, Pa.

The Freethinkers' Manual. By Professor Dr. Baur, Physiologist, H. F. Herbert, Electrician, and a Great Number of Scientists. Price not stated.

Rebman, Limited, 129, Shaftesbury-avenue, W.C.

Christian Science, Medicine, and Occultism. By Albert Moll, M.D. Berlin. Only authorised translation from the German. By F. J. Rebman. Price 6d. net.

Richards, Grant, 48, Leicester-square, W.

Heresies; or, Agnostic Theism, Ethics, Sociology, and Metaphysics. By H. Croft Hiller Volume v. Price 10s.

Saunders, W. B., and Company, Philadelphia and London (9, Henrietta-street, W.C.).

Atlas and Epitome of Otology. By Gustav Brühl, M.D., of Berlin, with the collaboration of Professor Dr. A. Politzer of Vienna. Authorised translation from the German. Edited by S. MacCuen

Smith, M.D., Clinical Professor of Otology, Jefferson Medical College, Philadelphia. Price 13s. net.

A Practical Manual of Insanity. For the Medical Student and General Practitioner. By Daniel R. Brower, A.M., M.D., LL.D., Professor of Nervous and Mental Diseases in Rush Medical College, in affiliation with the University of Chicago, and Henry M. Bannister, A.M., M.D., formerly Senior Assistant Physician, Illinois Eastern Hospital for the Insane. Price 13s. net.

Morphinism and Narcomanias from other Drugs; their Etiology, Treatment, and Medico-legal Relations. By T. D. Crothers, M.D., Superintendent of Walnut Lodge Hospital, Hartford, Conn., editor of the *Journal of Inebriety*. Price 9s. net.

SAVAGE, G. C., 139, North Spruce-street, Nashville, Tenn.

Ophthalmic Myology: A Systematic Treatise on the Ocular Muscles. By G. C. Savage, M.D., Professor of Ophthalmology in the Medical Department of Vanderbilt University. Published by the Author. Price not stated.

STYLES AND CASH, 77, Eighth-avenue, New York, U.S.A.

North Shore Improvement Association. Reports on Plans for the Extermination of Mosquitoes on the North Shore of Long Island between Hempstead Harbour and Cold Spring Harbour. 1902. Price not stated.

UNIVERSITY OF CHICAGO PRESS, Chicago, and WILLIAM WESLEY AND SON, 22, Essex-street, Strand, London.

Neurological Technique. By Irving Hardesty, Ph.D., Instructor in Anatomy, the University of California. Price 8s. net.

UNIVERSITY PRESS, Dublin.

Queen's College, Galway. Calendar for 1901–1902. Published by Authority of the Council. Price 1s.; including postage, 1s. 5d.

WRIGHT, JOHN, AND CO., Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.)

Protoplasm: its Origin, Varieties, and Functions. By John W. Hayward, M.D. Price 1s. 6d. net.

WYNKOOP HALLENBECK CRAWFORD CO., Lansing, Mich., U.S.A.

Thirty-third Annual Report of the Secretary of State on the Registration of Births and Deaths, Marriages, and Divorces in Michigan for the Year 1899. Fred M. Warner, Secretary of State. Edited by Cressy L. Wilbur, M.D., Chief of the Division of Vital Statistics. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ANDREWS, W. H., L.R.C.P. Edin., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Modbury District of Devon.

BARTON, GEO. ALEX. HEATON, M.D. Brux., M.R.C.S., L.R.C.P., L.S.A. Eng., has been appointed to be Second Anæsthetist to the North-West London Hospital.

BROWN, H. S. D., B.A. Cantab., L.R.C.P., M.R.C.S., has been re-appointed Clinical Assistant to the Ear Department at St. Thomas's Hospital.

CHILD, F. J., M.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been re-appointed House Surgeon to St. Thomas's Hospital.

COATES, J., L.R.C.P., M.R.C.S., has been re-appointed Assistant House Surgeon to St. Thomas's Hospital.

COCKILL, W. D., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Act for the Kendal District of Westmorland.

COOPER, W. H., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Act for the Staveley District of Westmorland.

CRIMP, C. L., B.A., B.C. Cantab., has been appointed Assistant Medical Officer to Bethnall House Asylum, E.

CROMPTON, K. E., B.A., M.B., B.C. Cantab., has been appointed House Physician to St. Thomas's Hospital.

CRUICKSHANK, R. W., M.B., M.S. Aberd., has been appointed Certifying Surgeon under the Factory Act for the Eynsham District of the county of Oxford.

DIXON, W. J., M.B., M.S. Madras, M.R.C.S. Eng., L.R.C.P. Lond., Assistant Medical Officer, Burgher Camp, Standerton, has been appointed Senior Medical Officer, Burgher Camp, Klerksdorp.

DOWNES, T. W. H., L.R.C.P., M.R.C.S., has been re-appointed House Surgeon to St. Thomas's Hospital.

EASTON, H. A., L.R.C.P., M.R.C.S., has been re-appointed Clinical Assistant to the Skin Department at St. Thomas's Hospital.

FOXON, G. H., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Act for the Rochford District of Essex.

GLEGG, WILFRID, M.D., C.M., M.R.C.P. Edin., has been appointed Honorary Assistant Surgeon to the Birmingham and Midland Ear and Throat Hospital.

GOUGH, BERNARD BRADLEY, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer and Public Vaccinator for the Harptree District of the Clutton Union.

GRIFFIN, LEWIS, M.R.C.S., L.S.A., has been appointed Certifying Surgeon under the Factory Act for the Banbury District of the county of Oxford.

HAMILTON, A. D., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Assistant House Physician to St. Thomas's Hospital.

HARDENBERG, E. J. F., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Resident Medical Officer to the North-West London Hospital.

HENDERSON, T. B., M.A., M.B., B.Ch. Oxon., has been re-appointed House Physician to St. Thomas's Hospital.

HEWITT, F. W., M.D. Cantab., has been appointed Physician Anæsthetist to St. George's Hospital.

HUDSON, A. C., M.A., M.B., B.C. Cantab., has been re-appointed Assistant House Surgeon to St. Thomas's Hospital.

JONES, B. S., L.R.C.P., M.R.C.S., has been re-appointed House Surgeon to St. Thomas's Hospital.

LAMBERT, R. A., M.D. Edin., has been appointed Certifying Surgeon under the Factory Act for the East Ilsley District of Berks.

LEON, JOHN T., M.D., B.Sc. Lond., has been appointed Honorary Assistant Physician to the Royal Portsmouth and Gosport Hospital.

MACKENZIE, ERNEST, M.D. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Cheadle District of Staffs.

MILLER, T. D., L.R.C.P., M.R.C.S., has been appointed Senior Obstetric House Physician to St. Thomas's Hospital.

MENNELL, Z., M.B. Lond., L.R.C.P., M.R.C.S., has been re-appointed Clinical Assistant to the Throat Department at St. Thomas's Hospital.

MOORHEAD, RUPERT E., L.R.C.P. Edin., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer and Public Vaccinator for the Fourth District by the Bath Board of Guardians.

MORRIS, THOMAS HENRY, M.B., C.M. Glasg., has been re-elected Vice-Chairman of the Sanitary Committee of the Glamorganshire County Council.

MUSGROVE, CHARLES D., M.D. Edin., has been appointed Medical Officer of Health for Penarth.

PICKERING, G. W., L.R.C.P. Edin., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Haltwhistle District of Northumberland.

ROBERTS, R. E., M.B., B.Sc. Lond., has been appointed Junior Obstetric House Physician to St. Thomas's Hospital.

SANSOM, B. E., L.R.C.P., M.R.C.S., L.S.A., has been re-appointed Clinical Assistant to the Throat Department at St. Thomas's Hospital.

SEDGWICK, C. H., B.A., B.C., Cantab., has been appointed Assistant House Physician to St. Thomas's Hospital.

SHIPMAN, G. A. C., M.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been re-appointed House Surgeon to St. Thomas's Hospital.

SINCLAIR, H. W., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

SPURRIER, H., B.A. Cantab., L.R.C.P., M.R.C.S., has been re-appointed Assistant House Surgeon to St. Thomas's Hospital.

STANNUS, H. S., L.R.C.P., M.R.C.S., has been re-appointed House Physician to St. Thomas's Hospital.

SYKES, WALTER, L.R.C.P. Edin., L.R.C.S. Eng., has been appointed Senior House Surgeon to the Birmingham and Midland Eye Hospital.

TROTTER, ALEXANDER, M.B., B.Ch. Edin., has been appointed Resident Surgical Officer to the Birmingham and Midland Eye Hospital.

WAUGH, R. J., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Junior Resident Medical Officer to the North-West London Hospital.

WINTERBOTHAM, RAYNER, M.R.C.S., L.R.C.P. Lond., has been appointed a Certifying Surgeon under the Factory Act for the Brixworth District of the county of Northampton.

WORTHINGTON, SYDNEY, M.D. Lond., has been appointed Certifying Surgeon under the Factory Act for the Chesterfield District.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE, War Office, S.W.—Thirty Commissions.

BIRKENHEAD UNION INFIRMARY, WORKHOUSE, AND SANATORIUM.—Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM ROYAL ORTHOPÆDIC AND SPINAL HOSPITAL.—Assistant Surgeon.

BOOTLE GENERAL HOSPITAL, Derby-road, Liverpool.—Junior Resident. Salary £80 per annum, with board and laundry.

BRISTOL CITY LUNATIC ASYLUM.—Medical Assistant, unmarried. Salary £140 per annum, increasing to £160, with apartments, board, and washing.

BUCKINGHAMSHIRE ROYAL HOSPITAL.—Resident Surgeon, unmarried. Salary £80, rising to £100, with board and residence.

CAPETOWN VALKENBERG ASYLUM, Mowbray.—Assistant Medical Officer, unmarried. Salary £300 per annum, with board, lodging, and washing.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—House Surgeon. Honorarium at rate of 40 guineas a year.

CHARING CROSS HOSPITAL.—Bacteriologist and Lecturer on Bacteriology. Salary £100 per annum, with fees.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Second House Physician for six months. Salary at rate of £30 per annum, with board, washing, and residence.

COUNTY OF LONDON EPILEPTIC COLONY ASYLUM, Horton, Epsom, Surrey.—Medical Superintendent. Salary £500 per annum, rising to £600, with unfurnished house, rates, taxes, and water-supply.

CROYDON AND WIMBLEDON SMALL-POX HOSPITAL, North Cheam, Surrey.—Resident Medical Officer for six months. Salary 4 guineas a week, with board and lodging.

CROYDON BOROUGH HOSPITAL.—Resident Medical Officer. Salary £150 per annum, with board and residence.

DEVONPORT ROYAL ALBERT HOSPITAL.—Resident Medical Officer, unmarried. Salary £110 per annum, with board and lodgings.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Resident Medical Officer. A salary, with board, residence, and laundry.

FISHERTON ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

GATESHEAD COUNTY BOROUGH.—Medical Officer of Health. Salary at rate of £250 per annum, with £50 per annum additional as Medical Officer of the Hospital for Infectious Diseases.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway.—Pathologist and Curator. Salary 50 guineas per annum. Also Third House Surgeon for six months. Salary at rate of £50 per annum, with board and lodging.

GREENOCK INFIRMARY.—Assistant House Surgeon. Salary £40 per annum, with board and residence.

Hartlepools Hospital.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

Hereford County and City Asylum.—Senior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing. Also Junior Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

Horton Infirmary, Banbury.—House Surgeon and Dispenser. Salary £80 per annum, with board and lodging.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians for six months. Honorarium of £25.

Hull Royal Infirmary—Casualty House Surgeon for not less than six months. Salary £80, with board and lodging.

Isle of Man Lunatic Asylum.—Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

Leicester Infirmary—Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

Liverpool Dispensaries.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

London Hospital, Whitechapel E—Surgical Registrar. Salary £100 per annum. Also Assistant Surgeon.

Manchester Royal Infirmary Convalescent Hospital, Cheadle—Assistant Medical Officer unmarried, for six months. Salary at rate of £80 per annum, with board and residence.

Norfolk and Norwich Hospital.—Second Assistant House Surgeon for six months. Honorarium £20, with board, lodging, and washing

Northampton General Infirmary.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, attendance, and washing.

Nottingham General Dispensary.—Assistant Resident Surgeon, unmarried Salary £160 per annum, with apartments, attendance, *light, and fuel*

Parish of St Marylebone, Southall Schools.—Medical Officer Salary £100 per annum.

Rochford Union—District Medical Officer and Public Vaccinator (salary £64 per annum and fees), and Workhouse Medical Officer (salary £50 and fees).

Royal Ear Hospital, Soho—House Surgeon. Small honorarium.

Salop and Montgomery Counties Lunatic Asylum, Bicton Heath, near Shrewsbury.—Medical Superintendent. Salary £650 per annum, with unfurnished house, fuel, light, &c.

Salop Infirmary.—Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board and apartments.

Staffordshire General Infirmary, Stafford—House Surgeon Salary £120 per annum, with board, lodging, and washing.

Throat Hospital, Golden square—Senior House Surgeon (resident) and Junior House Surgeon (non resident). Salary of the Senior £50 per annum, with board, lodging, and washing, and of the Junior £100 per annum, with lunch daily, also Senior Clinical Assistant.

Wolverhampton General Hospital.—Assistant House Physician for six months. Honorarium at rate of £75 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory Acts at Shepshed, in the county of Leicester, and at Bacup, in the county of Lancaster

Births, Marriages, and Deaths.

BIRTHS.

Barendt.—On June 7th, at 65, Rodney-street, Liverpool, W., the wife of Frank Hugh Barendt, M.D. Lond., F.R C.S Eng, of a son.

Broadbent.—On June 2nd, at Seymour-street, the wife of John F. H. Broadbent, M R C.S, M.R C P Lond., of a daughter.

Mackintosh—At Grahamston, Troon, N.B, on 5th inst., the wife of Hugh J. Mackintosh, M.B., C M, of a son.

MARRIAGES.

Escombe—Stephenson.—On the 4th inst., at St. James's Church, Grimsby, by the Rev. E Bulloch, Vicar, assisted by the Rev. H. F. Walker, William Escombe, M.R C S, L R C P. Lond, third surviving son of the late Rowland Escombe, Esq., of Blackheath, and 3, East India avenue, London, to Mildred Isabella, third daughter of G. S. Stephenson, Esq., M D., of the Manor House, Grimsby. (South African and New Zealand papers please copy.)

Griffiths—Davies.—At Mount Pleasant, Swansea, on June 4th, by the Rev. James Owen and the Rev. C Griffiths, Cornelius A. Griffiths, F R C S., Cardiff, and Lallie, youngest daughter of the late J. R Davies, of Swansea.

Hamilton—Darbishire—On June 4th, at the English Congregational Chapel at Penmaenmawr, by the Rev. David Walters of Headingley, Leeds, assisted by the Rev. S. C. Hart of Penmaenmawr, Graeme, younger son of Dr. Alexander Hamilton of Ashton-under-Lyne, to Mary Lilian, eldest daughter of C. H. Darbishire of Plas Mawr, Penmaenmawr.

Hearder—Hearder—On the 4th inst., at St. David's, Carmarthen, by the Right Rev. the Lord Bishop of Perth, W.A., assisted by the Rev. T. R Walters, vicar of the parish, and Prebendary C. G. Brown, Thomas Browne Hearder, M.B., C.M., Ilkley, Yorkshire, to Isabella Annie, third daughter of the late George Jonathan Hearder, M.D., Carmarthen At home July 7th to 11th.

DEATHS.

Armitage.—On June 2nd, at Wormit, Fife, Walter Stanley Armitage, F.R.C S. Edin.

Barnes.—On June 10th, at Dartmouth Park-road, Highgate, Clifford Henry Barnes, M B Camb, in his 30th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths

Notes, Short Comments, and Answers to Correspondents.

THE MEDICAL CURRICULUM AND THE GENERAL MEDICAL COUNCIL.

IN THE LANCET of May 10th we referred in a leading article to a report drawn up by Dr. Norman Moore, the representative on the General Medical Council of the Royal College of Physicians of London, of the proceedings at the special session of the Council held in February concerning the preliminary education of the medical student At this meeting a report of a committee was presented, which report in a recommendation stated that the qualifications of the two Royal Colleges of London, of the Universities of Oxford and of London, of the two Royal Colleges of Edinburgh, of the Faculty of Physicians and Surgeons of Glasgow, and of the Society of Apothecaries of London "do not secure that the persons holding them possess the requisite knowledge and skill for the efficient practice of their profession." The portion of the report containing this somewhat remarkable statement was by leave withdrawn. Seeing that if pushed to its logical end the recommendation would imply that most of the members of the General Medical Council did not possess "the requisite knowledge, &c.," we do not wonder at its withdrawal. A pseudonymous correspondent, however, writing to the *Lincolnshire Echo* of May 19th, takes our leading article and the matter upon which it was founded as material for an attack on the University of London alone, hinting that the recent alterations made in the matriculation examinations of that university are due to the statements made by ourselves. Such a misreading is foolish and absolutely unwarranted, as the writer of the letter in point will see if he takes the trouble to read our remarks again.

THE NEW YORK LIFE INSURANCE COMPANY AND SPINSTER PROPOSALS.

A CORRESPONDENT writes to us that he recently had occasion to examine a female candidate for insurance in the New York Life Insurance Company. Among the questions to be filled up as answered by the medical examiner as a result of his examination were certain questions relating to the matter of pregnancy. Through these he simply drew his pen, leaving them unanswered. On the form being returned to the company our correspondent received the following letter:—

> DEAR SIR,—
>
> *Re* Application Miss ——.
>
> In your report on the life of this party you omit to reply to the question, "Is she now pregnant?" We presume that being an unmarried woman you did not think it necessary to reply to the question, but we would point out that our Board have found it necessary to insist on a reply being given to this query in every case, in order to protect themselves against moral risk. We presume that you assured yourself on the point when examining party, and that you will be able to give us a definite answer without again seeing her. We shall be glad to hear from you in the matter at an early date.
>
> Yours truly,
> C. SETON LINDSAY, General Manager.
> H. —— L. H. Per R. E. H.

Now we quite see that an insurance company must protect itself and also it is an undoubted fact that unmarried women have been known to be pregnant. But we do not hesitate to say further that it is impossible for any medical man to assure himself that a normal woman is not pregnant even by the most thorough examination and to such a one no examiner would think of submitting an unmarried woman simply for a life insurance. More especially we note that the form to be filled up is headed, "This examination must be made in private, no agent or third person being present." This rule to our minds absolutely precludes an examination for pregnancy in an unmarried woman, nor do we believe for one moment that any director or official of the New York Life Insurance Company would permit his daughter or his sister to be examined in private for such a condition. Our correspondent asks how he should reply to the letter which we have quoted. We should advise him to reply that he had not assured himself on the point and that it would be impossible to do so, but that he had noted no definite signs of pregnancy. He might also communicate with the candidate and send her answer to the company.

A MODERN CATHOLICON IAMA.

A PAMPHLET has been widely distributed by post in which a medicinal preparation is highly extolled. It is apparently a compound but the formula is not given, the only information under this head being that the preparation "contains the Essential (anti-nervous) Active Principles of —— and Aromatics." Amongst other virtues the preparation "insures nerve tranquillity by inducing neural equilibrium." Anyone can at once see from this that "its use is necessary to normalize nerve tension in the treatment of fevers, colds, child birth, etc." Space being *ostensibly no object to* the pamphleteer it seems strange that the rest of the affections and diseases curable by his catholicon should be buried in an *etcetera*. The busy practitioner, for whom so many things are made easy

"I may remind you that this impurity of the waters supplied during the winter months is no new thing. I have reported on it year after year since 1873, and you may remember that you have addressed complaints to, and received similar answers from, the water companies many times before.

"I may also remind you that I have pointed out that for several years (with the exception of 1897) there have been more cases of enteric (typhoid) fever in the parish per month during November and December than during the preceding three months, and also that this disease has been unusually prevalent and fatal in London during the last three months. Now November, December, and January are not the months for the 'seasonal prevalence' of this disease, and, therefore, some other cause for the excess of it must be sought for, and it may be something more than a coincidence that in those very months London is supplied with water which, according to Sir Edward Frankland's report, contains 'an excess of organic matter.'" (Feb. 14th, 1899.)

In answer to this the following letter signed by Sir William Crookes for himself and Professor Dewar was sent to the vestry clerk by the directors of the Grand Junction Water Company :—

"Our attention has been drawn to a special report on the water-supply by Professor W. H. Corfield, medical officer of health to the Parish of St. George, Hanover-square, from which it appears he confirms the opinion of Mr. Cassal that the water delivered by the Grand Junction Company during December last was of inferior quality. This is diametrically opposed to the opinion we have arrived at from our extensive experience of the conditions of the water-supply from day to day.

"Dr. Corfield draws attention to the fact that both our report and that of Sir Edward Frankland on the character of the water supply to *the metropolis during December last* show that the majority of the Thames-derived supplies contained an amount of organic matter in excess of the average amount. This observation is simply an expression of the fact that all river-derived supplies have a period of maximum and minimum amount of organic matter during the course of the year. The maximum generally occurs in Thames water during the winter months and the minimum during the summer; and, as Sir Edward Frankland stated in his report for December, the over-charge of organic matter was 'almost entirely of vegetable origin.'

"The same remark applies to the amount of oxygen required to oxidise the organic matter. It is nothing unusual for river supplies to require three times as much oxygen during some period of the winter as compared with the summer supply. With regard, then, to the Thames supply during the month of December last, there was nothing exceptional in the oxygen absorption.

"Dr. Corfield, having pointed out these admitted facts, nevertheless puts an erroneous construction on what Sir Edward Frankland and ourselves intend to convey by our statement that the water before delivery had been efficiently filtered. Dr. Corfield seems to think that this is intended to express that the supply contained 'no notable quantity of suspended matters,' whereas our intention, and no doubt that of Sir Edward Frankland, was to convey that the water had not only been freed from matter in suspension, but had been bacteriologically purified to the extent of over 99 per cent. from its natural condition; thus removing the suspicion of the possibility of its conveying any water-borne disease.

"Dr. Corfield proceeds to point out that enteric fever has been more prevalent in the parish of St. George, Hanover-square, during November and December than during the three preceding months and that the same remark applies to London generally. From this occurrence, combined with the fact to which we have above referred, relating to the organic matter, he suggests that the coincidence may be attributed to the cyclical excess of organic matter which occurs during the winter months.

"All the facts are against any such hypothesis. Our recorded analyses of the Thames-derived waters since 1881, together with the Registrar-General's statistics of enteric fever, enable us to state that *there is no causal relation* between the two. Indeed, this must inevitably be the case, for it is common knowledge that if any such disease as enteric fever originates through a contaminated water-supply, it is not the *amount* of organic matter but its *nature* that is the dangerous factor and this must be the presence of the specific living germ characteristic of the disease.

"No one has alleged that Thames water which has undergone storage and filtration similar to that of the London supply contains any such pathogenic organisms. It is true that Dr. Corfield seems to entertain a different view of the origin of typhoid epidemics, for during the course of the Maidstone inquiry, when it was proved beyond all doubt that one of the sources of supply had been grossly contaminated with fæcal matter and had been distributed to Maidstone without proper and systematic, or indeed any, filtration, Dr. Corfield, while admitting there had been pollution, said 'it was some vegetable pollution that had got in.'

"There is no comparison between the conditions of the polluted spring water-supply which originated the Maidstone epidemic and any polluting conditions which can arise in the Thames valley, where strict supervision of all sources of contamination is so efficiently maintained—a supervision which we know has materially improved the condition of the raw river water over what it was 10 years ago.

"We say deliberately that after mature investigation we know of no example of a water-borne disease having originated from a river supply where proper precautions are taken for adequate storage and effective filtration, such as exist in the case of the London water-supply." (31st March 1899.)

This was referred to me by the committee of works, and I prepared the following answer to it, which was issued as a "Further Special Report on the Water-supply" :—

"In accordance with your instructions I have considered the report forwarded to you by the Grand Junction Waterworks Company, and signed by Sir William Crookes on behalf of himself and Professor Dewar, the company's analysts, and beg to report thereon as follows :—

"The report in question admits the fact that there is an excess of organic matter in the filtered river water supplied to London in winter, and explains it by the statement 'that all river-derived supplies have a period of minimum and maximum amount of organic matter during the course of the year. The maximum generally occurs in Thames water during the winter months and the minimum during the summer.' This is another way of stating what I have pointed out for many years past, that the water supplied by the Thames water companies during the winter frequently, and indeed usually, contains an excess of organic matter, due to the fact that the river water in winter is dirty from the washing of polluting matter from various sources into the river. To say that there is nothing exceptional in the occurrence of an excess of organic matter in the water in winter is merely to admit that the water in winter is generally polluted.

"The report next accuses me of putting an erroneous construction on what Sir Edward Frankland and the writers intend to convey by the statement that the water before delivery had been 'efficiently filtered,' in saying that this was intended to express that it contained 'no notable quantity of suspended matters,' whereas their intention 'was to convey that the water had not only been freed from the matter in suspension, but had been bacteriologically purified to the extent of over 99 per cent. from its natural condition.' This would seem to imply that bacteria are not suspended in the water, but as that cannot be intended I need only reply that I included them among the suspended matters, that my statement was strictly correct, and that apparently efficient filtration is not to be considered to include the removal of foul organic matter in solution in the water.

"The non-removal of such organic matter is, then, admitted by the company's analysts, and I may remind you that Sir Edward Frankland in his report for December, referring to the Thames companies, says that 'owing to heavy floods and insufficient storage the water sent out by all the companies, except the West Middlesex, contained an excess of organic matter which was, however, almost entirely of vegetable *origin,' but the writers of the report in question go on to* traverse my very temperate statement that 'it may be something more than a coincidence' that the exceptional prevalence of enteric fever in London during November, December, and January, which are not the months for the seasonal prevalence of this disease, occurs in the very months in which London is supplied with water which contains 'an excess of organic matter.' They say 'it is common knowledge that if any such disease as enteric fever originates through a contaminated water-supply it is not the *amount* of organic matter but its *nature* that is the dangerous factor, and this must be the presence of the specific living germ characteristic of the disease. No one has alleged that Thames water which has undergone storage and filtration similar to that of the London supply contains any such pathogenic organisms.'

"In answer to this I may, in the first place, point out that Sir Edward Frankland and others have over and over again found organisms in the filtered Thames water supplied to London, considerably in excess of the number taken as the standard—viz., 100 microbes per cubic centimetre.

"In a report recently issued by the Joint Public Health and Water Committees of the London County Council, I find that 'in the years 1896 and 1897 Sir Edward Frankland made 199 examinations of filtered water for the purpose of ascertaining the number of bacteria, and found that they varied from 16,000 per cubic centimetre down to nothing. The average, taking the whole of the 199 examinations, gave 232 per cubic centimetre, the standard admitted by Sir E. Frankland being that they should not exceed 100 per cubic centimetre. Out of the 199 days' examination by Sir E. Frankland there were 55 days in which the bacteria exceeded the standard, and for the whole 55 days they averaged 763 microbes per cubic centimetre; so that 28 per cent. of the results of Sir Edward Frankland's examination tend to show that the filters are not an effectual barrier against the passage of bacteria.'

"In the twenty-sixth annual report of the Local Government Board Sir E. Frankland states that 'in June, 1896, nearly the whole of the filter beds of all the companies became infected with bacteria.' Further on the same report states that 'the engineer of the Southwark and Vauxhall Water Company in the evidence recently given by him before the Royal Commission on London Water Supply admitted that in December, 1896, 16,000 bacteria per cubic centimetre were found in water that had passed one of their company's filters and that nothing was discovered to explain the fact.

"Drs. Parkes and Rideal have recently submitted a valuable joint report to the Chelsea Vestry on their examination of the water supplied by the Chelsea Waterworks Company from November, 1897, to November, 1898. In this report they clearly show that organisms of various kinds and in varying numbers passed through the filter-beds, some of these organisms being of the kind of which the bacillus coli communis, which is found in enormous numbers in sewage, is a type; and being found in 19 per cent. of the total number of specimens tested for them. Of this test they remark: 'The test, also, when it gives an affirmative result, not only tends to indicate the tainted sources of supply of the Thames, but also tends to show that the methods of sand filtration pursued by the company are ineffectual in eliminating from the filtered water microbes of which the common resting place is sewage and animal excrement.' The conclusions they arrived at are 'that even in a year exceptionally favourable to the purifying operations undertaken by the water companies, the element of danger necessarily attaching to the supply of a water taken from sources inevitably exposed to contamination is not by any means invariably eliminated by the methods of purification at present relied upon. A system of filtration which does not invariably keep out or destroy the common accompaniments of sewage and animal pollutions may, on the occasion of epidemic prevalences in communities on the river banks above the companies' intakes, also allow the passage of the infective disease organisms in numbers sufficient, as the case may be, to cause epidemics amongst the water consumers, or mere sporadic outbreaks, or isolated occurrences amongst the more susceptible of the population. We are, therefore, of opinion that considerations of public safety require that reliance should not be placed upon sand filtration as at present conducted, as the sole means of defence, when the water to be operated upon is derived from a tainted source. The question of the presence of "blood-heat" organisms in the water, their relations to season and to water temperature, and to the occurrence of diarrhœal complaints in the late summer, to which some reference has been made above, appear to be deserving of more prolonged and detailed investigation.'

"As to the fact that 'pathogenic organisms' have not been found in the water supplied by the Thames companies I need merely say that the bacillus *of enteric* fever has rarely, if ever, been found in any water-supply. It was not found, for instance, in any sample of water supplied nowadays, would surely like to know whether the catholicon would cure ringworm, for example, or a fractured patella. The inference is fair that it could but one would like to be sure. The extraordinary merits of the catholicon are vouched for by no fewer than 33 medical men, all residing in America. The diseases which these gentlemen were able to subdue by means of it are specified as follows in their testimonials, which, together with their names and addresses, are reproduced at length in the advertising pamphlet: extreme nervousness (2), irritable nervousness, nervous exhaustion from mental work, abortion, metritis, the drug habit, spasms, nerve irritation, neuralgia (2), ovarian trouble, painful menstruation, street accident, hard work in starting an uphill practice, mania, dyspepsia, chorea, urticaria, prurigo, insomnia, malarial fever, melancholia, old age, teething, ovarian hyperemia, neurasthenia (3), locomotor ataxia, neuritis, puerperal fever, nervousness, la grippe, St. Vitus's dance, intense nervousness, and finally, in the case of a "nervous pervert" In addition to the foregoing 26 more medical men, all residing in America, testify in general terms to the marvellous curative properties of the catholicon No wonder, therefore, that the exultant pamphleteer should exclaim in conclusion: "In teaspoonful doses three or four times a day —— adds laurels to the skill of the physician" He fails, however, to draw attention to yet another marvellous thing in connexion with his catholicon. It is "Prepared Exclusively for Physicians' Prescriptions" and at the same time is "kept in stock" by druggists for sale across the counter.

THE BIOLOGICAL THEORY OF CANCER.

To the Editors of THE LANCET

SIRS,—As there seem to be the beginnings of great efforts in Europe at the present time to fathom the cause of cancer may I be permitted to lay before the profession the following short preliminary note upon a theory of the origin of cancer which I hope to elaborate at a later date? According to this theory the natural history and histology of epithelioma and carcinoma are more reasonably explained, in my opinion, than upon any other hypothesis. Immediately after the fertilisation of the ovum its protoplasm shows spontaneous movements, then growth and division, each smallest division being also endowed with the foregoing three powers, viz.: (1) movement; (2) growth; and (3) division Each cell of the embryo—the infant, the adolescent, the adult, and the aged—during the life of the individual and of itself (the cell) possesses these three powers, increasing in quantity during infancy and adolescence, more or less constant during adult life, decreasing in quantity during old age, solely, as far as is known at present, by virtue of the impregnation of the female ovum by the male sperm cell. The animal body, therefore, during life possesses an influence, vital or biotrophic (Gowers), which permeates every cell of every tissue and keeps going, so to speak, the three vital properties before mentioned of movement, growth, and division It is quite reasonable to expect that if this influence, whether increasing, stationary, or decreasing, be in any way cut off from one tissue, the neighbouring tissues will benefit to a corresponding extent and will exhibit the three vital properties in an exaggerated degree. We see this in compensatory hypertrophy, where one of two organs has been removed or is diseased and also in the tendency to abnormal growth of hair in dementia. We are bound, I think, to apply this principle when dealing with the minute structure of organs and then we shall perceive that interference with the properly regulated supply of biotrophic influence to the skin and glands, which is most likely to occur during the period of decrease, might easily produce in the one case epithelioma and in the other carcinoma by the cutting off of this influence to the basement membrane in each case, thereby allowing a fuller supply to the tissues on each side of it, resulting in more marked growth and cell division The basement membrane would disappear and allow the epithelium and tissues of the true skin to commingle in their exaggerated growth; so too, in carcinoma. We see in the warts of childhood local overflows of biotrophic influence, they are not epitheliomata because the basement membrane is intact and if destroyed can re-form. Adenomata are local overflows of this influence to the glands, they are not carcinomata on account of the existence of the membrana propria. This principle can, I think, be shown to be very extensive in its ramifications, but I will say no more on the subject at present, merely hoping that in the future more attention will be paid by those who are so earnestly working for the benefit of the human race, to the study of the nature of life, and the laws of growth.

I am, Sirs, yours faithfully,

WALTER H. HAW, B.A., M.R.C.S. Eng., L.S.A.

Knysna, Cape Colony, May 16th, 1902.

A PLEA FOR THE FINAL YEAR STUDENT

To the Editors of THE LANCET

SIRS,—May I be allowed to reply to Mr. R. H. D Pope's letter on the above, published in THE LANCET of May 31st, p. 1579, as I think he has failed to appreciate properly the value of the training which I imagine he has received? Surely he cannot seriously maintain that all that is worth knowing about pharmacy can be gathered in a couple of hours' study! Anyone who attempts to prescribe with intelligence must be aware how difficult it is to combine neatly and effectually even those few drugs which are most commonly employed, and it seems somewhat humbling for a medical man to be dependent on the word of a manufacturing chemist with regard to what is the proper combination to be employed in any particular case. Mr Pope objects to the student being worried over such subjects as biology and pathology because he does not think they help the "busy practitioner" in the treatment of his cases; would it not be as reasonable to refuse to teach a child the A B C because when he becomes a busy reader he will not have the time to spell through each word when he is skimming through a book? Again, he asks, what has bacteriology done to lessen the severity and shorten the duration of disease? Has Mr Pope ever heard of the antitoxin treatment of diphtheria? or of the importance of an examination of the sputum for the bacillus of tuberculosis in the diagnosis of early phthisis? I think not I gather that Mr Pope finds the use of antiseptics too troublesome for employment in his practice and that his confidence in them is decreasing.

I am, Sirs, yours faithfully,

June 2nd, 1902. N P. STALLARD, M.B. Lond.

THE ROYAL ASYLUM OF ST ANNE'S SOCIETY, REDHILL, SURREY.

MRS. EARLE, the daughter of a late deputy inspector-general of hospitals in India, requests us to call the attention of those of our readers who have interest in the above asylum to an appeal for votes on behalf of her daughter, Joyce V. D Earle, aged 10 years, "whose father had formerly a good medical practice ... but through reverses and misfortunes his health has broken down and he is quite unable to support his wife and three youngest children" Mrs. Earle states that her husband has had serious illnesses but that he is now better and trying to get an appointment. "Our means are quite exhausted," she continues; "this is the youngest of our family of 12, most of whom are now working for themselves, but three are still of school age and it would be the greatest boon if one could be provided for till she is 15."

RETREATS FOR THE SECRET CURE OF ALCOHOLISM

To the Editors of THE LANCET.

SIRS,—With your permission I beg for an expression of opinion from my *confrères* on the following points: (1) What is the subsequent history of cases who leave these institutions (alleged to be) cured? (2) how long should such cases subsequently remain absolute teetotalers before it could be safely inferred that the craving was dead? and (3) should a medical man recommend (or refuse to recommend) such retreats in cases where all his skill and all the patient's will power had failed to wean him from alcoholism? I notice that neither the *British Medical Temperance Journal* nor THE LANCET is enamoured of such means of effecting (?) a cure especially from the standpoint of prognosis. I know a gentleman who returned from a retreat presumably cured and now—he is three months home—he cannot stand even the alcoholic breath of anyone conversing with him without its almost making him vomit. Is this gentleman likely to continue with such a fortunately weak stomach or may the effects of the cure (?) by degrees pass off, leaving the old thirst behind?

I am, Sirs, yours faithfully,

QUÆRIST.

June 7th, 1902.

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W. NASH, A.M.S.

THE following additional subscriptions to the fund have been received:—

	£	s	d
Lieutenant-Colonel M. D O'Connell, R.A.M.C.	1	1	0
Lieutenant-Colonel R. P Hetherington, R.A.M.C.	0	10	0
Major J W. Bullen, R.A.M.C.	0	10	0
Brigade Surgeon Lieutenant Colonel A. A. Macrobin, A.M.S ...	1	0	0
Deputy Inspector-General G Saunders.	1	1	0
Lieutenant Colonel R. T Beamish, R.A.M.C	0	10	0
Colonel T Ligertwood	1	1	0
Brigade Surgeon S. H. Dickerson	0	10	6
Surgeon Major General C H. Giraud, A.M.S	1	1	0
Lieutenant Colonel J. I. Routh, R.A.M.C ...	1	0	0
Captain Clive S Robinson	1	1	0
Surgeon Major W Sharpe	0	10	0
Lieutenant-Colonel W B. Pope...	1	1	0
Previously acknowledged	90	16	0
	£101	11	6

A PLACE OF RESIDENCE.

To the Editors of THE LANCET.

SIRS,—Can any of your many readers kindly give me any suggestions as to the best place of residence for a man, aged 60 years, who is retiring from business, to take his abode in? He suffers slightly from rheumatism and eczema and has been living in the North-East of England; he now wants a warm yet "bracing" locality, not too hilly and where the water is "soft."

I am, Sirs, yours faithfully,

P. P

THE "Y" FUND

SURGEON-GENERAL H S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from Professor J. Chiene, Professor T R Fraser, Professor A R. Simpson, Professor J. Wyllie, Dr J Halliday Croom, Dr P Heron Watson, Dr C. H. Underhill, Dr. Ronaldson, Dr J Crawford Renton, Dr Hunter, Dr. D. Argyll Robertson, Dr R. Milne Murray, Dr. R. J. Blair Cunynghame, Dr. J. Dunsmure, Dr Joseph Bell, Mr. Barclay; Brigade-Surgeon-Lieutenant-Colonel J Arnott, I.M.S. (retired) (the foregoing kindly collected by Mrs. Argyll Robertson); Major and Mrs. Hickman Morgan; Captain and Mrs. W. L. Beyts, Mr. C. Vincent Catterill; Brigade-Surgeon Lieutenant-Colonel G. R. Harrison, and the following officers of the Royal Army Medical Corps: Lieutenant-

Colonels W. Allan May, J. L. Peyton, R. D. Donaldson, and R. C. Gunning; Majors R. H. Hall, J. S. Edye, E. C. Freeman, and A T. I. Lilly, Captains H. N. Dunn, P. Evans, and L. Addams Williams; and Lieutenants L. N. Lloyd, H. M. Nicholls, and A. C. Duffey. The fund now amounts to £263. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington-gardens terrace, Hyde Park, London, W.

FOREIGN MEDICAL LITERATURE.

A. C. C. asks · "1. Is there any subscription library from which German and French medical journals could be hired? 2. Where can one obtain a price list of the more ordinary and usually quoted German and French journals and the address of the publishers? One so often wants a single number, say, of Virchow's *Archiv*, *Centralblatt für Bakteriologie und Parasitologie*, &c."—1. We do not know of any such library. 2. Messrs. Williams and Norgate, Booksellers and Publishers, Henrietta-street, Covent-garden, London, have a "Deutscher Journal-Katalog für 1902" (price 2*s.*), which gives this information in full for all German periodicals arranged in 41 sections. Medical periodicals are described under Section 5 (Heilwissenschaft). They have also a somewhat similar but less comprehensive catalogue for French periodicals. With regard to Virchow's *Archiv*, which our correspondent specially mentions, we understand that the publisher does not sell single copies. Our correspondent is also reminded of the letter published in THE LANCET of May 17th, p. 1439, in which Dr. Eugen Cohn of Berlin gives the names of the leading German medical weekly periodicals.

THE LAW FUND.

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON.

THE following additional subscriptions have been received by Dr. Paramore, 2, Gordon-square, W.C.:—

	£	*s.*	*d.*
Mr. Charters J. Symonds	2	2	0
Dr. Frederick P. Weaver	1	1	0
Dr. John Brunton	1	1	0
Mr. G. B. Mower White	1	1	0
Dr. J Curtis Webb ...	1	1	0
Dr. Frederic G. Vicars...	0	5	0
Dr. Eliza L. Walker Dunbar	1	1	0
Dr. W. R Huggard ...	2	2	0
Mr. John Dacre	1	1	0
E G. W.	0	5	0
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Mr. H. Dawson Farnell	1	1	0
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Auxilium	0	5	0
Dr. Henry George Sworn	1	0	0
Dr. G. C. Bright	1	1	0
Dr. W. H. Thornhill ...	0	5	0
Mr. Thomas Duncan ...	0	10	6
Mr. Samuel Oliver Eades	0	5	0
Dr. H. T. Sylvester, V.C.	0	10	0
Dr. W. C. Devereux ...	0	5	0
Mr. Ernest Rock Streeten	0	10	6

"THE PEOPLE'S CHEMIST."

A COPY of the *Kent Herald*, dated June 4th, has been sent to us and certain paragraphs in an advertisement column headed "Medical" are marked for our attention. The character of the advertisements is such that their publication does not redound to the credit of the paper in which they appear, but the editor of the *Kent Herald* is not the only editor who advertises pills which will cure discharges from the urinary organs. All these so-called medical advertisements emanate from the Medical Hall of Canterbury where there apparently resides one Lander, the People's Chemist. This person says that he has a sure cure for influenza, a specific for tic doloureux, a most effectual remedy for coughs, colds, &c., and every modern appliance for sight-testing. He also sells penny royal and steel pills for females, and, as we have already said, pills for venereal discharges. If the *Kent Herald* could dispense with the patronage of Lander a regard for decency would be manifested and we are certain that no loss to the public would accrue

THE INJECTION OF COCAINE AND THE MORPHIA HABIT.

To the Editors of THE LANCET.

SIRS,—In reply to "F. G. B ," I would strongly advise the greatest caution in the use of cocaine for the cure of the morphia habit. It is better to give no substitute until the morphia has been suppressed entirely by the skin and that which is administered in its place by the mouth or rectum has been reduced to the least possible quantity—half a grain, for instance. If cocaine is given early in the weaning there is a great risk of the patient becoming addicted to it also, and for this reason he should never be allowed to know that he is taking cocaine. Given with these restrictions it is sometimes most useful but in some cases it cannot be tolerated, producing symptoms of distress that can only be relieved by return to morphia. It is safer, on the whole, to use the liquid extract of coca which when properly made is almost as efficacious without being dangerous Most of the fluid extracts of coca do not possess the full therapeutic activity of the plant. It would encroach too much on your space to go properly into this question but for the information of those who may be interested in the subject I will say that it is now recognised that preparations of coca from imported leaves cannot be relied upon. There is a something in the best fresh leaves which is lost in transmission to Europe. Messrs. Parke, Davis, and Co., however, make a "standardised" extract which is prepared from the fresh leaves as soon as they are gathered, which I would strongly recommend in the treatment both of the morphia habit and alcoholism.—I am, Sirs, yours faithfully,

Avenue Marceau, Paris. OSCAR JENNINGS, M D. Paris.

To the Editors of THE LANCET.

SIRS,—May I be allowed, in answer to your correspondent "F. G. B." to warn him against attempting to cure the morphia habit by the addition or substitution of cocaine? The injection of cocaine does not in the least degree assist in the cure, but on the contrary acts as a dangerous complication. Having had considerable experience of the treatment of morphia *habitués*, I shall be pleased, if "F. G. B." will communicate with me, to advise him how best to deal with his case. I inclose my card. I am, Sirs, yours faithfully,

J. H. C.

THE CENTURY TANDEM.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 10th, p. 1326, you review a book on motoring published in the Badminton Series, and in the article you allude to certain experiences of your own of a Century Tandem. I was on the point of ordering one of those machines but I have not been able to glean any information as to their general behaviour, and you would do me a considerable favour by giving me your opinion on the following matters:—

1. Is there much noise or more than usual in a small voiturette?
2. Much vibration, especially with the solid tyres?
3. Ample brake power, so that machine can be pulled up on steep descent? (This is a most important point for Northumbrian country.)
4. Given a fair amount of care and attention is it reliable and easy of management?

Thanking you in anticipation of reply,

I am, Sirs, yours faithfully,
H. W. CROSS, M.B. Durh.

Rye-hill, Newcastle-on-Tyne, June 6th, 1902.

*** The experiences were those of our reviewer, who replies to our correspondent's questions as follows.—ED. L.

1. It certainly is somewhat noisy; more noise is caused if the petrol is not fresh.
2. I am not aware that it has been built with solid tyres. Hard-pumped pneumatics give a good deal of jolting on rough roads.
3. The brake-power is ample.
4. It is more simple than most; but your correspondent should get a 1902 pattern. The chains on the older ones are too light and at a recent hill-climbing competition the second speed chain broke when going down hill.

The Treatment of Stammering.—"Koax-Koax," who recently appealed to our readers for information with regard to this subject, wishes to thank the many correspondents who so courteously responded to his request.

◆

Bengal Cavalry.—Much depends upon the kind of limekiln employed and upon the quality of the fuel. With a good tall shaft there is no reason why lime-burning should not be conducted without nuisance or injury to health either to animal or vegetable life. Lime burned in closed kilns, the vapours being carried into the upper part of the atmosphere, should create no offence. On the other hand, defective limekilns, especially those with no draft arrangement, are likely to be a distinct source of nuisance and may cause injury to health. Sulphurous fumes from the coal or coke would, of course, have injurious effects on vegetation. With old-fashioned limekilns it is desirable that dwelling-houses should be situated at least 200 yards away. Our correspondent will find some interesting information on effluvium nuisances in the report of Dr. Ballard contained in the annual report of the Local Government Board, 1876.

Belgium —All information can be obtained concerning the M D. Bruxelles from Dr. W. Reeve, 38, Manchester-street, W.

Health seeker must produce his diplomas to one of the three boards of examiners in California.

ERRATUM —In Professor Tansini's paper on Improvements in the Operation for the Radical Cure of Inguinal Hernia, published in THE LANCET of May 24th, 1902, p. 1463, two of the illustrations have been accidentally transposed. The instrument there marked Fig. 1 is a retractor and the instrument marked *Fig. 2 is a hook* for the spermatic cord.

During the week marked copies of the following newspapers have been received:—*Kent Herald, Western Morning News, La Caducée, Herts Advertiser, Times of India, Aberdeen Free Press, Blackburn Gazette, Bournemouth Guardian, Lancashire Post, Plymouth Morning News, Western Mercury, Yorkshire Post, Pioneer Mail, Citizen, Architect, Builder, Devon and Exeter Express, Burnley Express, Manchester Dispatch, Glasgow Citizen, Scotsman, Ipswich Times, Dublin Evening Telegraph, Southampton Echo, Belfast News, Birmingham Daily Mail, Lancaster Guardian, Bradford Observer, Sheffield Daily Telegraph, Municipal Reformer, Echo, Daily Mail, Daily Express, Yorkshire Post, Standard, Bristol Mercury, Windsor and Eton Express.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 12th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
June 6	29·89	S.W.	...	80	69	52	54	57	Cloudy
" 7	29·51	N.W.	0·21	107	60	50	50	56	Cloudy
" 8	29·55	N.W.	0·09	95	68	52	51	52	Cloudy
" 9	29·73	N.E.	0·03	103	67	47	47	50	Cloudy
" 10	29·82	N.	...	109	60	44	45	50	Cloudy
" 11	29·79	S.W.	...	108	62	49	50	54	Overcast
" 12	29·57	S.	...	67	55	52	52	54	Raining

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (21st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (17th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Card Specimens:—Mr. Waring: (1) Congenital Lymphangioma of the Face; (2) Congenital Tumour of the Superior Maxilla. Papers:—Dr. Phear: Bone-marrow in a Case of Suppuration of the Knee-joint with Secondary Hæmorrhage.—Mr. H. J. Waring: Neuro-lipomata of the Median Nerve.—Dr. Fawcett: Chyle Cyst of the Mesentery.—Mr. H. J. Paterson: Dermoid Cyst of the Inguinal Canal.—Dr. C. Riviere: The Meningococcus in a Case of Cerebral Tumour simulating Posterior Basal Meningitis.—Mr. Shattock: Tuberculosis in a Python.

ROYAL STATISTICAL SOCIETY (9, Adelphi-terrace, Strand, W.C.)—5 P.M. Paper:—Mr. T. A. Welton: *A Study of some Portions of the Census of 1901.*

WEDNESDAY (18th).—ROYAL METEOROLOGICAL SOCIETY (Society's Rooms, 70, Victoria-street, S.W.).—4.30 P.M. Papers:—Mr. F. C. Bayard: English Climatology, 1891-1900.—Mr. W. L. Dallas: Earth Temperatures recorded in Upper India.

FRIDAY (20th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (Pendlebury Children's Hospital, Manchester).—4 P.M. Papers:—Dr. A. E. Sansom: Some Remarks on Heart Disease in Children.—Mr. W. P. Montgomery: On Tendon Grafting, with Cases.—Dr. H. Ashby and Dr. G. Carpenter: On Splenic Enlargements, with some Observations on the Blood.—Dr. E. Cautley: Atresia of the Conus Pulmonalis, with Patent Septum Ventriculorum.—Mr. C. M. Gwynne (Sheffield): The Surgical Treatment of a Case of Infantile Paralysis of the Lower Extremity.—Mr. S. Stephenson: Fleeting Amaurosis in Children presenting Symptoms of Meningitis.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Edwards: Urethral Stricture.

TUESDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. O. Hawthorne: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. S. Taylor: Heart Murmurs, their Significance and Treatment.

POST-GRADUATE CLINICAL DEMONSTRATION (Westminster Hospital).—4.30 P.M. Dr. D. Robinson: Menorrhagia, its Causes and Treatment.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Mr. Horsley: Surgery of the Nervous System.

WEDNESDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. E. W. *Roughton: Clinique.* (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. McAdam Eccles: Surgical Anatomy.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Wethered: The Treatment of *Pulmonary* Tuberculosis.

THURSDAY (19th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.)—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr Baldwin: Treatment of Injuries.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Mr Steward: Treatment of Tubercular Disease of Joints.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Waterhouse: Demonstration of Surgical Cases. (Post-Graduate Course.)

FRIDAY (20th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. W. Dodd: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Reece: Disinfection.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial *staff. It is urgently necessary* that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only. AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them! Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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Communications, Letters, &c., have been received from—

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An Address

ON

THE RELATION OF BIOLOGY TO MEDICINE.

Delivered before the University College Medical Society on May 21st, 1902,

BY J. ROSE BRADFORD, M.D., D.Sc.,
F.R.C.P. LOND., F.R.S.,
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MR. CHAIRMAN AND GENTLEMEN,—Before dealing with the subject which I propose to bring before you this evening I want to make a few general remarks about the great variety of subjects that the study of medicine gives us the opportunity of following. Every year the scope of these is widening, so diverse are the branches of knowledge with which medicine is related. There are many matters in medicine which bring it into close relationship with literary pursuits and more particularly perhaps with the writings and sayings of the ancient physicians and surgeons, and medicine in more modern days is getting more and more closely associated with a number of economic questions. A very recent development of this kind is afforded by the economic questions which are related to the establishment of sanatoriums, with reference more especially to the health of the working classes. Although all these questions are of interest and some are of very great and pressing importance the relation of medicine to scientific studies, to pure science, is becoming daily of far greater and increasing importance. It is the custom at the present day to look upon medicine still as an art—and no doubt it is in many respects an art, especially, perhaps, as regards the difficulty which the exponents of medicine have in transmitting their knowledge and acquirements to others, in which certainly medicine is more akin to an art than a science; yet I cannot help contrasting the position of medicine as a science now with what it was comparatively a very few years ago when I last spoke before this society. I cannot help contrasting it because of the very great progress that has been made in medicine. This progress when compared with that of its sister branch of knowledge—surgery—is often considered to be rather slow. Since I last spoke in this room, some 13 or 14 years ago, without wearying you with a mass of detail, I may take as illustrations of this progress three diseases which occur to me. At that time one's knowledge of these, certainly as regards diagnosis, was largely empirical, although with reference to one of them there was a certain amount of accurate scientific knowledge. The three diseases that I would allude to in reference to this particular point are tubercle, typhoid fever, and malaria. In all these diseases some 13 or 14 years ago diagnosis could not be said to be by any means accurate and was largely based on empirical knowledge, vague knowledge, and certainly not on accurate scientific results. At the present time no physician, if in doubt as to the presence of tubercle, whether of the chest or of other parts of the body, would rely on the ordinary methods of investigation that were then in vogue. He would call in the aid of an expert if he was not capable of doing the work himself; he would use the knowledge which had been obtained by purely scientific methods. When I was a student one had long descriptions of the differential diagnosis, for instance, of such a disease as typhoid fever from meningitis; there was a number of symptoms to which attention was drawn, and to the value of these in differential diagnosis great names were quoted. Now questions of that kind are often settled either by an examination of the urine or by an examination of the blood. The same remark applies to such a disease as malaria. I only mention these diseases by the way, as showing that even in medicine very striking results have been obtained by purely scientific methods of inquiry. I would further allude to one other method which at the present time is only at the threshold of its usefulness, at any rate in medicine, and that is the use of such a means of investigation as the Röntgen rays afford in the diagnosis of obscure diseases of the chest. When one thinks of the difference between 10 years ago and the present day in matters such as these one must admit the paramount importance of pure scientific knowledge for the adequate study of such a thing as medicine. A scientific training in medicine is essential from many points of view, and perhaps most of all to my mind from the fact that it is the only training that will give the physician or surgeon what may be called a proper habit of mind, and this quite apart from the use of a scientific training for its direct practical application. With these very scanty preliminary remarks I will pass on to the consideration of the subject-matter that I propose to bring before you.

Biology in relation to medicine may be considered from at least three points of view. It may be considered from the standpoint of a science of educational value and not simply from the point of view of its direct practical value in the study of disease but rather for the training that it affords to the human mind. It may, secondly, be considered in relation to practice, the immediate questions that present themselves to every practitioner in medicine; and it may be also considered from the point of view of the influence which it exerts, has exerted, and will exert still more in the future probably, on the progress of research in medicine. Although the second of these three is the one with which we are most often in actual contact the first and third are probably of more importance and it is a little difficult to say which of these two is the more important. In the training of the future medical practitioner it seems to me that it is most important that he should learn to pay due attention, but not an undue attention, to authority; and that he certainly should not accept statements simply because they are told him. He should verify these things for himself, and biology is certainly a science which enables that to be done by the student with very great facility. Further, if a man is to be a successful practitioner of his art he must be capable of observing with accuracy, and the different subjects that a medical student studies afford also different degrees of facility for attaining that object. Certainly the branches of biology, botany, and zoology, to my mind, are very valuable from this point of view; and I would like to say here that botany and zoology are no doubt from the point of view of training of very equal value, and further that it is not so very generally recognised nowadays as formerly that the old naturalist field work is a very excellent training from the point of view of producing accuracy of observation and accuracy of statement. Some of the most important and interesting discoveries in biological science have, even in recent times, been made by that branch of zoology which may be classified as the naturalist branch. An illustration of this in recent times is seen in Poulton, not to mention that great discoverers such as Darwin would come into this class. From the point of view of training biology offers special advantages to the medical practitioner and to the medical student because it enables him first of all to get, I think, a better idea of the complexity of living structures than he does by observation of the more purely technical branches which are more immediately related to the practice of his art.

I do not mean to say a word in disparagement of physiology, anatomy, or pathology, but when these things are studied from the exclusively human point of view it is rather doubtful, I think, whether the student gets such a good idea of the very great complexity of living matter and of living phenomena as he does if he studies the simpler forms of life. To the practitioner both of medicine and of surgery I would say that to my mind it is most essential for him—and I am afraid you may think I am going in for a great many platitudes—to have a thorough and ever-present conception before him of the extreme complexity of the phenomena with which he has to deal. Many of our mistakes and of the mistakes of others are dependent on not recognising this and thinking that things are much simpler than they really are. As regards the complexity of living matter an adequate study in the biological laboratory of the simpler forms of life—e.g., of an amœba or of the plasmodia formed by such organisms as the mycetozoa (which are easily observed by anybody and everybody and where many of the greatest problems connected with protoplasm can be observed with great simplicity and ease), gives a much better idea of the complexity of living matter than, say, the examination of a white blood corpuscle. A man gets a better general idea of protoplasmic activity from the study of the lower protozoa than from looking at a drop of human blood and studying the white corpuscles. I would therefore put in the forefront that one of the most striking uses of biology is that it affords an opportunity of examining and gaining an insight into the complexity of living matter. Not only does it do this but in the case of pathology, anatomy, and physiology—to take the three sciences which lie at the root of medicine—a study of biology in the broad sense of zoology and botany, but especially of zoology, enables one to obtain a very much wider grasp of the facts which are taught in these three sciences.

If you take such a science as anatomy—I will not weary you with many instances, but let us consider a few instances and first of all the case of the pineal body. Surely, the study of comparative anatomy, without necessarily going into it at any great length, affords the student an opportunity of getting a very much more intelligent appreciation of the pineal body than the mere study of it from the point of view of human anatomy. I do not mean that it is of great importance to know much about the pineal body from the practical point of view but I am only quoting this as an illustration of the mental culture and wider train of thought which it is desirable for you as medical men to have and the pineal body and its relation to a primitive eye afford a striking illustration of this fact. Another, perhaps not quite so striking an instance, is the case of the thyroid. Many of the problems of the thyroid, or at any rate some of them, receive a good deal of light from one's knowledge of the comparative anatomy of the thyroid body. Another very striking case is that of the suprarenal where not only has the study of the comparative anatomy of the suprarenal, especially in fish, thrown light on the anatomy of the organ and to a certain extent on its morphology but it has in a very striking manner confirmed some of the physiological doctrines which are held in reference to this body. One might go on to many others and I might mention the cerebral convolutions and the vena azygos and the whole, for instance, of Gaskell's work, whether one accepts it in its entirety or not. At any rate the study of these things gives one a very much wider grasp and very much more insight into the study of human anatomy and from that point of view is very desirable. Another one which I will not pass over is the question of the spinal segments and such elementary facts as that the legs are not posterior to the trunk. The morphology of the limbs is difficult to explain and to teach from the human point of view but is very readily taught and receives adequate illustration when it is looked at from the comparative point of view. I think that I have adduced enough instances to show that the study of comparative anatomy is of great use, even when not followed to any great extent, from the point of view of giving a wider grasp to one's knowledge of the facts of human anatomy.

Passing to physiology the same thing occurs and one might adduce a number of striking instances, but I will only take one or at the most two. Take such a thing as the function of respiration and look at it from the point of view of the human organism. You will necessarily come to the conclusion that lungs are necessary, that muscles are necessary, that blood corpuscles are necessary, that hæmoglobin is necessary, and that therefore iron is necessary. If you look at this function from the point of view of biology or of comparative anatomy you will be able to find illustrations in the animal kingdom in which each one of these several structures that I have mentioned may be absent. There are large groups of organisms without lungs but having branchiæ; there are organisms with lungs but with no diaphragm or with an incomplete diaphragm; there are animals which breathe with their skin; there are animals which have hæmoglobin dissolved in the blood plasm instead of in the corpuscles; and there are animals that have no hæmoglobin, as for instance, in the crustacea where the iron containing hæmoglobin is often replaced by a copper compound. Facts such as these which, as I say, can be acquired without any very great labour and which are of no direct practical utility, are at the same time of immense importance to a properly educated medical man from the point of view of enlarging his conception of physiological processes in general. There are similar illustrations to that adduced as regards respiration to be adduced as regards circulation, but I will not take up your time by going into that and I will not detain you with the very large question which is of very great interest to the physiologist and to the zoologist as to whether many of the micro-organisms in the alimentary canal are not really instances of complicated symbiosis, of which one has so many illustrations both in the vegetable and animal kingdom. It is a vexed question and one which this is not the place to enter into. I simply mention it as an illustration of the wider grasp afforded by an intelligent study of biology.

Coming to the question of pathology we learn that the debt of medicine to biology is very great. In the first place we have to remember that we practically owe our fundamental conception of cellular pathology, as most of you may know, to the botanist. It was knowledge acquired in the first place by the botanist and then transferred from the vegetable to the animal kingdom and then ultimately to morbid products. I think one is justified in saying that at any rate the conception of this matter we owe very largely to the botanist. There is another debt which pathology owes to biology and that is with reference to the doctrine of phagocytosis, whether we hold the extreme views of Metchnikoff on the subject or not. Without going into questions of priority as to who was the first person to observe phagocytosis in the case of white blood corpuscles in the mammalian organism there can be, I think, no question that the great importance of phagocytes, the fundamental conception of the way in which these cells devour invading bodies, that this fundamental conception in many of its details we owe to Metchnikoff. We must remember that he worked out the facts of phagocytosis in relation to man in a progressive series of animals beginning with the lower invertebrates, passing to the higher invertebrates in the form of the crustacean—a large amount of his work was carried out on the crustacea, on Daphnia, and from these he passed to other and higher forms. He made observations on animals that had no circulatory system at all but had these amœboid cells; then on those with a vascular system containing but few corpuscles in the circulating fluid; until finally in the higher forms he investigated animals in which the circulatory system was well developed. One of the great differences between the work of Metchnikoff and that of Cohnheim rests in the fact that the one worked on the higher forms of life where the phenomena were necessarily very complicated owing to the development of the vascular system and that the other was enabled to separate the part played by the phagocytes on the one hand and the blood-vessels on the other by working in a biological manner—that is, by working on organisms proceeding from the lowest to the highest. Metchnikoff was, of course, led to the study of phagocytosis in inflammation to a great extent from his own work and the work of others of a purely biological character—namely, the transformation of insects, the metamorphosis of insects, and the disappearance of the tissues of pupæ. It was by studies of this kind that he was led to his well-known views on inflammation. Whether the doctrine of phagocytosis is to explain all or many of the facts of immunity or whether it is not, there can be no question of the fundamental importance of the doctrine, and there can equally be no question of the fact that it is a doctrine which we owe very largely to biology. Another doctrine, another series of facts in pathology which we also owe to the biologists, is the phenomenon of chemiotaxis which is very closely allied to phagocytosis. Chemiotaxis is a subject of the greatest importance to the pathologist and of fundamental value. Chemiotaxis was first observed by De Bary and other botanists in their studies on the plasmodium of the mycetozoa—a group of the protozoa where by the confluence of large numbers of amœboid forms masses of living semi-fluid protoplasm of large size are very readily formed. De Bary and others were enabled owing to the facility with which this mass of protoplasm could be examined to observe the fundamental phenomena of chemiotaxis and the way in which this mass could be made to move in one direction by putting near it a material which it liked and it could be made to move backwards by putting close to it material which it did not care about. You can easily carry out these observations for yourselves on one of the common forms of mycetozoa called *Badhamia utricularis*. The mycetozoa are to be found on rotten stumps of trees and by supplying them with suitable pabulum—Badhamia feeds on a certain fungus (*Stereum hirsutum*)—you can actually cause the plasmodium to move towards the pabulum so that this movement can be readily observed with a low-power microscope and may, indeed, even be seen with the naked eye. Chemiotaxis was observed by these biologists, and later became a doctrine of cardinal importance in pathology with reference to inflammation and also with reference to a number of other problems connected with the invasion of the tissues by micro-organisms.

Human pathology, then, is greatly indebted to biology for at least those three fundamental facts. In addition to that, biology is so closely related to pathology that it affords its assistance in many other directions. In the first place, diseases are common not only in animals but also in plants, and many of the phenomena of disease such as are observed in the human subject—and even for the matter of that the phenomena of injury—may be observed with almost equal readiness in the case of plants, and in some instances plants afford a more suitable structure for the investigations of infections of various kinds than is the case in animal organisms. I mean that it is not always, perhaps, realised that plants suffer from infectious diseases of as complicated a nature and with as complicated a life-history, as regards the organisms causing them, as is the case with many morbid processes with which we are familiar in the human subject. Just as there are diseases in the human body dependent on parasitic invasion in which the parasite causing the disease in the human subject has to pass a portion of its life-history in some other host, so precisely the same phenomena have been found in regard to certain infective diseases of plants, more especially those dependent on mycotic invasion. There can be no question that the investigation of certain plant diseases is capable of throwing considerable light on some fundamental problems of pathology, such as the resistance of tissues to the irritation of foreign bodies and so forth.

The subject of animal diseases is a very large one and the relationship of these to man is manifold. Some human diseases no doubt may be contracted from diseases of animals and we have that problem before us at the present time with reference to the great question of tuberculosis, and especially whether tubercle in man and tubercle in animals are identical, quite apart from the question whether the human disease can be directly acquired from animals. You have a very much wider grasp of these questions by studying biology; for instance, a comparative study of tuberculosis in animals will enable one to get a very much wider grasp and very much more accurate knowledge of the nature of the disease than a study of it which is purely restricted to the phenomena as they occur in man In addition to that there are several instances in which the investigation of diseases in animals has thrown direct and immediate light on similar diseases in the human subject. I think that we are rather apt to forget, some of us, that the working out of the malaria problem and the relationship of the mosquito to the organism of malaria was after all not worked out first of all in human malaria but was worked out in the malaria of birds, and that it was with reference to the Proteosoma of birds—an organism somewhat allied to the organism of human malaria—that the part played by the mosquito was first decided. You could have no better instance of the very intimate relationship existing between biological problems and pathology, because after all it is purely a biological problem. It may be an important thing to man, but it is, so to say, an accident that malaria happens to be harmful to man. It is possible to go further than that and to point out another very interesting relationship between biological investigation and pathology still adhering to malaria in illustration. It is well known that in the case of some of these blood parasites affecting birds, particularly in the case of Proteosoma and of Halteridium, that some blood parasites do no particular harm to the bird in which they are parasitic and other closely allied forms produce illness in birds. We are not acquainted, as far as I know, at the present time with any protozoan blood parasite in man which is certainly benign, but at any rate we know from recent observation that the malaria parasite may exist in an apparently benign form in the blood of certain native races, and yet when transferred by the mosquito to the white man ill-effects are produced. There is a closely parallel instance in the case of the parasite of Texas fever in cattle where the organism may be present in the blood without producing ill-effects and yet produce the disease when transferred to other and healthy animals. There are certain flagellate organisms which live in the blood of rats, sewer rats, and which do no harm as far as we know, and there are certain other flagellate organisms of an allied kind which live in the blood of animals in India and South Africa which cause the fatal diseases of these animals known as "nagana," "surra," &c. A similar organism has been observed in the human subject in two, if not three, instances, and in one case causing disease in the human subject. The point to which I wish to draw attention is that we have evidence biologically that in the animal kingdom there may be apparently closely allied forms, the one existing in a benign and the other in a malignant form In some instances—as, for instance, in the case of the trypanosomata—this may be dependent *on* a different life-history.

I have said enough to show that the study of biology pursued entirely for its own end and with no idea at all of direct practical utility affords the medical student an opportunity of obtaining a very much wider grasp and knowledge of other subjects, and especially of anatomy, physiology, and pathology. I think that is enough to show the paramount importance of biology as a suitable science to provide an adequate mental training for the student of medicine.

A very few words now with reference to biology in relation to practice. The number of diseases which are now known to be definitely due either to animal or vegetable organisms is daily increasing and I need only allude here to blood diseases, for instance, various forms of anæmia in animals and in the human subject to the varieties of malaria, to such indirect blood diseases as the anæmia produced by various intestinal worms, more particularly ankylostomum, &c. The number of morbid processes which are due to the presence of fungi, especially actinomycoses, aspergillar mycoses, and blastomycetes, is increasing, and then the very large number of intestinal and blood parasites, some of great importance, others of comparatively trivial importance.

Such a subject as filariasis is apparently assuming more important relations and development, as an increasing number of morbid conditions have been shown, and are being shown, to be due to the presence of filaria. To take an illustration, there is a considerable amount of evidence to show that a number of diseases in hot climates which have been spoken of as malarial are not due to malarial parasites but may be dependent on the presence of various forms of filaria, and there has been a suggestion that some of the endemic diseases of South Africa, such as the sleeping sickness, may also possibly be due to blood parasites of that kind. When you think of all these diseases, many of them present in this country, others of them restricted to hot climates, I think that you will admit that the number of them is quite sufficient for it to be necessary for the practitioner to have a more or less thorough knowledge of these branches of biology. One could dilate at some length with reference to the use of biology in practice but I prefer to go on with the final heading of my subject—namely the relation of biology to research in medicine.

The relation of biology to research is shown in the remarks made just now with reference to Metchnikoff's work and one cannot help thinking that although the relation is now a close one it cannot fail to become much closer still From a strictly scientific point of view one must confess that medicine is but a branch of biology, but medicine is so large a subject in itself that it is convenient to classify it separately I think that the study of biology amongst other things brings us to the fundamental question of the nature of disease and one cannot help thinking that the progress of modern discovery, especially in the last 10 or 15 years, has to a very great extent altered our views, or the views of some of us, as regards the nature of disease. The part played by parasites, in the broad sense of the word, in the production of disease, not very many years ago, certainly less than a quarter of a century ago, would have been almost entirely limited to the intestinal tapeworms, whereas at the present day the question almost presents itself to one sometimes as to whether there are any diseases which are not of parasitic origin One must admit that there are certain injuries to the human frame where illness or death is dependent directly or remotely simply on the traumatism. One must admit that there are some diseases—as, for instance, myxœdema on the one hand and exophthalmic goitre on the other—where the fundamental pathological processes is an atrophy or an hypertrophy of some particular structures of the body. But really, if you put aside the traumatisms and the atrophies and the hypertrophies which are, after all, not very numerous, there are not very many diseases to which the human frame is liable which cannot be either directly correlated to the presence of a parasite or, at any rate, where there is not a shrewd suspicion that there is very probably a parasite I am quite aware that there are, of course, some morbid conditions brought about by chemical changes where it is unnecessary to assume the presence of any living parasite. There are some morbid conditions brought about by the ingestion of poisons—lead, for instance There are others in which very possibly the disturbing toxic chemical substance is produced in the organism itself, and it is, of course, probable, or at any rate possible, that there are certain diseases which may be entirely dependent on disturbed metabolism, such as diabetes. In many of these conditions and diseases where there is apparently a chemical agent at work (an auto-intoxication) it is quite possible that this is not really the proximate cause but that in addition there is a parasite and the toxic substance is elaborated by this parasite.

When we think that it is only some 20 odd years since the bacterial nature of disease was clearly determined and that it is a much less number of years (I do not remember the exact date at which it was observed) that certain diseases were due to fungi—as, for instance, actinomycosis—and that it is only within the last few years that the protozoa have been found to be pathogenic agents in disease, one cannot help thinking that the number of diseases which are dependent on parasites and which are therefore dependent on a proper study, knowledge of, and acquaintance with biology is an ever-increasing one. It is only some 21 or 22 years since Laveran made his discovery of the presence of the malarial plasmodium in human blood and it is only within the last few months, or last few weeks even, that trypanosomata—i.e., flagellates—have been discovered in the blood of human beings on the West Coast of Africa, so that, as I say, the relationship of biology to medical research brings one at the very outset to the fundamental question of the nature of disease. When we look at the number of blood diseases in animals, the number of different forms of hæmaturia and anæmia which are definitely known in the case of domestic animals to be dependent on the presence of parasitic protozoa, one cannot help thinking that sooner or later the same fact will be demonstrated in the case of many of the human diseases of similar character. There are human diseases which greatly resemble in their clinical symptoms and pathological anatomy these diseases in animals and in a number of such human diseases organisms of this kind have been already described by certain authorities, although not accepted by all.

In considering, then, the relation of biology to research we are often brought at once face to face with the question of the nature of diseases and at the present day one cannot help alluding to the question which is present in the minds of many as regards the nature of cancer. It may be a somewhat heterodox opinion for a medical man to mention here but one cannot help thinking that whatever the nature of cancer may be a great amount of light will be thrown on that question by the researches of the pure biologist rather than by those of the human pathologist, and it would seem that if the question of cancer is to be elucidated it must be necessary to investigate two sets of facts, both of which are of fundamental biological importance. The first is the question whether the organisms described by so many in the case of cancer are the actual cause of disease and what is their exact nature, because no biologist has yet been able to arrive at any certain conclusion as to the biological position of these structures. That is one side of the cancer question and it is certainly a biological one, and another side of the cancer question in which the human morbid histologist may follow the lead of the biologist is the investigation of the minute histology of the cell which, notwithstanding the very large amount of work which has been done in human morbid anatomy, has been scarcely touched. The biologist has worked out with much assiduity not only the structure but also the relationship of the centrosome and of the nucleus to the cell protoplasm. A number of minute points of that kind have been worked out with very great detail in the case of infusoria and sponges, and also in the case of a number of the lower forms of life, but in the higher forms of life, and certainly in the case of morbid anatomy, these have scarcely been touched. There are some observers who hold the view that the nature of cancer is intimately associated with the question as to whether it is dependent on a deranged function of the cell, an anomalous condition of the cell, associated with nuclear and centrosomic changes. There are some writers who have said that the structures that have been described as parasites are nothing more nor less than these anomalous centrosomes. I mention this as an illustration, to my mind, of the problems, the very pressing problems, in human pathology which for their solution at any rate require the aid of the biologist, and, indeed, may perhaps receive their solution from him. These are all somewhat discursive remarks as regards the relationship of biology to the nature of disease.

Another biological doctrine of great interest to the human pathologist is the question of variation and the influence of environment—that is a biological doctrine of very great importance and it is also of great interest to the medical practitioner and student. When we consider problems such as whether bacteria may be saprophytic and then in certain circumstances become pathogenic—that is, practically speaking, a kind of variation. The facts of a total different order that I have already mentioned about the plasmodium of malaria existing in the blood of native races without causing any disturbance but on being transferred to the white races causing malaria—that, I should think, is also a fact of a closely related character. These illustrations will be sufficient to show that even such a question as variation, a highly technical branch of biology, has its relationship to the medical practitioner.

We come finally to one of the most vexed questions in biology which certainly is of great importance in human pathology and human medicine and to all of us, and that is the question of heredity. You cannot open a text-book of medicine without getting the most diverse instruction with reference to the part played by heredity in disease, and there can be scarcely any subject of more interest to the human race than an adequate and sound knowledge of such an important subject as that of heredity. Problems of heredity are, I think, scarcely to be settled by statistics as regards the incidence of disease in ascendants and descendants. It is, of course, to Weismann that we owe many of our fundamental and modern views on this subject. One of the most important conclusions is that acquired characters are not transmitted and that the only things which are transmitted are the characters of the germ plasm. That is a doctrine which must be of wide-reaching and very great importance to the pathologist and the medical student and one which perhaps in the present day has not attracted the notice that it deserves. Weismann, you will remember, was led to these far-reaching deductions by a close study of the duration of life in a great variety of forms, beginning with his conclusions that the amœba, or rather the protozoa, as far as is known, are the only immortal animals. He showed that in these low forms of life death was not by any means a necessary phenomenon of life, but was, so to say, an accident; in the higher forms the germ cells did not die. And from that he led us to the doctrine that acquired characters were not transmitted. From that he was led to the conclusion which is of most importance to us as medical students—namely, that impairment or mutilations of the parent or changes of health in them could not act directly and specifically on the germ cells; all they could do would be to increase or to diminish the vitality of the germ. To take a stock illustration, the fact of the parent acquiring a tuberculous disease could not by any possibility cause the germ plasm to become tuberculous except by direct infection and all it could do at the utmost would be to weaken the germ plasm so as to make it less resistant to the tuberculous and other invasions. This doctrine of Weismann as regards heredity and the whole question of germ plasm are matters of fundamental importance not only to the practitioner but to the student and to the pathologist, and it is of interest that Weismann's conclusions were arrived at from a study of purely biological phenomena and have received a very striking confirmation in the work of a pure pathologist—I refer to Dr. Bulloch You are all familiar with the fact that if the blood of one animal is introduced intra-peritoneally into another animal the blood of the second animal develops certain properties after receiving the blood of the first animal. If you inject into the peritoneum of a rabbit the blood of an ox the blood of the rabbit acquires properties by which it hæmolyses the corpuscles of the ox Dr. Bulloch made use of that fact in studying certain phenomena of heredity and he has shown that supposing a male rabbit's blood is made highly hæmolytic to ox's blood that the descendants of that male rabbit derived from a normal female have no such power, but that, on the other hand, if the blood of a female rabbit is made highly hæmolytic with the blood of an ox then the descendants of the female rabbit after connexion with a normal male have blood which is highly hæmolytic—in other words, the properties acquired by the mother are apparently transmitted but not through the germ plasma, only by the interchange possible owing to the placental circulation. You will say that there is nothing new in this and that the same facts are known in relation to human small-pox and human rheumatism and endocarditis. The same argument may be adduced with reference to the facts of cerebral localisation. We might say that we knew all about cerebral localisation as a result of Dr H Jackson's masterly deductions from the study of epileptic convulsions, and that we did not need Hitzig and Ferrier's work. There is a very great difference between the precision of a result that has been obtained by an experimental method and the results of a statistical method. This confirmation by Dr Bulloch's work of a certain part at any rate of the work of Weismann is I think, a point of very considerable interest to us all.

Biology in relation to research, quite apart from the investigations of any particular disease, is of great interest and importance from at least these three points of view Biology ought to be of interest to all of us, because if Darwin's views are correct we are all of us more or less engaged in trying to upset one of the fundamental laws of the universe, because, as a physiologist said not long ago, the function of doctors and the function of hospitals is to promote the survival of the most unfit and, therefore, if for no other of the reasons which I have brought before you I think for that final reason the study of biology ought to be regarded as full of interest for you all.

Finally, I will only say that quite apart from the relationship of biology to medicine the study of biology is one of the most charming hobbies apart from any direct bearing on our professional work that a medical man can engage in.

The Ingleby Lectures

ON

CHRONIC HYPERTROPHY OF THE FAUCIAL AND PHARYNGEAL LYMPHOID OR ADENOID TISSUES.

Delivered at the University, Birmingham,

BY F MARSH, F.R.C.S. ENG.,

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LECTURE II.[1]

Delivered on June 3rd.

MR. DEAN AND GENTLEMEN,—The discovery of adenoids was primarily due to the application of the principles of the laryngoscope to posterior rhinoscopy. Although not the originator of the idea Czermak was the first practically to apply the method in 1859 and the first to see adenoids in 1860, when he published an account of a case where he had observed two small tumours on the upper part of the naso-pharynx on the left side close to the opening of the Eustachian tube, one portion of which somewhat resembled a "cock's comb." He failed, however to grasp the true importance of the condition, as did Voltolini, though to a less extent, some five years later, when in 1865 he perceived with a rhinoscopic mirror stalactite like growths projecting into the free cavity of the naso-pharynx. The patient, a man, aged 41 years, was under treatment for extreme deafness, which improved after the application of the electric cautery to these growths. In the same year Löwenberg published three cases of patients suffering from deafness who had a condition of the naso-pharynx similar to a granular pharyngitis. In England Andrew Clark, in the London Hospital Reports for 1865, gave a somewhat similar account of this condition in a short article on Nasopalatine Gland Disease and called attention to the presence of "fetid cheesy masses" which, he thought, *were contained in the cavities of the glands.* It was however, reserved for Wilhelm Meyer of Copenhagen in 1868 to realise the clinical importance and to give a more accurate and complete history of the condition and the name "adenoid vegetations." He made a careful microscopical examination of the structure and detailed methods of treatment. It is interesting to note that he made an examination of 2000 children in the National School of Copenhagen and discovered the condition in 1 per cent.—very different from the result of an examination recently made in England by Mr A. H. Cheatle of the ears of 1000 school children in the Hanwell District School, who found that out of 50 per cent. with middle-ear trouble no less than 38 per cent. had either adenoids alone or with enlarged tonsils. In 1875 Guye of Amsterdam read a paper on the subject at the International Medical Congress at Brussels and Löwenberg published a monograph in the same year. The subject was again discussed at the International Medical Congress in London in 1881, Capart of Brussels and Woakes of London taking a prominent part. This discussion was the means of directing general professional attention in England to the subject and I can remember the almost universal smile of unbelief which greeted its mention. This incredulity was hardly to be wondered at, as then to most surgeons the larynx and naso-pharynx—intrinsically—were *terra incognita*, and the methods of operating, especially with the finger nail, did not appeal to the surgical mind. Even in 1884 Sir Morell Mackenzie did not fully recognise the fact that these "adenoid vegetations" were a hypertrophy of Luschka's tonsil and analogous to the chronic enlargement of the tonsils. In vol. ii., page 490, of his book on "Diseases of the Throat and Nose" published that year, when writing of chronic catarrh of the naso-pharynx, he says "In young subjects adenoid growths are sometimes present or there may be simple enlargement of Luschka's tonsil." His description of the appearance of adenoids, too, was not quite in accord with that of to-day, as in describing them on page 499 he says "As a rule they are rounded in form and vary in size from a hemp seed to a currant, but are occasionally much larger and often occur in clusters." In most other points he is however, singularly accurate. Not much advance was then made until Hartmann and Gottstein devised their ring knives or curettes. The introduction of the latter about 12 years ago rendered removal *en masse* practicable and so gave in most cases a specimen representing the actual condition instead of a number of small fragments. The frequent inspection of such specimens undoubtedly conduced to the exact knowledge which we hold to-day.

Adenoids vary in size from a small localised patch to a mass filling the naso-pharynx. Their consistence is at first softer than that of enlarged tonsils owing to a preponderance of the lymphoid over the fibrous tissue, but at the age of puberty fibrous atrophy more or less takes place and the consistence becomes more dense. This atrophic process is not invariable, as not infrequently adenoids are found retaining their soft lymphoid condition long past the age for the fibrous change. Although there is so much difference in the size and shape of adenoids it is very difficult satisfactorily to classify them. Normally, according to Lermoyez, Luschka's tonsil "consists of from four to six parallel bands, delineating a series of concentric arcs which converge behind and in front like the lips of a vulva. When hypertrophied these bands form the same number of small tongues, parallel posteriorly, and placed together after the fashion of the leaves of a book. In the recesses which separate them the muco-pus accumulates retained by the inflammatory adhesions which partially solder their lips together and form enclosures. This arrangement of parallel ridges and furrows or recesses obtains in most cases where the hypertrophy is at all marked but varies considerably in degree. At one extreme the ridges or bands are smooth and rounded and the recesses shallow and even, the surface admirably showing the parallel arrangement, at the other extreme the recesses are deep, sometimes converted into cavities containing mucoid or caseating material and the ridges are ragged and uneven almost stalactite-like at first sight, but when examined maintaining the above form. Between these extremes a large number of cases are found. When fibrous atrophy has taken place the surface is often left serrated and pitted and occasionally small but distinct cavities opening on the surface are seen. The so-called Tornwaldt's bursa is simply one of the central recesses partly converted by adhesions into a cavity. In some cases a portion only of these concentric bands hypertrophies and an uneven surface results—void of definite arrangement and involving either the central or lateral regions of the naso-pharynx or both. In these cases the lateral pharyngeal bands and the scattered patches on the posterior wall of the pharynx are often enlarged. Bearing these points in mind the following classification might be made: (1) a central form comprising (a) the ordinary form concentrically arranged—already described—with little or no lateral hypertrophy and (b) a central boss or pad, the prominent symptom being impeded nasal respiration; (2) a lateral form with hypertrophy of the lateral bands most marked and often extending into the fossa of Rosenmüller, deafness being the prominent symptom; and (3) a diffuse form with a general and irregular hypertrophy of all the lymphoid tissues in the naso-pharynx and pharynx, seldom attaining any great bulk, the prominent symptom being catarrh. The symptoms, however, depend almost as much upon the size as upon the position of the hypertrophy. They may be arranged in three groups—(1) obstructive, (2) catarrhal, and (3) reflex. 1. The obstructive symptoms are caused mechanically by the enlargement wholly or in part occluding the openings into the nares and Eustachian tubes and causing nasal obstruction and deafness, and a muffled or "dead" voice. 2. The catarrhal symptoms are due to the great suitability of the recesses as nesting places for the catarrh microbe—even more so than in the case of the tonsil. With any diminution of tissue resistance the microbe gets the upper hand. The attack may remain a localised one, causing adenoiditis and temporarily increasing obstructive symptoms, or it may extend to the nasal regions causing rhinitis, along the Eustachian tubes to the middle ears setting up an acute or subacute catarrhal condition with myringitis, or it may travel downwards to the tonsils, larynx, trachea, bronchi, or gastro-intestinal tract according to the degree of tissue resistance and predisposition of the child. There is a great tendency for these attacks to become chronic and difficult to cure. Toxin generated by the microbes may be absorbed by the lymphatics and cause enlargement and tenderness or suppuration of their associated cervical glands—the parotid set—just as in the case of the tonsils. 3. Reflex symptoms are more often due to adenoids than to enlarged tonsils. Instances of headache, cough, spasm of the glottis, asthma, and sneezing have come under my notice. More remote ones—convulsions, epilepsy, stammering, and incontinence of urine—have been attributed to adenoids, but I cannot recall any case in my own experience that I could definitely put down to them. The following cases are instances.

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[1] Lecture I. was published in THE LANCET of June 7th, p. 1587.

CASE 1.—The patient, a girl, aged 15 years, was brought to me on May 7th, 1901, for daily frontal headaches. She was unable to breathe through her nose during sleep, which was never refreshing, and she was slightly deaf with colds. On examination she had marked adenoids. Their removal under ethyl chloride afforded complete relief.

CASE 2.—A child, aged four and a half years, was seen by me with Dr. B. F. Jordan on May 19th, 1901, for attacks of spasm of the glottis, which commenced on May 15th, a sequel of a catarrhal tonsillitis and adenoiditis. In August, 1899, some 18 months previously, she had been operated upon by a surgeon for enlarged tonsils and adenoids causing obstruction to respiration. The spasms were very severe and alarming and a trained nurse had to be with the child at night. On examination both tonsils were hypertrophied, especially the left; the surface was very ragged and there was evidently a recurrence of the adenoids. As the catarrhal condition had subsided and the child was otherwise well operation was advised and it was performed on the following day; a large mass of adenoids was removed with the bulk of the tonsils. There was no return of the spasm and the child has been strong and well since.

CASE 3.—A boy, aged 12 years, was brought to me on account of frequent catarrhal and asthmatic attacks which kept him indoors at home most of the winter. There were no obstructive symptoms but adenoids were found to be present on rhinoscopic examination. These were removed on Jan. 8th, 1901. His mother informed me a few months ago that he had been quite free from asthma since.

CASE 4.—A child, aged about six years, was sent to me by Dr. G. Haddow for incessant sneezing—every few seconds—except during sleep. She was not a neurotic child but was very placid and tractable, and she allowed a thorough inspection of both nose and throat. Her tonsils were enlarged and adenoids were present, but I was inclined to think that the reflex must be due to some intra-nasal irritation although I could not find any hyper-sensitive area. I therefore applied trichlor-acetic acid to the upper area of the septum nasi on both sides and ordered a menthol ointment. This made no difference, so about a week later, as the child was becoming exhausted, a tonsil and adenoid operation was performed. This was immediately followed by complete cessation of the sneezing.

Adenoids if neglected often seriously affect the development of the oro-nasal regions, the thorax, and that of the body generally. The development of the posterior nares is sometimes arrested, probably where adenoids have been present at birth or quite early in life. I have noticed that in some cases the arrest has been more marked on one side than on the other. The naso-pharynx in these cases is generally similarly affected, being shallow and small. In some cases, on the contrary, the adenoids seem to have an expansile action, and alter the shape of the posterior nares, the upper margin losing its ovoid character and becoming angular like an inverted V. The adenoids occupy this angle and increase the nasal obstruction. This condition is most often found in older children—from 10 to 16 years old. More rarely the growth of the soft palate is impeded, and when the adenoids are removed it cannot be approximated to the posterior wall of the pharynx, consequently the voice after operation is of a very nasal character. One such case has happened in my practice in a girl, aged seven years, who was operated on some years ago. The cleft palate kind of voice was most disagreeable and a source of anxiety to the parents. I heard a short time ago that the voice had improved but little. The anterior nares and nasal meati are often narrow and the alæ nasi collapsed—from disuse and atrophy of the dilator naris.

When nasal stenosis to any marked degree exists the growth of the superior maxilla is much interfered with and assumes an almost characteristic shape. The hard palate becomes high and arched, narrowed in front almost to a point—the V-shaped jaw. As a result the teeth have insufficient room, the upper incisors overlap, and the canines are crowded out, appearing in front or behind their proper position. The excessive arching tends to diminish still further the lower nasal airway. The mouth is constantly open and the upper lip is drawn up, leaving the upper incisor teeth uncovered. Narrow nostrils with marked depression round the alæ nasi, open mouth displaying overlapping teeth, and drooping lower jaw combine to make an almost typical facial appearance. The teeth, too, from constant mouth breathing seem more prone to caries, alveolar abscess, and chronic pyorrhœa. The effect on the thorax, especially when enlarged tonsils co-exist, is very marked; the lungs are never properly expanded, the thorax remains narrow and contracted, the cartilages of the ribs fall in on each side of the sternum, and the lower piece of the sternum is drawn inwards by the action of the attached fibres of the diaphragm. The child is pigeon-breasted with a deformed sternum. The general development of the child is bad; it is stunted in growth and has little muscle power. From this cause it is, given a slight exciting cause, much more liable to acquire such deformities as lateral curvature of the spine. The sleep of these children is seldom good; they are restless, turning about during half the night with the bed-coverings thrown off, and the neurotic type are the victims of frequent night terrors. The mental condition is also often unsatisfactory, especially when both nasal obstruction and deafness are present. The child becomes listless, capricious, irritable, inattentive, unable to concentrate his attention upon his lessons, and if possessing the typical facial aspect looks stupid and vacant. Slow, if any, progress is made in education and the child is often punished for inattention, though perhaps less so now that many teachers are fully alive to the possible cause. This condition was attributed by Guye of Amsterdam to interference with the lymphatic channels passing from the meninges to the nasal fossæ and termed "aprosexia," but no anatomical evidence in support of his view was adduced. I have myself only seen these cases of "aprosexia" in association with deafness and nasal obstruction, which are quite sufficient in themselves to cause the condition. A limited hypertrophy only would block the lymphatic channels and the condition would be almost universal instead of limited to a certain group. In the majority of cases the history given is that the child has the mouth constantly open, snores at night, frequently catches feverish colds, is then somewhat deaf, complains of earache, and does not "get on" well, and, as Lermoyez graphically points out, is always being told to shut the mouth and blow the nose—the two things that cannot possibly be done. The mother or a friend has often now diagnosed the condition in advance, and the diagnosis is not only made in drawing-rooms of mansion or villadom but in the doorways of byways and courts. It is a common thing for a child to be brought to the hospital to have "them things" taken out of his throat, as he is just like Mrs. Somebody's child who has recently had his "took out" and inferentially improved thereby. A difficulty which the to Maidstone, and on this point Dr. Washbourn said in his report that '*no importance can be attached to the failure to discover the typhoid bacillus in water suspected of being the cause of an epidemic of typhoid fever.*' If this is so, it is still less likely that the typhoid bacillus would be found in water which is merely suspected of producing typhoid fever in those persons of the community who are peculiarly susceptible to it. In fact, the test which shows whether a water contains typhoid poison is not the discovery in it of the bacillus of the disease, but the fact of its producing or not producing that fever among the people who drink it.

"Sir Wm. Crookes and Professor Dewar allude to the Maidstone inquiry and say that 'it was proved beyond all doubt that one of the sources of supply had been *grossly contaminated with fæcal matter.*' The Local Government Board inspectors who conducted the inquiry came to no such conclusion; they merely say that the water sources 'were all exposed *to the risk of* pollution' and they add 'there is *no conclusive evidence* to show either how the specific pollution of typhoid fever was introduced into the supply, or which of the springs was thus polluted.' (The italics are mine.)

"As to the chemical evidence of pollution of the Maidstone water I have before me the table of analyses of the water referred to, and find that out of 22 samples examined five showed signs of organic contamination. In one sample this contamination was rather greater than in the samples of water supplied to St. George's, Hanover-square, last December, *but not greater than in samples that have been supplied on other occasions*, but in the other four it was less, and in all of them the results of analysis tend to show that the organic matter was 'chiefly of vegetable origin.'

"*The organisms found by Drs. Sims Woodhead and Washbourn in the Maidstone water were* of similar kinds to those found by Drs. Parkes and Rideal in the waters supplied to Chelsea, and, as already stated, the typhoid organism was not found in any sample.

"The company's analysts go on to say 'there is no comparison between the conditions of the polluted spring water-supply which originated the Maidstone epidemic and *any polluting conditions which* can arise in the Thames Valley, where strict supervision of all sources of contamination is so efficiently maintained,' a conclusion diametrically opposite to that arrived at by the Public Health and Water Committees of the London County Council, who say in their report: 'We consider that in respect of physical conditions the causes which led to the typhoid epidemic in Maidstone have a parallel in the conditions of the London water-supply. The epidemic was caused by water drawn from polluted sources. It is admitted, and the facts above quoted conclusively show, that the water supplied to London is also derived from sources liable to become polluted. As Sir Alexander Binnie points out: 'This is but another instance among many which teaches the general lesson that *for many years* a population may be supplied with water from various sources without any apparent harm to the consumers and that the water so taken has been repeatedly pronounced after chemical examination to be pure and wholesome, but that if the water is derived from a source liable to pollution sooner or later the time generally arrives when an epidemic breaks out owing to circumstances connected with the pollution of the supply.'

"In this connexion the following remarks of Dr. Clowes, the council's chemist, are worthy of attention: 'While there are grounds for believing that the comparative immunity from typhoid fever which is enjoyed by the consumers of London water depends largely on the effective working of the filters, it must be understood that a breakdown in the filtering arrangements might possibly, at any time, produce a serious epidemic. And although the ordinary process may remove 90 per cent. of the bacteria which are at present in the river water, it is reasonable to suppose that the remaining 10 per cent. of the bacteria may occasionally number in their midst the bacillus of typhoid fever.'

"As Sir William Crookes and Professor Dewar refer to their 'extensive experience,' I may be permitted to remind you that I have reported on the water supplied to St. George's, Hanover-square, for the last 25 years, and with regard to their remark that I seem to entertain a different view of the origin of typhoid epidemics from that generally held, I may mention that I have seen some hundreds of cases of typhoid fever and investigated some thousands in this and other countries during the past 30 years; that 25 years ago I combated the then prevailing opinion, advanced by Dr. Murchison, that the poison of the disease was produced by the decomposition of fæcal matter, that, in fact, it originated *de novo*; and that I have for a long time past come to the conclusion, which many others share with me, that typhoid fever spreads in other ways than by the pollution of drinking-water.

"I am, nevertheless, of opinion that such other ways are not competent to account for the increase of typhoid fever in London during the winter months, when it ought to diminish, and that there is in all probability some connexion between this increase and the fact that the greater part of London is then supplied with water which contains 'an excess of organic matter.'

"I will also add that it is at any rate a remarkable coincidence that I am able this month to report to you that *the number of cases of typhoid fever in London has very considerably diminished* and the death-rate from it gone down to its normal amount now that the water-supply has ceased to show the signs of contamination to which I have drawn attention." (April 11th, 1899.)

To this no further answer was received from the advisers of the water companies.

Mr. Shirley Murphy, in his annual report for 1894 as medical officer of health of the London County Council, drew attention to the fact that the distribution of cases of enteric fever in London "was characterised by the increase of prevalence in the forty-ninth, fiftieth, and fifty-first weeks," and that this late outbreak was exceptional and "was observable in the population supplied by all the London water companies except the East London and the Kent Companies. Also that the water supplied from the Thames and Lea was polluted owing to the fact that severe floods had occurred in November." He also states that: "Inquiry as to the behaviour of enteric fever in populations in the vicinity of the county gives indication of some difference of behaviour of this disease in the population supplied by water from the Thames and Lea and in the population otherwise supplied, the population supplied from these rivers experiencing an increase of disease in the forty-ninth, fiftieth, and fifty-first week, corresponding with that experienced in London. The hypothesis of water-borne contagion appears better able than any other to afford explanation of the increase of disease in the weeks in question."

I have no doubt from the above facts that the unseasonable prevalence of typhoid fever in November and December in London is due to the distribution of *inefficiently filtered* river water containing the poison of the disease, in sufficient amount, however, only to attack the most susceptible persons among the population.

Dr. S. Davies, the medical officer of health of Plumstead, reported in 1893 that the cases of enteric fever among the men employed in the Arsenal were caused by their habit of drinking water used for an engine and drawn from the Arsenal canal. This water is liable to be polluted with the excreta of labourers and is very liable to contain the infection of enteric fever. This reminds me of the account given by Dr. de Renzy of the prevalence of typhoid fever at Millbank Prison when it was supplied with water drawn direct from the Thames. On supplying the prison by means of an artesian well the disease became as rare there as it was frequent before.

In not a few instances—and some of them very important ones—the water-supply has become polluted while in the mains, whether on constant or intermittent service, by the specific poison of typhoid fever and serious outbreaks have been caused by it. Some of the more remarkable of these are the following. At Lewes (Sussex) Dr. Thorne reported in 1874 that there was a "large epidemic of enteric fever *due in the first instance to pollution of the town water-supply* from water drawn from the Ouse, which receives the town sewage, and mainly spread by suction of polluting matter into the water-pipes of an intermittent water service" (Report of the medical officer of the Privy Council and Local Government Board, New Series, No. IV., for 1874). He also reported as follows on an outbreak at Wolverton: "Water-supply exposed to risk of pollution by suction of foreign matters from closet-pans into mains of an intermittent service" (Report of the medical officer of the Privy Council and Local Government Board, New Series, No. VII., for 1875). And on another at Tideswell, Derbyshire: "Spread of disease favoured by conditions in an intermitting water surface allowing of suction of foul air into water-pipes" (Sixth Report of the medical officer of the Local Government Board for 1876). Dr Thorne also reported on an outbreak in the Dewsbury registration district as follows: "Water-supply for some districts liable to pollution at its sources and periodically fouled in delivery mains during intermissions in the service." And again in the Dewsbury Urban Sanitary District: "Water-supply subject to pollution at, and probably on its course from, the gathering ground. Supply intermittent and liable to be fouled by suction of filth into mains (*Eighth Report of the medical officer of the Local* Government Board for 1878).

In 1874 Dr. F. R. Blaxall reported on an outbreak at Sherborne (Dorset) as follows: "The influence of milk in the distribution could be excluded, but respecting the circumstances of the water-supply the following facts were ascertained. During December, 1872, and January, 1873, the water was frequently shut off from the town at a point near to the reservoir and the same thing was done every night in February. It is known that when the water was shut off there were certain delivery pipes up which there was a rush of air immediately the tap was unscrewed. Now many of the openings to the pipes are situated in the pans of the water-closets. At night, after the closet had been used, the tap would be turned on for the admission of water; none flowing, the tap, in many instances, would not be turned off again; thus, a direct passage into the water mains would be left open, but the accidental circumstance of leaving the tap open was not required as many taps were broken and admitted a continuous flow of water during the day but at night, no water being present, were uninterruptedly open to sewer air. Through these openings during the night air commonly passed from the closet-pan to the water-pipe; in other words, the system of pipes for the water-supply became the means of ventilating the closet-pans; if a trap happened to be broken or out of order it became a means of ventilating the sewers, and if a pan happened to be full of excrement, specialist has to contend with now is to convince some parents that adenoids are not the cause of their children's deficiencies, and I intuitively feel that occasionally they go away unconvinced and will not rest until they have found someone who will take a view in accord with the opinion of the lay authority who first implanted the idea that the slight mental or physical imperfection is due to adenoids.

Although in most cases the symptoms alone are fairly conclusive, a careful examination, including the anterior nares and the ears, should always be made. I have seen one or two cases of deafness attributed to adenoids, due simply to an accumulation of cerumen. The presence or absence of incurvation of the drum is an important diagnostic point. Whenever there is deafness it is a good plan to inflate the middle ears with a Politzer air bag, both to show how much of it is due to defective aeration and to enable a more reliable prognosis to be given

Nasal obstruction, from hypertrophic rhinitis, deflection of septum nasi, mucous polypi, &c., or more rarely from a naso-pharyngeal polypus, sarcomatous growth, or meningocele, forms the common source of errors in diagnosis. I have only met with one case of meningocele, which occurred in my hospital practice, and was diagnosed by digital examination and under general anæsthesia, and two or three cases of sarcoma of the naso-pharynx. Some of these conditions, all in fact but naso-pharyngeal ones—may coexist with the adenoids, and if not recognised and treated may prevent the full success of the adenoid operation. Having eliminated causes of error in ears and anterior nares, the naso-pharynx should be examined to make the diagnosis absolute. Digital examination should *not* be the routine method. It is very unpleasant and alarming and is only called for in the few badly trained and unmanageable children who make any other method out of the question and in a few with an excessive tongue reflex. I have to employ it now in a very small percentage of cases. My experience with children is that they are quite as tolerant of examination by posterior rhinoscopy as are adults, and that, as a rule, there is no difficulty in obtaining a sufficient view of the naso-pharynx with a small mirror to show if adenoids are present. In estimating the size of adenoids by this method it must be remembered that they appear much less than they really are owing to the necessary obliquity of the rays of light reflected from the mirror The size of the tonsils is sometimes an impediment to the introduction of the mirror, but when this is the case adenoids are almost certain to coexist, and as *tonsillotomy* is necessary the question can be determined and dealt with when the child is under an anæsthetic for this purpose.

The diagnosis having been made absolute, the next and all-important question is that of treatment and this is determined by the symptoms rather than by the actual size of the adenoids Is an operation necessary or advisable or may the case be treated by other and milder measures? Operation is in my opinion necessary or advisable for any one of the following conditions (1) aural symptoms—deaf mutism, catarrhal or suppurative middle ear trouble, and temporary deafness from defective middle-ear aëration, (2) distinct nasal obstruction, especially if impeding development, (3) frequent and chronic catarrhal attacks interfering with health and education; (4) cervical adenitis associated with adenoiditis, and (5) reflex conditions unrelieved by treatment for which there is no other apparent cause It is often advisable for improvement of the singing voice in older patients apart from other symptoms. Milder measures may be adopted, when both adenoids and symptoms are slight in children near the age of puberty—when fibrous atrophy may soon take place and the nasal cavities enlarge—and should be adopted for cases where symptoms are absent although adenoids are distinctly present. In these cases cleansing and astringent solutions may be applied locally, with irrigator, spray, or brush. Borax and salt, five grains of each dissolved in two ounces of warm water, is an unirritating and simple wash. Carbolic acid should not be routinely used, as it tends to impair the sense of smell. After the wash an astringent spray should be used (post nasal) of chloride of zinc, glyc. tannic acid, hydrastis, alum &c., as strong as can be tolerated, or the solution may be applied directly by means of a cotton wool applicator in the more tolerant children. Internally iodine, iron, cod liver oil, and hypophosphites are the standard remedies. It is in these cases, too, that systematic nose-breathing exercises may be employed with a reasonable expectation of benefit. A sojourn at the seaside or on moorland will often do more than all these remedies and will be much pleasanter to the patient.

It is instructive to follow the history of the operation The galvano-cautery was applied by Voltolini and *others* in a very vague manner to a few cases before the clinical significance of the condition was recognised, but the first definite attempt at complete ablation was made by Wilhelm Meyer with the ring knife devised by him. This was passed through a nostril and forcibly applied to the adenoids with or without the guidance of a finger in the naso-pharynx The shank of the knife was flexible and could be bent to any desired curve This method, suitable though it might be for slight diffuse adenoids, must have been very unsatisfactory for those of any bulk—in fact, I should say that it was impracticable thoroughly to ablate them. This difficulty must have been generally felt, for about the same time Löwenberg and Solis Cohen devised forceps for introduction through the mouth into the naso-pharynx. With these small bits of adenoid tissue were cut or pulled out, the procedure taking a considerable time. About this time the finger nail was advocated, and, I regret to say, adopted, by some English specialists. The crushing and hæmorrhage would perhaps produce some temporary improvement, but a satisfactory result would only obtain in those slight cases where an operation was not needed To assist those with a weak and feeble finger-nail Capart devised a steel one—doubtless less septic and more effective but never efficient. Numerous varieties of forceps now began to appear, apparently almost every specialist deemed it incumbent to devise an instrument or to modify and to endow someone else's with his name An advance in the technique was made by first removing as much as possible with forceps and then applying the steel nail to clear the surface of débris—thus leaving it less ragged. Hartmann's ring knife or curette marks the next advance. It was not altogether unlike Meyer's altered and adapted for use through the mouth The cutting edges were on the upper and posterior surfaces. After introduction behind the palate the blade was passed along a lateral wall of the pharynx until the vault was reached It was then pressed against this and the posterior wall and swept a few times from side to side, care being taken not to give the blade a lateral deflection This, either alone or preceded by the use of forceps, was the quickest and most satisfactory method until the introduction of Gottstein's ring knife a few years later This differed from that of Hartmann in being shaped to cut through the adenoid tissue from before backwards instead of laterally It gradually took the place of Hartmann's, but, like the forceps, it has been the source of many modifications, chiefly in the curve of the shaft and the inclination of the cutting edge. Of other instruments an adenotome made after the principle of a tonsil guillotine has been devised by Schutz, but though ingenious it is only suitable for central masses of fair size and it has never come into popular use. Trautmann's curette is practically a Volkmann's spoon with a suitable curve in its shank and is suitable only for scraping small diffuse patches in adults. The same may be said of the galvano-cautery, although several ingenious curette loops and points have been devised. The cold wire snare is, in my opinion useless and should never be used

The apparent simplicity of some of these methods was mainly responsible for the idea that invaded the minds of the profession that removal of adenoids was devoid of risk and could be undertaken without any special experience. The result of this was shown by the publication of statistics in 1896 reporting 11 deaths in England alone in a little over two years during operations under chloroform for removal of adenoids and enlarged tonsils, and by a decided increase in the number of disappointing results from incomplete operations

The mortality of the operation should be *nil* and probably would be if both the anæsthetist and the operator had special experience or even if one only had experience A skilled anæsthetist will steer the inexperienced operator safely through the operation, and a skilled operator will prove a safeguard to the inexperienced anæsthetist. It is the combination of inexperience that produces the mortality

Incomplete operations—much to be deprecated, as they bring a most useful operation into discredit—are due chiefly to want of method Using forceps or scraping with a curette hither and thither without method until no more tissue comes away is neither a desirable nor an efficient procedure. An anæsthetic should always be given. In children I prefer chloroform given by the open method, by which I mean dropping chloroform from a drop-bottle on to a *single* fold of towel, flannel, or lint, shaped to fit over the mouth and nose after Lister's plan, or stretched over a mask like Schimmelbusch's. The drops should be gradually increased in frequency and should cover a greater area of the lint, until the conjunctival reflex is quite abolished. At this stage the laryngeal reflex is unaffected, and there is no danger from suction of blood or débris into the air-passages, whilst ample time will be given for the operation. Should further administration be necessary—which should seldom be the case—the back of the throat must be well mopped out with lint swabs and the face turned well to one side, so that any blood may run out of the mouth. Care is needed now not to press the anæsthetic unduly, as it is more important than before not to interfere with the laryngeal reflex, as blood-clot formed in the interval in the naso-pharynx may easily be drawn into the larynx and air passages. I have never had a death or witnessed one at this operation, but I think it highly probable that some of those reported may have been due to this cause. If preferred by the anæsthetist ether or ether and chloroform may be given, either by the open method or inhaler, the same precautions being taken. To older children and adults nitrous oxide gas may be given if the case is a simple and uncomplicated one. The drawbacks to it are that one cannot tell beforehand quite what length of anæsthesia will be obtained, and in some cases jactitation causes difficulty and delay. In the majority of cases there is sufficient time for a thorough clearance to be made. Gas and ether will afford much more time and may be employed if it is thought that extra time may be wanted. An experienced administrator is a *sine quâ non*.

Kelene or ethyl chloride bids fair to supersede gas. It has been administered for me by Dr. W. J. McCardie in 20 cases, chiefly those of young adults. It has given on the average about two minutes of anæsthesia and analgesia. Its advantages over gas are the longer time given and the absence of congestion and cyanosis. Recovery from its influence is quite as rapid and the patients are able to walk back to bed. No troublesome after-effects occurred in my own cases. When it has been more extensively used I believe statistics will show it to be much safer than chloroform or ether. No death from it has as yet occurred in this country and it must have been given to approximately 1000 cases. The following table of 1000 cases shows the number of chloroform and gas administrations to children 16 years old and under.

Table showing the Number of Administrations of Gas and of Chloroform to Children 16 years of age and under in a Series of 1000 Cases

Age.	Gas.	Chloroform.	Number.
In the first year of age ..	—	8	8
,, second ,, ...	—	17	17
,, third ,, .	—	48	48
,, fourth ,, ..	—	74	74
,, fifth ,, ...	1	104	105
,, sixth ,,	1	75	76
,, seventh ,, ...	2	69	71
,, eighth ,, .	8	47	55
,, ninth ,, ..	5	46	51
,, tenth ,, ...	11	42	53
,, eleventh ,, ..	16	21	37
,, twelfth ,, ..	30	27	57
,, thirteenth ,, ...	32	17	49
,, fourteenth ,, ..	27	14	41
,, fifteenth ,, .	30	4	34
,, sixteenth ,, .	33	6	39
	196	619	815
Over 16 years of age	—	—	184
One case—14 weeks old—no anæsthetic ..	—	—	1
Total	—	—	1000

After trying many methods of operating I have adopted the following as being both rapid and efficient. The patient is placed in the recumbent position, with the head and shoulders slightly raised on a low pillow. I have adopted this in preference to "the head over the end of the table" position, finding that the hæmorrhage is less and not a source of trouble, whilst the head is steadier and in a better position both for the anæsthetist and the operator. The desired stage of anæsthesia having been reached the mouth is opened with a suitable gag on the left side. A large-size slightly curved Gottstein curette is introduced behind the palate, the handle being held firmly in the fist—dorsum upwards—and not as a scalpel or pen; the blunt edge is kept well against the septum and passed upwards to the pharyngeal vault until slight resistance is felt by the cutting edge meeting the adenoids; firm pressure is made for a moment, and then a quick *tour de main* is made, taking the handle upwards and the blade downwards. This makes a clean section of the adenoid mass and brings it, if of any size, into or outside of the mouth. The curette is quickly reintroduced and a supplementary sweep is made with it on each side to clear away any lateral fringe. An examination is now made with the finger to ascertain if the removal has been complete, if so, the tonsils are quickly removed, unless from their size it was necessary to remove them before the adenoids, and the child is turned well over on to his side to allow the free escape of blood through the mouth. This might be termed the normal operation and its success depends chiefly on the proper engagement of the adenoids. If the curette is not kept well up to the septum an anterior fringe is very apt to be left, whilst if the curette is too small crushed lateral pieces are left which may escape the supplementary lateral curettement. I use a No. 3 size Gottstein for all small children and larger sizes for the older and bigger ones. The *tour de main* is largely a matter of practice, but when once acquired it can be accomplished with exactness and celerity. If examination with the finger shows that removal is not complete the curette must be used again or a small pair of Jurac's or StClair Thomson's forceps may be substituted. A small-sized Hartmann's curette is often useful to clear lateral processes from Rosenmüller's fossæ and Meyer's ring knife is the most efficacious for clearing fringes extending into the inverted V-shaped nostrils. The examination by the finger should always include the posterior nares and the condition of the posterior ends of the lower turbinateds should be noted. If they are much hypertrophied, which is seldom the case in children, it may be advisable to deal with them at once by snare or otherwise according to the condition.

The risks of the operation, apart from a fatality at the time which I have already dealt with, are slight. Hæmorrhage is sometimes profuse, especially if the lateral plexus of pharyngeal veins is wounded, or the mucous membrane torn away, but it rapidly ceases after the operation is finished. Recurrent hæmorrhage is very rare. I have only had one case and that was in a hæmophilic patient who had not thought it worth while to mention the fact. Secondary hæmorrhage, too, is as rare. I have only had one case, in a child, aged six years. This occurred on the fifth day after removal of the tonsils and the adenoids and was very severe, a large quantity of blood being lost. I saw the child the day afterwards with Dr. G. St. Johnston and found that the bleeding had not come from the tonsils. Chloride of calcium was given, rest in bed and suitable diet were ordered, and no further bleeding took place. Sepsis is another danger, but should not occur if proper septic precautions are taken as pointed out in the last lecture when speaking of tonsillotomy. Earache culminating in some cases in acute otitis media may be due to sepsis, injury to the tubal orifice, exposure to cold, imperfect removal of the adenoids, and injudicious syringing and irrigation after operation. A slight febrile condition lasting for 10 days or longer is generally caused by inflammation of remnants of adenoids or laceration of the mucous membrane.

At the conclusion of the operation the patient should be at once removed to bed, the head and shoulders being raised, and encouraged to sleep. The parents or friends—if a nurse is not in charge—should be warned that some blood swallowed at the time of operation will be vomited or they may be much alarmed. Cool or lukewarm fluids only should be given on the first day and soft milk foods on the two days following, the patient remaining in bed for this time. An aperient should be given if necessary on the second day. If on the fourth day the temperature is normal the patient may be allowed up but should be kept quiet in an even temperature and on light diet for a full week from the date of operation.

The degree of pain experienced after operation is very variable. For the first few hours there is a good deal of soreness and pain, often referred to the ears and not to be confounded with earache, and some headache. If this is severe a few doses of phenacetin will give relief. Subsequently pain is only felt on movements of deglutition and is but slight after the third day. No local after treatment is necessary or advisable unless febrile symptoms develop or if the naso-pharynx and nose are stuffy and the breath is offensive. Then a cleansing alkaline wash (borax, three grains to one ounce) may be gently sniffed or syringed through the least free nostril and a powder of aristol and boric acid insufflated. If there is earache gentle inflation of the middle ears with a Politzer air bag after the cleansing will give relief and may prevent further mischief.

Should sepsis by any chance occur more vigorous treatment will be required. Cleansing antiseptic washes or spray must be frequently used and followed by insufflations of aristol into the naso-pharynx. A look-out must be kept for septic pneumonia or other complications and suitable constitutional treatment must be employed.

When the patient is convalescent nose-breathing exercises should be carried out for a time to hasten the restoration of this function in those cases where it has been in abeyance. If there has been previous middle-ear trouble regular inflation with Politzer's air bag is generally advisable for so long as any improvement is obtained by its use. A course of iodide of iron is often of much benefit and a few weeks at the seaside is most desirable if it can be managed.

Disappointing results after operation occasionally happen but if a careful examination is made both before and at the time of operation the disappointment may be foreseen and the parents prepared for it. For instance, anterior nasal stenosis chronic otitis media, perforated and cicatricial membranes, &c., should be diagnosed at the prior examination and allowed for in the prognosis. A guarded prognosis, too should be given in all cases where the operation is undertaken for reflex symptoms. However probable it is that adenoids are the cause of the reflex in no case can it be said that their removal will effect a cure. Another source of disappointment is found in those cases where the symptoms prior to operation were in part due to a general catarrhal tumefaction of the mucous membrane. This will recur with each fresh cold and produce similar but perhaps not quite such intense symptoms. Atresia or arrested development of the posterior nares, a shallow naso-pharynx hypertrophy of the posterior ends of the lower turbinateds, projecting vertebræ, undue projection of the Eustachian prominences (which I have seen occupy quite half the space in the naso pharynx) will be found either before or at the time of operation and their bearing on the result should be explained.

A faulty operation is perhaps the most common cause of failure. If incomplete the persistence of the symptoms is attributed to recurrence—a great saving clause. If on the other hand, mucous membrane is torn away or stripped down patches of granulation tissue will form, and if extensive may become exuberant and simulate a recurrence. I well remember some 10 or 12 years ago reading in a medical journal (I cannot recall the reference) a report of three cases where in spite of a clearance *down to the periosteum* a recurrence had taken place. I felt no doubt that the recurrence was a mass of granulation tissue.

A more remote cause of non improvement of hearing is the occurrence of adhesions between the Eustachian prominence and posterior wall of the pharynx. In some cases I have found Rosenmüller's fossæ almost obliterated. The occasional voice defect from inability to approximate the palate to the posterior wall of the pharynx has already been referred to.

True recurrence is very rare. One can conceive of flat patches but little hypertrophied escaping the forceps or ring knife and subsequently enlarging but I fear that a faulty operation is the reason for most of them.

Of all operations complete removal of adenoids in suitable cases gives the most gratifying and successful results—results apparent to all brought in contact with the child—and it behoves us therefore to exercise every care to prevent disappointment by a careful examination beforehand and by a methodical and thorough operation.

THE Sheffield Watch Committee has decided to memorialise the Home Secretary, states last week's number of the *Local Government Chronicle*, to confer powers on some responsible authority to prohibit parachute performances.

THE RELATION OF VITAL STATISTICS TO SANITARY REFORM.[1]

BY ARTHUR NEWSHOLME, M.D., F.R.C.P. LOND.

THE subject on which I have been asked to address this Conference demands a definition of both vital statistics and sanitary reform. Sanitary reform is, I think, best defined by a statement of its objects, which are to enable man to reap the full harvest of his years of life and to diminish, and as far as possible to remove, the sicknesses and accidents occurring in the course of his life, thus improving its quality besides increasing its quantity and bringing about the realisation of the vision of the prophet Isaiah: "There shall be no more thence an infant of days, nor an old man that hath not filled his days; for the child shall die a hundred years old." Vital statistics are the collected and accurately presented facts concerning the human lives of communities. They deal with everything that concerns their welfare or has any bearing on the conditions of health or duration of life of their individual members.

The opinion has been expressed that our national system of vital statistics inaugurated in the first year of Queen Victoria's reign has been the active cause of all the sanitary progress that has followed. Without agreeing with this to the full extent it is certain that the periodical publication of our annual death returns, tabulated according to locality and according to age, sex, and causes of death, has given an enormous impetus to the adoption of measures calculated to diminish sickness and has hastened the adoption of these measures.

HISTORY OF STATISTICS BEFORE NATIONAL REGISTRATION.

Our national history before the Registration Act of 1837 came into operation furnishes striking instances of its necessity. The first parish registers of deaths were kept in England in 1538, and the "Bills of Mortality" were published towards the end of the same century, in order to quiet public feeling by giving a correct account of the progress of the plague. The supposed cause of death was after a while inserted in the registers, but ages were not added until 1728. Hence when Dr. Halley was studying the probabilities of life at every age and preparing his paper[2] which laid the foundation of life assurance he found it necessary to utilise the statistics of Breslau in Silesia, that being then the only place in which a record of the ages of the dead was kept.

Dr. Price nearly a century later published a life table based on the experience of one parish forming nearly half the population of Nottingham during the years 1735-80, and this table was used by insurance societies as the basis on which they calculated the annual premiums payable by insured persons and by the Government in calculating annuities. It was subsequently found that, there being a large number of Baptists in Nottingham, the church registers were very deficient and that the average lifetime in Nottingham was 30 and not 24 years as given in the table. The insurers in insurance societies were therefore paying premiums which were extravagantly high, while the Government was granting annuities at a rate which would speedily have rendered bankrupt any private business concern. Before the error was detected two millions sterling of the country's money had been lost on annuity transactions—a loss which might have been avoided had there been a national registration of births and deaths and a periodical census such as are now in operation. No better example of the risk incurred by substituting conjecture for inquiry could be adduced.

PARISH REGISTERS.

But although national registration was not established until 1837, records of local mortality in the parish registers, possibly not complete, had been previously utilised by medical and sanitary investigators. Thus in Manchester the death rate in the middle of the eighteenth century was stated to be 1 in 25, in 1770 it had become 1 in 28, and in 1811 had fallen, if the records be trustworthy, to 1 in 74, while in Liverpool in the same year it was 1 in 30 and in Birmingham

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[1] An address to the Conference on Sanitary Reform to celebrate the Jubilee of the Manchester and Salford Sanitary Association, April 24th, 1902.

[2] Philosophical Transactions, No. 196, year 1693.

1 in 34 of the population.[3] Contrast these figures with the more recent, though still unfavourable, experience of Manchester. In 1841–50 and again in 1861–70 its death-rate was 1 in 30; in 1899 it had fallen to 1 in 42.

CHOLERA AS A SANITARY REFORMER.

The most potent influence in support of the efforts of the early sanitary reformers was cholera. So far from being an unmixed evil in this country cholera may not improperly be regarded as *facile princeps* as a motive power towards sanitary reform. In 1831–32 this disease caused 41,544 deaths in Great Britain and Ireland; and it is not surprising that local boards of health were during 1831 formed voluntarily in many parts of the country and that spasmodic, though very imperfect, efforts were made to sweep the Augean stables of insalubriousness. In connexion with these efforts the necessity for a complete registration of deaths became more evident and happily a political movement among Nonconformists hastened its adoption. Nonconformists were agitating in favour of a law that should enable the births, marriages, and deaths of all persons in the United Kingdom to be duly registered by the State and not exclusively by the Church as established by law.

NATIONAL REGISTRATION AND ITS EFFECTS.

The office of Registrar-General of Births, Deaths, and Marriages in England was created in 1836. The first report of the Registrar-General was published in 1839, and to this report Dr. W. Farr contributed the first of that long series of essays which have been the basis of the science of vital statistics in this country. In these reports the mortality of every district throughout the country has been the subject of analysis. The attention of local authorities has been compelled to any special incidence of deaths in their districts. Medical officers of health have been created throughout the country, one of whose chief duties is to draw forcible attention to the local incidence of deaths and to recommend measures tending to decrease the sickness and death-rate. Where the local supervision has been lax or the medical officer's recommendations have not been carried out the Registrar-General's periodical returns have enabled the medical staff of the Local Government Board to intervene and to investigate any local outbreak of fatal disease. The publicity given to the Registrar-General's weekly, quarterly, and annual reports has evoked a spirit of inquisitiveness and even of emulation throughout the country; and although the comparison of death-rates of great towns with each other, particularly for short periods, is fraught with fallacies the general result of the publicity secured and of the consequent efforts on the part of local authorities has been an immense improvement in the public health of the community. It cannot, for instance, be without effect in stimulating the City Council of Manchester to greater efforts that the future life-time of males in the community under its control based on the experience of 1881–90 was 28·8 years in the township and 34·7 years in the whole city, as compared with 40·7 years in London and 43·6 years in Brighton. Such an important statement would be impossible without accurate data as to both deaths and population Nor can it be uninstructive that the mortality of textile workers at ages between 25 and 65 years is 11 per cent. higher than that for all occupied males; that such workers "die more rapidly than do occupied males generally" from rheumatic fever, from diseases of the nervous and respiratory systems, and from affections of the digestive organs other than the liver; there being an excess also under the heads of consumption and heart disease; and that, furthermore, at ages over 35 years the death rates of Lancashire cotton operatives are higher than those of cotton operatives in the aggregate.[4]

These instructive examples might be multiplied indefinitely. While guiding us into the channels in which the greatest scope for, and possibilities of, improvement exist our vital statistics furnish us with encouragement in view of what has been already achieved. Nothing can be more gratifying than the disappearance, under conditions of diminished overcrowding and increased domestic cleanliness, of typhus fever from our national death-returns in all parts of the country except in a few corners of Lancashire and very rarely in London. Our statistics also show how typhoid fever has steadily declined in districts in which a complete water-carriage system of removal of excrement has been adopted; how it is more prevalent where pail closets than where water-closets are in use; and much more prevalent still where privies and privy-middens remain, notwithstanding our accumulated experience in condemnation of them.

The series of reports issued from the Registrar-General's office during his tenure of office from 1838–80 by Dr. Farr are not only classical contributions to vital statistics but have had an immense influence in promoting the public health; while the later reports by his successors, Dr. W. Ogle and Dr. Tatham, formerly medical officer of health of Manchester, are of even greater importance in view of the increasing accuracy of our national records of causes of death. As eloquently said by the late Sir B. W. Richardson, speaking of Dr. Farr's reports, it is now no longer true that pestilence walketh in the dark. It is measured and registered, walketh at last in the open day.

FALLACIES OF FIGURES.

That numerical tests of progress and numerical comparisons of experience are beset with fallacies scarcely needs emphasising. There are no witnesses more pliable than figures and they are frequently misused. The results of experience cannot, however, be stated except on an actual or implied numerical basis; and statistics merely present the collected experience of a number of persons. If inaccurately collected, if used in a manner which breaks elementary rules of arithmetic or logic, the fault lies not with the statistics but with their manipulator; and the remedy lies not in the disuse but in the corrected and extended use of accurate statistics.

INSUFFICIENCY OF DEATH REGISTRATION AS THE BASIS OF PREVENTIVE ACTION.

Experience soon showed that registration of deaths gave a very imperfect view of the prevalence of disease and that so far as communicable diseases were concerned invaluable time was lost when preventive action could only be taken after the registration of the patient's death. Preventable diseases from the viewpoint of administrative public control need to be divided into three groups: (1) those in which the chief danger lies in contact between the sick and the healthy—e.g., small-pox, measles, whooping-cough, scarlet fever, and diphtheria; (2) those in which, although contact between the sick and the healthy is the chief danger, this danger arises particularly under conditions of overcrowding, dirtiness, and general neglect—e.g., typhus fever, typhoid fever, and consumption; and (3) those in which the removal of nuisances and allied conditions, and particularly the prevention of the admission of excremental and other putrefiable matters to food, will diminish, and may even annihilate, disease—e.g., typhoid fever and diarrhœa. For diseases under the first heading our only present hope, with the happy exception of small-pox, lies in early knowledge of every case and every suspected case and the immediate institution of measures of isolation, disinfection, &c. For diseases under the second heading early prevention of the spread of their specific contagia is equally necessary, but along with this the opening out of insanitary areas, the removal of back-to-back houses or their conversion into through houses, the rigid enforcement of efficient building by-laws, the prevention of overcrowding, and the promotion of a high standard of domestic cleanliness are equally important. For diseases under the third heading the municipal supply of pure water has done wonders in the absence of notification of cases, though the latter is a valuable means towards the execution of further measures. A pure milk-supply, the forbiddance of the sale of shell-fish from sewage polluted estuaries, and allied measures are capable of effecting a still greater amount of good. In regard to all the above groups of diseases notification of all cases to the medical officer of health is the finger-post which indicates the places where sanitary investigation and action are peremptorily required.

VOLUNTARY SYSTEMS OF NOTIFICATION.

The association in connexion with which this meeting is held can claim to have been one of the earliest to organise a voluntary system of notification of various kinds of sickness and to have, unlike other districts in which similar attempts were made, carried this out successfully for a considerable number of years. This organisation I have described elsewhere[5]; it has also doubtless been described in your proceedings by Dr. Arthur Ransome, its pioneer, as it is an important and epoch making section of the history of the Manchester and Salford Sanitary Association and I need not, therefore, give further details in this paper Like other unpaid voluntary systems it gradually failed from continued lack of support.

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[3] Elements of Medical Statistics, by F. Bisset Hawkins, M.D., p. 19, London, 1829.

[4] Dr. J. F. W. Tatham, Decennial Supplement to the Fifty-Fifth report of the Registrar-General, 1881-90, vol. ii., p. 70.

[5] A National System of Notification and Registration of Sickness, Journal of the Royal Statistical Society, vol. lix., Part 1.

Compulsory Notification of Infectious Diseases.

With the failure of voluntary notification the conclusion was gradually reached that the compulsory notification of infectious diseases was the most urgent branch of a national system of registration of diseases, and this came into operation in a characteristically British fashion. Between 1877 and 1887 a large number of enterprising local authorities applied for, and obtained, the necessary powers securing the compulsory notification of the more important infectious diseases In 1888 an important step forward was, under the leadership of Dr. Tatham, taken by the medical officers of health of 33 towns in which notification was then in force, an arrangement being made for a weekly exchange of returns of the notifiable diseases, thus enabling forecasts of, and preparations against, the importation of disease to be made. In 1889 the Local Government Board was induced to take over this work and this body now sends out week by week a statement of the number of infectious cases in 225 towns and districts as well as in the metropolis. In 1899 the notification of the chief infectious diseases became compulsory throughout England and Wales, and we have therefore "in the making" invaluable statistics on which it will be possible to build great extensions of our knowledge of the natural history of these diseases. This, although not the immediate object of notification, is not to be neglected. When a disease belongs to the third group previously described this wider view may with relative freedom from loss be ignored. When, however, we come to deal with the members of the first group, diseases like diphtheria, which at long intervals become widely epidemic and then die down, and diseases which, like scarlet fever, vary greatly in their natural virulence, it is only by investigations of epidemics and pandemics on a large scale that we can hope completely to unravel the tangle of conditions which determine their prevalence. Medical officers of health are not mere empiricists concerned with the enforcement of general cleanliness and of disinfection and isolation when cases of infectious disease *arise. They are concerned not* solely with individual cases of disease but also with the conditions producing and controlling entire epidemics. It is in this branch of their work that knowledge is as yet most imperfect, and it is largely by the accumulation of accurate and complete information as to each epidemic and inter-epidemic period, and by the collateral study of the personal and environmental conditions associated with these periods, that we hope to arrive at a less empirical and more rational conception of the causation of each infectious disease and thence of its *prevention.*

It is not necessary to argue before the present audience the desirability of the notification of infectious diseases. Obviously notification cannot cause any extension of these diseases and if, as already indicated, it increases our knowledge of their natural history, it may lead to conclusions of the widest utility Furthermore, if preventive measures, whether in the removal of insanitary conditions or in the isolation of the sick, are enforced as the result of notification the prevalence of the notified disease must be to that extent diminished.

Notification of Suspected Cases—

If notification has not accomplished all that was expected of it it is because (1) the known measures of prevention which should have followed on notification have either been neglected or been perfunctorily carried out, (2) many cases have escaped notification; and (3) frequently diagnosis is delayed and infection is spread before isolation is begun.

The failure to notify a few slight cases of diphtheria may prolong and extend an epidemic, although every precautionary measure is being taken in connexion with notified cases. Cases furthermore are often notified after being watched for several days, with the natural result that secondary and tertiary cases are common in the same household The law in this respect is much more regardful of the welfare of cattle than of human beings. A medical man need not notify a case of scarlet fever until "he becomes aware" that it is certainly of this nature, a farmer must notify each case *and each suspected case* of foot and mouth disease or glanders A parent need not call in a medical man for every suspected case, and if he does not he can rarely be proved to have wilfully failed to inform the medical officer of health of an infectious case, as the proof involves the assumption that he or she possesses medical knowledge; and in the absence of such proof the parent cannot be punished for keeping the case secret. This may be said to be an argument against notification, it is rather an argument for improving its machinery Imperfect information must be better than no information

—And Free Medical Diagnosis for School Children Advocated

The time is ripe, I think, for asking for the compulsory notification of all cases in which there is reasonable ground for suspecting the existence of an infectious disease. As matters now stand children continue to attend school from a house in which a patient is suffering from "ulcerated throat," a "swab" from which might have sufficed to prove that it was really diphtheria, and so similarly for other diseases. The prevention of disease can never be effective and complete until such cases are brought to the attention of the medical officer of health and until precautionary measures are required to be carried out as soon as suspicion is aroused and before the certain diagnosis of the character of the illness The difficulty is much greater when no medical man is in attendance. An attack of diphtheria or scarlet fever may be so slight as to cause little inconvenience Why, then, should the parent call in medical aid? At the meeting of the British Medical Association at Portsmouth I advocated a system of free medical visitation of school children for purposes of diagnosis. Such a system would remove the parent's excuse for not calling in medical aid. It would, by securing in an increased proportion of cases early diagnosis, diminish the prevalence of infectious diseases and the diminished expenditure on maintenance of patients in isolation hospitals would probably more than recoup the fees of the medical practitioners who in their capacity as municipal officers had been called in to make a diagnosis. The insistence on a preliminary tentative notification of suspected cases of infectious disease and the provision of a gratuitous medical visit to children of the poor for diagnostic purposes are not the only necessary reforms.

Extension of Schedule of Notifiable Diseases.

The schedule of notifiable diseases requires extension In other words, we should revert to something nearer the original scheme of the Manchester and Salford Sanitary Association, the arrangements to be made for this extended notification being modified *so that weekly returns* may be obtained of diseases concerning which immediate information is not so urgent. Here again progress is being made according to the British fashion. Your medical officer of health, Dr J Niven has been a pioneer in the advocacy of measures against consumption and you have in operation a system of voluntary notification of cases of this disease In Brighton voluntary notification of consumption was inaugurated in January, 1899, and its operation has been practically free from friction and attended by good to an extent which is only limited by the number of notifications. Many other towns are following these examples and there is already advocacy of compulsory notification of this *disease.* My personal opinion is that the time is almost ripe for compulsory notification of changes of address of patients suffering from consumption, the compulsion only coming into operation when the medical attendant is unable to certify that there have been no recent infectious discharges rendering disinfection and cleansing necessary before the vacated rooms are occupied by a new tenant On the desirability of the notification of pneumonia and rheumatic fever it is not necessary that I should dilate The notification of certain industrial diseases is already an established and important fact.

Assistant Medical Officers of Health Required

The more extensive becomes our knowledge of communicable and other preventable diseases the more evident it is that much greater use will need to be made of skilled medical investigators. *There is risk in connexion* with the present stress of routine work falling to the lot of the medical officer of health of a large town that he may become and remain merely a bureaucratic administrator In Manchester a good example *has been set by the appointment* of one assistant medical officer of health. Probably others will be required and other towns will need to follow your example. The gain in removal of the intimate causes of disease in diminution of suffering and in financial strain on the funds of the Poor-law administration and of our voluntary and municipal hospitals will amply recoup the expenditure involved.

I have necessarily in this brief sketch of my subject omitted many questions of importance. Nor can I more than allude to the importance of securing periodical returns from friendly societies and other sickness assurance societies to the medical officer of health; to the desirability of transference of the statistical work in connexion with notification from the Local Government Board to the General Register Office. Certain steps in this direction have been already taken at the suggestion of the Incorporated Society of Medical Officers of Health.

The science of medicine, including preventive medicine, makes no idle promise to extend human life beyond its natural complete term. It will—if the proper means to this end, some of them enumerated in my preceding remarks, are supplied—conduct all who live in accordance with the principles of preventive medicine in safety to the natural boundaries of their present being; it will enable them to escape the risks of early and middle life and to ensure that their

"Age is as the lusty winter,
Frosty, but kindly."

To enable it to achieve this end not only is it necessary to improve the sanitary conditions of life in our cities from the standpoint of home, occupation, and municipal control, it is also necessary that every information capable of helping him in his work shall be given to the medical officer of health and his staff. He cannot make bricks without straw, he cannot forge his chain of preventive measures when half the links are missing. Possessed of this information and having secured the coöperation of an educated public he will be able to secure the maximum duration and the highest quality of life for every member of the community whose interests he guards.

Brighton.

EMBRYOLOGICAL ASPECTS AND ETIOLOGY OF CARCINOMA.

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AT a time when so much is being attempted in the investigation of the problem of the nature of cancer it may appear presumptuous on the part of an embryologist to express opinions and conclusions regarding this grave question. It has long been a subject of earnest research by physicians and pathologists who naturally are thoroughly familiar with actual facts and finds concerning carcinoma foreign to the embryologist. But hitherto the physician and the surgeon, the pathologist and the gynæcologist, have utterly failed to establish anything concerning the etiology of cancer, and without the intervention of the embryologist success may be as distant in the future as in the past.

As indicated by the above title, the present writing is intended to deal with aspects of carcinoma as they strike an embryologist, and not every embryologist but one particular investigator. At the outset it may be asked, "Is the etiology of carcinoma an embryological problem?" As the thing itself and its manifestations demonstrably fall within the province of the surgeon and the pathologist, for it confronts them almost daily, it is possibly not very clear why the problem of the nature of cancer should be an embryological one at all. It is a disease carrying with it death and destruction. On the other hand, the problems of the embryologist, as generally understood, treat not of disease but of the blossoming forth of life itself, of the phenomena which culminate in the appearance of new living beings. Death and decay would seem to be things of which from his researches the embryologist might be expected to obtain no practical knowledge. He is supposed to be concerned with "das Werden," while "das Vergehen" is beyond the scope of his researches. Would that it were so! Unless he shut his eyes to plain facts "das Vergehen" in the midst of "das Werden"—death in budding life itself—is continually before him.

The conviction, impressed upon the writer's mind from 14 years devoted to the study of the mode of the development of the higher animals, the vertebrata, is that everywhere and at any point atrophy and death may be met with in any individual life-history. Death and degeneration of cells, of organs, of organisms, of embryos themselves, are among the commonest phenomena under the eyes of the embryologist. His text-books, even his published researches, may be silent of these, for as a rule he believes himself to be solely concerned with the coming-into-being, and the opposite aspect, the decline of life, he leaves severely alone. It is not in his tacit opinion a theme of the science of embryology. This view of the problems of the science has for many years failed to commend itself to the writer and in his own researches he has endeavoured to take account of everything happening and capable of being observed during the developmental cycle, whether progressive or retrogressive.

The manifestations of life present themselves under the headings of either form and structure or function. Embryological research deals largely with form and structure or, more exactly, with the coming-about of these. And as, according to the testimony of pathologists, cancer, when it appears, is something new to the organism, a neoplasm, a foreign thing, not growing and functioning after the manner of the individual containing it, increasing by cell-division after unknown laws which appear to defy all law, carrying with it widespread destruction only comparable to that dealt out by some parasites, the phenomena of cancer would have analogies at least to many such lying within the domain of the embryologist. Cancer is something with a beginning, it increases like a developing embryonic germ by cell-division, it invades territory at first foreign to it, and it only differs from a parasitic organism in the fact that its mode of reproduction is what may be defined as asexual. And thus, because as a rule its cycle is limited to the individual harbouring it, carcinoma is something with for itself an indefinite life-cycle which is only bounded by the life of its host but which cannot be directly carried over by germs or fertilized gametes to another organism.[1] That the resemblance between the life-cycle of a cancer and that of a metazoan organism should be incomplete is natural, for the former is an abnormal product and it is in the nature of such to differ in some or other important details from the typical or normal.

The problem of the nature of cancer has long been before the writer in his investigations—in fact, ever since he learnt from the researches of Wilms[2] and others that it had been occasionally encountered along with those curious tumours, the dermoid cysts of ovary or testis, the "embryomas" or rudimentary embryos of Wilms. The latter speaks of this occasional connexion of the two—it has, according to Wilms, been observed some nine times—as a remarkable fact (p. 86) in that in an organism of one or two years of age the development of carcinoma can happen. As this relates to the presumed age of the embryoma and not to that of the individual harbouring the latter, the validity of the conclusion is not apparent. On his part the writer must reject it. For the past two years from time to time in researches upon the germ-cells observations have been made[3] which appeared to have bearings upon the nature of carcinoma. This period may not seem a long one, but beyond it lie the investigations of other 12 years, without which the standpoint of to-day would be an impossibility. If, therefore, no study of cancers underlies the present writing, the approach of the problem is not a sudden one, but it has been preceded by prolonged observation and, moreover, animal life is the same, whether it be that of a hydroid polype upon a shell of the sea-shore or that of a cancer within an individual of the human race.

The immediate cause of the present writing was as follows. In a recent paper dealing with the understudy theory of heredity in an altogether different connexion a few comments have been written upon the mode of growth exhibited by certain organisms and a comparison drawn between this and the pernicious growth of the human chorion in certain cases.[4]

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[1] It has, however, been shown by Hanau and Wehr to be possible to transplant cancer from one individual—e g., the dog—to another.

[2] Max Wilms: Ueber die Dermoidcysten und Teratome, &c., Deutsches Archiv für Klinische Medicin, Band 55, 1895, p. 1–108, 3 Pl. And also Martin: Die Krankheiten der Eierstoecke, &c., Leipzig, 1899, pp. 676–614.

[3] Ibid.

[4] The passage in question is as follows: "It should be mentioned that de Vries and Weismann have already noted the resemblance in mode of growth between the sporophyte and the colonial hydrozoa. Many of the latter also possess the indefinite unrestricted power of growth so characteristic of the sporophyte of the higher plants. As a rule, the asexual generations of the higher metazoa do not exhibit this faculty. They rarely obtain a chance of showing it, for it is their usual fate to undergo early suppression by the sexual generation.

And it was not until long after the proof had been returned that it was seen how in this comparison the key to the problem of the nature of cancer had been given away. If the pernicious growth of the chorion be in reality carcinomatous, and it is recognised[5] as such by pathologists under the *names of malignant placentoma, deciduoma, chorion-epithelioma*, or destructive placental polype,[6] the cause of cancer is clear as the light of day. And it has seemed desirable to offer the present essay in order that at least a warning note might thereby be uttered and an earnest attempt made to point to the futility of investigation in the direction of a cul-de-sac, such as the probable one of cancer as due to unicellular *organisms*. In the *following* the facts concerning carcinoma, as established by pathological research, such as those given in the latest edition of Ziegler's "Pathologie," will be taken for granted. It will be assumed that at the basis there is morphologically but one form of cancer, no matter how different it may appear to be in diverse localities. A cancer of the skin is naturally different from one of the stomach or liver, for it grows and increases under other conditions. Ziegler for one adduces reasons against the supposed origin of cancer from some effects of unicellular organisms, and to his objections something more can be added. It is not in the nature of parasitic maladies to lead to cellular increase, such as is characteristic of cancer, and while the phenomena of destruction possibly present themselves prominently to the surgeon and the pathologist, those of indefinite unrestricted cellular increase and multiplication most impress the embryologist. And if the source of cancer to be brought out in the course of the following be the true one any further cause is a superfluity.

The conclusions are based chiefly, but not entirely, upon researches in elasmobranch fishes[7] and to any but vertebrate embryologists there might appear to be no warrant for applying results obtained in animals so low down in the scale to man himself. But the broad outlines, the laws, and even most of the details of the development are the same in man as in the fishes, and the life-cycle of the former can be interpreted in terms of that of the latter. The starting-point goes back more than two years to the beginning of researches upon the germ-cells, and with these to the earlier work of Wilms upon the embryomas. The results of the work and of previous necessary inquiries dating as long ago as 1889 *cannot be given at all in detail here*. A general survey of the chief conclusions will be found in "Heredity and the Epicycle of the Germ-cells."[8] The cause of cancer is really known but not recognised. Failure to perceive the true nature of carcinoma has hitherto been due to one simple fact: the views generally, nay universally, held and taught regarding the course of the cycle of development from egg to egg are erroneous.

Were an embryologist of to-day asked what in outline was the cycle of development in one of the higher forms, say a fish, chick, or mammal, he would probably be amazed at the question. "The hen lays the egg, the latter gives birth to a new hen," and so, as Kleinenberg once remarked of something else, under the eyes of the delighted and astonished spectator the cycle is completed. This supposed cycle has never really been witnessed—for the very good reason that it does not exist. The hen neither produces the egg nor is it the chief nor even the immediate task of the latter to give rise to a new hen. As the establishment of this and of the true life-cycle have filled in the working hours of the writer during more than a dozen years it may be obvious that the production of the evidences must be beyond the limits of this short paper. At the moment a pretty big book would be required to hold them all. Indeed, no attempt will be made to prove here what the true life-cycle is and wherein its details lie; the results of previous work will be assumed and for fuller information the reader may be referred to the series of memoirs whose titles are appended.

In the higher animals, the metazoa, what is termed direct development does not, and cannot, exist. It has been found that the cycle of animal development, even of the highest forms, resembles very closely that of a fern or flowering-plant. In the line from egg to egg there are two generations, an asexual form and one which, as it is the bearer of the sexual organs, is spoken of as the sexual generation. Under prevailing views of development the line of ancestry from generation to generation is exceedingly simple—too simple, indeed, to explain the facts, so simple that Nature could not adopt it in practice were she to make the trial. It may be represented thus: egg—*embryo or sexual generation*—egg—embryo, &c., the egg producing the embryo, the latter when mature forming from its own tissues new eggs. This is undoubtedly one of the most impossible conceptions which ever formed part of a science. The amended cycle of development and the course of heredity are as follows: egg—larva (phorozoon, or bearing animal, or asexual generation)—primitive germ-cell—primary germ-cells—secondary germ-cells—gametes, eggs, or sperms—fertilised egg. In the line of ancestry as given here—a line which apart from the larva is one of unicellular organisms—the embryo finds no place. It arises from one of the primary germ-cells whose number is always a definite one—2, 4, 8, 16, 32, &c.—and the rest enter the embryonic body to form its sexual products. A more detailed account of this cycle will be found in the memoir upon "Heredity and the Epicycle of the Germ-cells." The four important items in the cycle are: (1) the gametes, egg and sperm, by whose union a new cycle is initiated; (2) the first product of the zygote, the phorozoon, larva, or asexual generation; (3) the primary germ-cells destined for future generations; and (4)—only important to enable the completion of the cycle—the embryo or sexual generation

Any and every primary germ-cell, if it develop or unfold as such, normally gives birth to an embryo, and, as elsewhere indicated, the embryomas of Wilms arise, and must do so, from persistent primary germ-cells. This unfolding of a primary germ-cell is equivalent to its landing in a cul-de-sac—its powers of growth and increase and its life are thereby limited. The contrast between this and the larva or phorozoon in these respects is very striking. The latter, like the corresponding generation in plants, often possesses indefinite unrestricted powers of growth in an apical fashion.[9] *In many animals there is only one apical region* of growth in the larva; in the hydroid polypes there may be many such and Weismann and de Vries have already noted their powers of indefinite unrestricted growth. That which brings to a sharp and sudden close the growth of the phorozoon or larva, if there be but one growing point, is the cutting-off of this from the organism, its conversion into a primitive germ-cell, and the consequent formation of primary germ-cells from this. Normally, as already stated, the further development of a primary germ cell results in an embryo, not in a larva

Coming now to the primary germ-cells, upon which most of the observations of the past two years have been made, it has elsewhere been established that their number is always a member of the geometrical series: 2, 4, 8, 16, 32, &c., or 2 to the "n"th power, where "n" is one of the numerals 1, 2, 3, 4, 5, 6, &c., and that the greatest number of primary germ-cells in any embryo will be $2^n - 1$. Thus, the total number in the common dog fish, scyllium canicula, is 128, in the male smooth skate, raja batis, 256, in the female 512, and the greatest number *in the embryo of one of these* 127 (in scyllium), 255 (in the male skate), and 511 (in the female skate). But for convenience and brevity, dealing with one

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When, as happens sometimes in cases of abortion in the human subject, the embryo is got rid of prior to the critical period, or, at any rate, before the asexual generation has here been suppressed, the latter may go on growing indefinitely if left in the uterus. I refer, of course to the unrestricted and pernicious growth of the chorion when left in the womb after an abortion." (Transactions of the Botanical Society of Edinburgh, 1902, p. 140-141.)

[5] The carcinomatous character of the pernicious growth of the chorion was first clearly recognised by Professor Marchand in 1895.

[6] Ziegler: Allgemeine Pathologie, vol. i., p. 453, 10 Auflage, 1901.

[7] Also upon researches in mammalian development, especially upon the trophoblast (larva or phorozoon), allantoic placenta, critical period, and span of gestation

[8] Biologisches Centralblatt, 1902.

[9] Of great but hitherto unrecognised importance in this direction are certain results of experimental embryology, such as those of Driesch, Morgan, and others upon echinoderms and of E. B. Wilson and others upon amphioxus, &c. (For a full account see E. B. Wilson's "The Cell," second edition, 1900, or Korschelt und Heider, "Lehrbuch der vergleichende Entwicklungsgeschichte, Allgemeiner Theil, Jena, Gustav Fischer, 1902.) Space does not permit of a description and discussion of these experiments. The general result is that *in certain* animals, if the cells of the early cleavage of the egg be separated, each of them will give rise to a diminutive larva, the size of this varying directly with the size of the original blastomere. These minute larvæ are often but erroneously spoken of as "embryos." Though they may go on living for a considerable time no case *is known in* which an embryo with sexual organs arises upon such a larva, as, of course, would happen *in* a normal development. Allied to this latter circumstance is the fact that the invertebrate larvæ obtained by embryologists by artificial fecundation never give rise to the sexual form, no matter how long they may be kept living in the laboratory. The writer has reared echinoderm-larvæ for 15 days without the formation of a sea-urchin upon any one of them. Many other similar facts could be mentioned.

form only, say, the dog-fish (pristiurus), of the 127 primary germ-cells it never happens that all, or anything like all, reach the normal position, the germinal ridge, or nidus. Usually at the most from 90 to 100 of them arrive here, the remainder being found in all sorts of unusual places, where many of them degenerate.

The number of elasmobranch embryos hitherto examined is several hundreds, belonging to different species, and in all these under a certain age no single embryo has been seen in which all the germ-cells present might be described as normally placed. The percentage of vagrant germ-cells varies; it is usually from 10 to 12 per cent. in pristiurus and from 25 to 30 per cent. in raja batis. The places where these occur are numerous, in the body-cavity, upon the somatopleure, on the subintestinal vein, in kidney-tubules, in the pericardium, in the liver, in any part of the gut-epithelium, especially in the rectum, in the skin, rarely in the head or gill-region, and practically always there are some in the immediate neighbourhood of the stomach in connexion with the yelk-stalk. Undoubtedly many of these germ-cells degenerate and few, if any, of the vagrant ones, after a certain early period, ever find their way to the germinal nidus. The embryomas of Wilms are to be regarded as products of such vagrant or of persistent (in ovary or testis) primary germ-cells But—and this is remarkable—very many such vagrant germ-cells occur in places where embryomas are never encountered; thus in the immediate neighbourhood of the stomach, in the liver, in or under the skin, and in the rectum. In nearly every embryo one or more germ-cells may be found in the yelk-stalk in the immediate neighbourhood of the pylorus and also in the rectal epithelium.

It may therefore be suspected that if the germ-cells of many of these places—e.g., liver, pylorus, rectum, &c.—ever do develop they must give rise to some product not of the nature of an embryo, not an embryoma. It is not without interest that the common situations for the origin of cancer are the very ones in which vagrant germ-cells are usually met with—thus, in the rectum, near the pylorus (yelk-stalk), other parts of the gut, in the kidneys, in the skin, &c. Apparently cancer of the tongue, of the œsophagus, of the larynx, and of the mammary gland at the first glance form exceptions, but this is not really so. Tongue, œsophagus, and larynx are products in the higher forms of a metamorphosis of the gill-region; œsophagus and mammary glands are closely associated with the pericardium, where vagrant germ-cells (and sometimes embryomas as products of these) are often found. That cancer should arise in what embryologically are holes and corners, places where layers and folds come together, as in tongue and larynx, is readily explicable. Such vagrant germ-cells are intruders in the situations originally taken up by them, and it has often been remarked how they would appear to be hustled about from pillar to post when in the way until they land in some corner or other. Normally, if the paradox be allowable, the development of such a vagrant germ-cell should result in a more or less complete twin-embryo, but any gradation of this down to a very rudimentary embryo may be found in practice. Figured in Ziegler's "Pathologie" may be seen all sorts of steps, from complete identical twins, only abnormal in being united at some one point, through those more completely united, to others forming more or less complete embryos embedded within or projecting from a normal one, down to mere cysts or absolutely rudimentary embryos No one has ever witnessed the development of such a rudimentary embryo or embryoma, and probably it never will be seen, but the connexion between them and vagrant or persistent (in ovary or testis) primary germ-cells is not less certain than that between an onion and the seed originally planted. In the same way the hypothesis that the vagrant primary germ-cells of certain regions, thus those of the neighbourhood of the stomach and of the rectum if they develop, give rise not to an embryo, but to a larva of indefinite unrestricted powers of growth, can never be converted into a fact by direct observation. It can only be inferred from the facts But it is a very simple explanation of all the facts and its probability is increased by other considerations

But why should such a vagrant germ-cell, when developing into a cancer, omit or skip the formation of an embryo and proceed with a different portion of the life-cycle? One reason is, perhaps, clear. It is that the further growth of a vagrant germ-cell or of its progeny to form a cancer takes place at a much later period than that at which its embryological development into a more or less complete embryo should have happened. (The instances of cance with embryomas, noted by Wilms, do not form exceptions.) Moreover, it must not be forgotten that we are dealing with pathological conditions, with phenomena, which in some glaring way do not conform with the normal. Cancer is an attribute of later sexual life or of old age. For this reason one is inclined to suppose that it is not immediately due to the further development of a vagrant germ-cell itself, that this latter first of all divides many times, as it would do if in the germinal nidus, and that it ultimately forms more or less normal forerunners of gametes, oöcytes, or spermatocytes. These would be in abnormal situations and under abnormal conditions and under some stimulus they would develop as though parthenogenetically but abnormally to form a larva.

At the basis cancer is nothing more than the production abnormally of a phorozoon or larva within a sexual generation. Elsewhere analogues may be seen. In hermaphroditism we witness the conversion of the forerunners of male eggs (in what are really females) into sperms. In certain ferns abnormally upon the asexual generation or sporophyte what the botanists term "apogamy" is met with—i e., the appearance of a new sporophyte upon the original one—the formation of a sexual generation or gametophyte and of sexual organs being skipped. It has been urged from a botanical side that comparison between apogamy in certain ferns and carcinoma in a mammal would not be justified, because the former was an abnormal condition. But we are dealing with abnormalities and not with normal occurrences of the life-cycle If cancer be the abnormal production of a phorozoon or asexual generation by a vagrant germ-cell or its progeny, it may be asked why do not the other items of the life-cycle supervene? Why do not a primitive germ-cell, primary germ-cells, and embryo arise? Were this to happen the cycle, though commencing and being carried out under abnormal conditions, would revert to the normal, and from my experiences of abnormal development in various directions a reversion to the normal is always excluded. Were such an incipient carcinoma to form a primitive germ-cell, before the number of its apical or growing points had been increased, its portion of the cycle would thereby be brought to a close and it is in fact the omission of this which fosters and favours its indefinite unrestricted growth.

The etiology of carcinoma above suggested will be recognised as one whose nature indicates nothing favourable to its prevention or extermination. It may be said to explain completely its peculiarities and its hereditary character. But it is a despairing view. In this respect it is in only too close agreement with the experiences of physicians and surgeons. The one hopeful aspect is that in normal development at a certain period the embryo or sexual form is able in some way or other to suppress the asexual foundation upon which it arose and as a rule the victory of the former over the latter is complete.

As conceived here carcinoma would be a disease peculiar to mammals. For, as recognised by the writer some 10 years ago, in them the phorozoon or asexual generation has become parasitic in adaptation to uterine development. The possibility of carcinomatous development postulates uterine gestation at least for the normal life-span of the asexual generation—i.e., until what was termed the critical period. In fishes, such as the skate or dog-fish, neither a vagrant germ-cell nor its progeny could develop into a carcinoma, for the larval or asexual portion of the life-cycle is not passed as a parasite upon the parent (even in forms with apparent uterine development) but in sea-water; in other words, below the metatherian and eutherian mammals the phorozoon or larva is not adapted for a parasitic existence upon the parent organism and thus cannot become abnormally a parasite upon it. Carcinoma is not known below the mammals, the animal lowest in the scale in which it has been recorded being the short-headed phalanger, belideus breviceps.[10] This disease is a sequel to uterine gestation. If the cycle of metazoan development really be that concluded by the writer, if his interpretation of the phenomena of mammalian development—which are not in the least based upon facts or factors noted in cancer but upon normal development here,—if these be correct the cause of carcinoma is not hypothetical at all but is actually known. More than one cause cannot be assumed and if one cause be shown all other explanations become superfluous. In certain cases in human development, when either no embryo arises within the chorion or when the embryo becomes aborted or dies prior to the suppression of the phorozoon or larva, the latter, the chorion, may go on growing indefinitely and may give rise to what pathologists and gynæcologists recognise as a form of cancer, placentoma, or chorion-epithelioma (Marchand) For years now I have recognised—and in homologising this structure with the larval skin of an amphibian Hubrecht has gone a long way in the like direction—that the human chorion represents the main portion or whole of the asexual generation or phorozoon here. In certain cases therefore we here witness the conversion of the chorion—i e., of the asexual generation, or larva, into a malignant tumour, a carcinoma.

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[10] J. Bland Sutton, Evolution and Disease, London, 1890, p. 247, Fig. 123. The case is one of cancer in the marsupial pouch.

What other proof could be asked for? That this proof of the nature of cancer is not in agreement with accepted views of normal development cannot be set down to the fault of the writer He holds, and has alone long maintained, such views to be false and unfounded in fact, and, moreover, it has been attempted to indicate the right way The arguments and conclusions have been neither refuted nor confirmed, but have been ignored. But embryologists are living, and have long been existing therein, in a mental universe, where but a tithe of the facts observed are explicable under their views. Under the conception of development as an antithetic alternation of generations, especially as laid down in "Heredity, and the Epicycle of the Germ-cells," all the known facts of development fit in, all are capable of easy and natural explanation And the elucidation of the etiology of carcinoma follows as a natural corollary to the law of the developmental cycle. The embryologist and the pathologist may ignore and neglect the plain and palpable fact, but on no theory of direct development—a thing only existing for the metazoan animals in the human imagination—can any explanation whatever of the nature of carcinoma be advanced. The cause of this would long ago have been clearly recognised had some embryologist taken the trouble, as the writer has done during 14 years past, to trace out in full the details of the life-cycle of one of the higher metazoa from egg to egg The idea of direct development, accepted without examination of the evidences, and the erroneous belief in the somatic origin of germ-cells have retarded the advance of knowledge to an extent difficult to estimate.

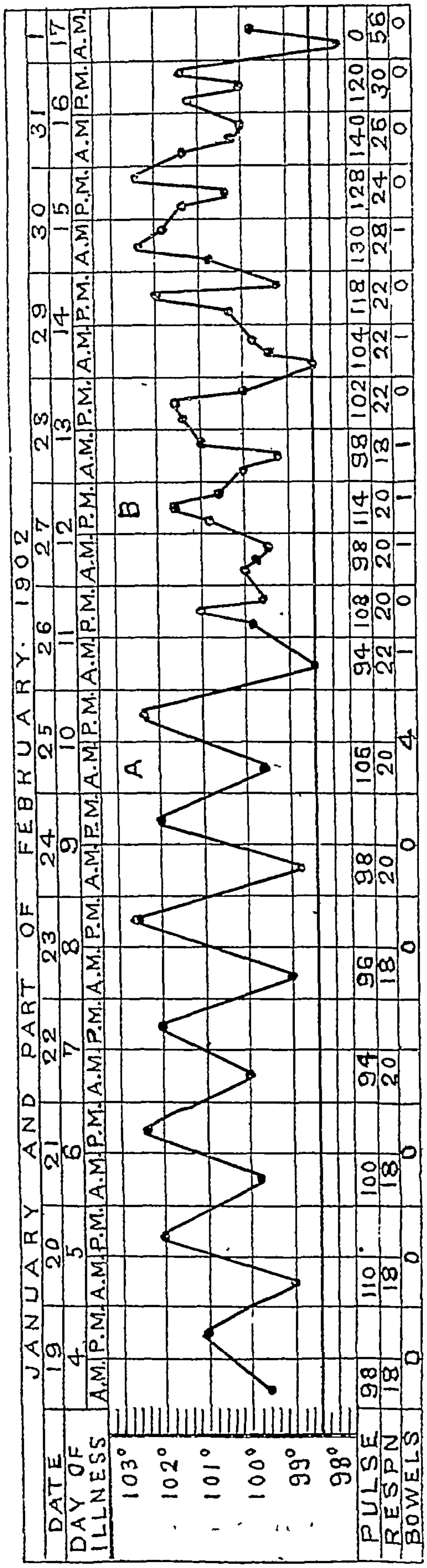
The nature of the argument employed in the present writing may be summarised as follows Granted the facts of the origin, migrations, and history of the germ cells of vertebrates, and assuming the course of the life-cycle to be that previously indicated, by hypothesis cancer is derived from vagrant primary germ-cells, which, instead of forming a more or less complete embryo or embryoma, skip this and give rise to a larva or phorozoon of indefinite unrestricted powers of growth. This is, of course, purely hypothetical, but it becomes the true explanation by the following facts On the one hand, as my researches have shown, the hypothetical "verirrte Keime" or "lost germs" of pathologists not only exist but they are numerously represented and by things capable of abnormal development, the vagrant primary germ-cells. On the other hand, the carcinomatous nature of such an abnormal growth of a larva or phorozoon has been abundantly demonstrated by Marchand for the instances of the pernicious growth of the chorion, chorion-epithelioma. If such a chorion the representative more or less complete of the asexual generation, when robbed of its embryo or when it fails to form such, can—and this is established—give origin to a malignant carcinomatous tumour the nature of cancer is clear The vagrant primary germ-cell is the seed, while its fruit, sometimes represented by an embryoma, may on occasion take the form of a carcinoma.

List of Memoirs upon the Metazoan Life Cycle, 1889-1902.—1 The Early Development of Lepidosteus Osseus, Proceedings of the Royal Society of London, 1889 2. The Transient Ganglion-Cells and their Nerves in Raja Batis, Anatomischer Anzeiger, 1892. 3. On a Supposed Law of Metazoan Development ibid 1892. 4 On the Phenomena of Reproduction in Animals and Plants, on Antithetic Alternation of Generations &c (with J A. Murray B Sc.) Annals of Botany 1895 and Anatomischer Anzeiger, 1895. 5. The History of a Transient Nervous Apparatus in certain Ichthyopsida: An Account of the Development and Degeneration of Ganglion-cells and Nerve-fibres, Part I., Raja batis with eight plates, Zoologische Jahrbücher vol viii., 1896 6. Further Remarks upon the Phenomena of Reproduction in Animals and Plants Anatomischer Anzeiger, 1896. 7 On Certain Problems of Vertebrate Embryology (The Critical Period, &c.). Jena, Gustav Fisher 1896. 8. The Yolk-Sac, Yolk and Merocytes in Scyllium and Lepidosteus Anatomischer Anzeiger 1896. 9 On the Disappearance of the Transient Nervous Apparatus in the Series Scyllium, Acanthias Mustelus and Torpedo ibid., 1896 10. The Span of Gestation and the Cause of Birth, Jena, Gustav Fischer 1897 11. The Birth Period of Trichosurus vulpecula, with one plate Zoologische Jahrbücher, 1897 12. The Morphological Continuity of the Germ-cells in Raja batis Anatomischer Anzeiger, vol. xviii., 1900. 13. The Determination of Sex in Animal Development (abstract), ibid., vol. xx., 1902. 14 The Germ-cells of Pristiurus, ibid., vol xx 1902. 15 The Numerical Law of the Germ-cells, ibid., vol. xxi. 1902. 16. The Germ-cells, Part I., Raja batis, with two plates Zoologische Jahrbücher 1902. 17 Heredity and the Epicycle of the Germ-cells, Biologisches Centralblatt 1902, and Transactions of the Botanical Society of Edinburgh, 1902. 18. The Determination of Sex in Animal Development, with figures, Zoologische Jahrbücher 1902. 19 The Germ-cells, Part II., Pristiurus melanostomus, with plates (almost ready for the press) ibid, 1902.

A CASE OF DIFFICULT DIAGNOSIS WITH A RARE COMPLICATION.

BY H. J MACKAY, M.D EDIN

THE patient was a married woman, 37 years of age, well-developed and healthy, of a sensitive, highly strung temperament, and with an excessive dread of pain and illness. No previous illness threw any light on the present attack. The family history was unimportant except as revealing the fact that two brothers and a cousin had died from enteric fever The illness started, it was supposed, with a chill, but of this there was no proof. On Jan 16th, 1902, having experienced for a day or two previously an ill-defined sense of malaise, she felt generally ill and was drowsy, shivery, and giddy Headache was present, as was nausea which went on to vomiting Cough, sore throat, and coryza were absent. After three days in this condition she sought advice and was seen for the first time on Jan. 19th the fourth day of actual illness. The symptoms already mentioned were then present and in addition she felt weak, faint, and depressed. She had gastric pain and felt sick She was constipated. The tongue showed a thin white fur which afterwards became thick, grey, and creamy The pulse was 96, regular, but weak. The temperature in the early afternoon was 99·6° F and it rose in the evening to 101°. She had slept badly Some cases of influenza of the gastro-intestinal type had occurred in the household about this time and it was thought that the patient was suffering from the same complaint. For the next five days the course of illness corresponded well with the diagnosis that had been made. The morning and evening temperatures from the fourth day to the tenth day, and a four hour chart from the tenth day to the sixteenth day, are appended. On Jan. 25th some tenderness in the right iliac region was complained of. It being now the tenth day of illness and the sixth of ascertained pyrexia the possibility of typhoid fever had to be entertained. A search for spots and splenic enlargement revealed nothing The bowels had acted on this day in response to a gentle aperient and four yellowish stools had been passed, but otherwise constipation had been the rule. All precautions were, however, taken and the patient was placed on enteric diet. An examination for Widal's reaction was clearly desirable at this stage but the patient shrank from the discomfort of the trifling puncture and in her weak state it was not insisted on On the 27th the twelfth day of illness, the diagnosis was still in doubt The onset, neither sudden nor insidious, had given no clear indication either way The facial expression showed impatience rather than apathy Hectic flush was absent. The pupils were of normal size. The tongue, though furred, was not parched Abdominal tenderness was trivial. Constipation was present and meteorism was absent. The heart sounds showed increasing weakness of the heart muscle The pulse, weak, occasionally irregular, of low tension, but not yet palpably dicrotic, varied from 96 in the morning to 120 in the evening At this date it was too early to suggest typhoid myocarditis the heart weakness fitted well with poisoning of the myocardium or of the vagus centre by the toxin of either disease. In other respects the patient on this day expressed herself as feeling much better and begged to be lifted for a few hours out of bed on to her couch. The wish was gratified to her great comfort and apparent benefit. At 7 30 P M while resting quietly, she was threatened with a sudden action of the bowels. In endeavouring to accommodate herself to the utensil she, forgetting previous warnings, actively co-operated with the nurse by raising her hips and trunk from the bed while in the dorsal position. She was immediately seized with abdominal pain, followed by pain in both legs from the middle of the thigh downwards. To this succeeded tingling in the legs and feet and soon afterwards numbness and coldness of the extremities. Examination shortly afterwards showed that the lower extremities were cold from the toes to the knees. The feet and the legs were pale. Pulsation was present in both femorals at the groin and in Scarpa's triangle, and the impulse was more forcible and larger than usual. Pulsation was absent in the popliteals, in the posterior tibials, and in the dorsales pedis. Anæsthesia to touch, pain, and temperature was present over the area involved. The legs were wrapped in warm alembroth gamgee, and while the gravity of the outlook was recognised it was hoped the arterial obstruction might not prove to be of a permanent nature. On the following day, however, the condition was unchanged, except for the ominous addition of purple mottling over both legs. Inspection of the trunk on this day—the thirteenth day of the illness—revealed four scattered roseolar papules two to three millimetres in diameter on the back and loins. Splenic enlargement could not be made out. The patient was seen in consultation at this time by Dr. J. Michell Clarke who was of opinion that embolism of the abdominal aorta had occurred and who agreed as to the difficulty of making a decided diagnosis as to the nature of the primary disease but considered the balance of evidence to be in favour of enteric fever. On the two following days—the fourteenth and fifteenth days of the illness—the abdominal symptoms became more pronounced. Peritonitic tenderness developed over the cæcum with some general tympanites. No further spots appeared. Frequent vomiting rendered nutrition difficult. On the 31st—the sixteenth day of the illness—at 4 A.M., a sudden drop of temperature from 101° to 97·6° occurred. Coldness of the hands and failure of the pulse at the wrist ensued. The patient sank and died at 11 A.M. A necropsy was not obtained.



A, Aperient. B, Out on couch from 4 to 7.30 P.M. embolic attack at 7.30 P.M.

Most authorities recognise the difficulty that may arise in endeavouring to distinguish between gastro-intestinal influenza and enteric fever. Watson,[1] Murchison,[2] Dreschfeld,[3] Goodhart,[4] Leichtenstern,[5] and Curschmann,[6] to name a few only, admit and discuss the difficulty. Goodhart affirms the occasional impossibility of distinguishing between the two diseases until some characteristic development occurs. The bacteriological test is, of course, the crucial one. But there are hypersensitive patients to whom even a needle puncture at the base of the nail is objectionable, and Pfeiffer's bacillus is not easily sought for in cases where no respiratory catarrh is present. In the case described diagnosis appeared possible only after the appearance on the thirteenth day of four roseolar spots. The subsequent lighting up of abdominal symptoms and the fatal drop in temperature on the sixteenth day appear to agree with the diagnosis of typhoid fever but do not confirm it. For apart from the fact that Dr. Michell Clarke is of opinion that these may have been due to thrombosis of the mesenteric artery, with subsequent necrosis of the bowel, there are none of the symptoms mentioned that would not fit equally well with the diagnosis of influenza.

Influenzal typhlitis and perityphlitis have been described by Teissier[7] and Leichtenstern.[8] Peritonitis "grippalis," so called, was a frequent complication in the pandemic of 1890 (Kelsch and Antony[9] and Leichtenstern[10]). Ulceration of the intestinal mucosa with hæmorrhage was noted by Mosler.[11] As regards the roseolar spots, Curschmann,[12] quoted by Leichtenstern, found a roseola present in 1·2 per cent. of the cases of influenza admitted into the Leipsic clinic. Whether this was an initial or a late rash is not stated. The late rashes, however (from the eighth to the fourteenth day), that have been described have been scarlatiniform, urticarial, erythematous, or herpetic. A roseolar, papular exanthem of a few spots only, resembling those of enteric fever and occurring during the second week, has not, so far as I am aware, been described as occurring in influenza.

The deplorable complication recorded above—viz., symmetrical blocking of both femoral arteries, is one of extreme rarity in this country, to judge from the scarcity of references to it in our medical literature other than that of quite recent date. The whole subject of typhoid gangrene, indeed, has that excrement would be sucked into the water-pipe. In January and February, when there were at least 27 cases of enteric fever in the town, closet-pans thus circumstanced were doubtless in some instances tainted with the specific contagium of enteric fever; some may even have been filled with excrement from the bowels of fever-patients. The sewer air which entered the pipes at night, when the water was turned off, would in the morning, when the water was turned on again, be driven forward, washing the pipe surfaces on which foul air had for hours been resting, and could hardly (even supposing no actual excrement to have got into the pipes) have failed to contain fever contagium; and this water went on, not only to cleanse closet-pans, but to be drunk by the people in the town. I think it probable that the recent outbreak of enteric fever was caused by persons drinking of this contaminated water and I base this opinion on the following considerations: first, the sudden appearance of so many cases in the first week in March—i.e., after the water had been shut off every night in February; secondly, by the gradual diminution of cases after the first week in March, during which month the water was not turned off at nights; thirdly, by the manner in which the cases were scattered about the town; lastly and mainly, by the fact that the proportion of cases occurring amongst persons who derived their water from the board of health supply was much greater than amongst persons who had their water from other sources" (Report of the medical officer of the Privy Council and the Local Government Board, New Series, No. II, for 1873).

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[1] Lectures, vol. ii., Lecture xlix.

[2] Continued Fevers, p. 593

[3] Allbutt's System, vol. v., article Enteric Fever.

[4] Ibid., article Influenza.

[5] Nothnagel: Specielle Pathologie und Therapie, Band iv., Hälfte 1, article Influenza.

[6] Ibid., Band iii., Theil 1, article Unterleibstyphus.

[7] La Grippe, Paris, 1893.

[8] Loc. cit.

[9] La Grippe dans l'Armée Française, Archives de Médecine Militaire, 1890.

[10] Loc. cit.

[11] Influenza in Greifswald, Deutsche Medicinische Wochenschrift, 1890.

[12] Leichtenstern, loc. cit.

In the same volume is a remarkable report by Dr. Buchanan on an outbreak which occurred in 1873 at Caius College, Cambridge, from which I extract the following: "All the more usual ways of enteric fever spread have now been considered and none of them have appeared adequate to account for the intensity of incidence of fever upon Caius College or for its remarkable incidence on Tree Court. Holding always in view the special character of these occurrences let us observe that the *water-supply* to the college is taken from a surrounding five-inch main at six different places, and that one of them, at the Gate of Humility, is for Tree Court and for no part but Tree Court. What if there should be something wrong with this one local supply? Even *primâ facie* there is something to be said for this view. The suddenness of the outbreak in the college was such as at once to suggest to Dr Paget and Dr Bradbury, and equally to myself, the thought 'that it might be due to the contamination of the water or milk.' The area of the particular water distribution is exactly the area of the fever, at least of 12 out of 15 cases, one or more of the remaining cases requiring probably no explanation beyond every-day circumstances. The good character of the company's general water-supply would not avail as an argument against a local contamination in a local service And at an early period of my investigation I was struck with the circumstance that while every water-closet in the old part of the building was provided with a cistern proper to itself, the closets in the Tree Court buildings were supplied with water direct from the high-pressure constant-service pipes Complete intermission of supply was found to have actually occurred on two occasions at least during the last term. The earlier occasion can be defined as the evening of the second day of an October frost, and thus far might have been either on Oct. 25th or on Oct. 30th, but other associations suggest Oct. 25th as being the more probable of the two days; on this occasion only the particular service through the Gate of Humility was stopped The latter occasion was when the water company's servants, having, for the purposes of pipe repair, cut off the water-supply of some half of Cambridge, there was hurrying to restore the supply in order to gain water-power to blow the organ of King's College Chapel for a musical service. This fixes the date of the second known intermission at about 10 30 A.M. on All Saints' day, Nov. 1st. Now a fortnight is about the incubation time of enteric fever. A fortnight after Oct. 25th is the date of the first attack in Tree Court. A fortnight after Nov. 1st is the date of the second, third, and fourth attacks. And though it was known that other cases of fever kept dropping in till the end of November the coincidence of the early fever with these ascertained intermissions was not the less suggestive as indicating the direction that further inquiry should take" Dr Buchanan then showed that the water in that main was contaminated by suction into it, during the periods of intermission of the supply, of foul air from a soil-pipe (and so from a sewer) through a "weeping pipe" which supplied the trap on the waste-pipe of th tray of a water-closet, which trap was liable to sink (Report of the medical officer of the Privy Coun the Local Government Board, New Series, No. II 1873.)

In the annual report of the medical officer of the Government Board for 1887 is an important report o epidemic of enteric fever in the Mountain Ash Urban tary District, Glamorganshire, by Mr. John Spear, in wh after discussing the evidence, Mr. Spear continues facts all tend to bring into more and more prominent re the point of *initial* contamination of the water, and, in vi of the now clearly established premises of my argument, t exact condition of the Oxford-street main and its relati to immediate surroundings become matters of exceedin interest and importance. I have shown that the water, a it passed into the main and for the first 160 yards of it course there, produced no ill-effects in its consumers; and have identified that point just at the Henry-street bifurcation as the one point indicated by the facts of fever prevalence where specific contamination of the water main had in all likelihood habitually occurred. For the purpose of this inquiry the two pipes were laid bare a little above and fo some distance below the point indicated. The Henry-stree pipe was laid some 25 years ago and has been found to be much corroded. That of Oxford-street was relaid, as I have said, in 1885. *There is no doubt that the relaying wa very carelessly, not to say recklessly, done.* Owing to the exigencies of water-supply it was done mostly at night, and the work being in private hands was subject to no supervision on the part of any official or authority having concern with the public health. Accordingly, the main was carried, without any special precaution, *immediately above, alongside, and even through the old rubble drains,* and when in the course of trenching pipe-drains were cut through no trouble appears to have been taken to replace them. I find the inspector of nuisances reporting in September, 1885, a third case of injury and stoppage of a drain from this cause. Although the old stone culverts to which I have referred are not ostensibly sewage-carriers now they formed the sole sewage system some 20 years ago; and even now refuse matters are often poured, as I saw myself into the roadside gullies that are connected with them. One of the culverts through which the Oxford-street main was carried (a 'collar' or junction between two pipes being in the interior was found to contain a quantity of excessively foul sewage deposit, a slaughter-house apparently, amongst other places, draining into it. It may be said that as one result of the careless laying of the main, the latter was at different points from time to time bathed in refuse matters and habitually at certain points in sewage-contaminated air."

Leakages were found in the mains and also direct con nexions with the water-closet pans. "Of course, during intermission of water pressure, the flaws in the pipes represented by the 'leaks' would afford means for the entrance into the pipes of air from the soil, or from the neighbouring drains as the case might be, and doubtless of liquid also. I had myself opportunities of observing how considerable was the suction of air into the pipes at certain points after intermission of supply and on its renewal how much air coming with much noise and force had to be expelled. No special valves being provided for the purpose this air must have entered by accidental openings. At any time of intermission it is plain that the leaky water-pipes were at liberty to discharge their contents through any opening at a lower level and that they would convey not only such water as remained in them but those matters also which entered at the points of leakage. In short, the leaky pipes would act as so many means of draining the grou in which they were placed. Passing through or alongsid old rubble culverts they would take up foul air and liqu from these culverts and from the soil around and would deliver these matters at lower levels (if not during intermission, on the first renewal of supply) for consumption as 'drinking-water.' Intermission of water-current, however, is not by any means essential to the introduction of foreign matters into water-pipes. Under various physical conditions very powerful insuction of external matters into a full flowing water-pipe can take place. Some of these conditions were considered in a departmental report on Croydon in 1875. It results from the foregoing observations tha intermissions of the service large conta of the Oxford-street received but scanty notice in the text-books. Murchison had seen a few cases, Flint and Trousseau had not seen a case; Fagge, Reynolds, and Bartholow make no allusion to it; Welch[13] gives numerous references to the subject, but they are almost exclusively to continental and American observers.

Of the rarity of the complication there can be no doubt. Curschmann[14] in a large experience at the Leipsic clinic had seen (1898) two cases, occurring in the legs, both being unilateral, and he states that unilateral plugging is almost invariably the rule. Höltscher, quoted by Welch, does not report a single case in 2000 fatal cases of enteric fever at Munich, while Bettke in 1420 cases found only four, limited to the toes. A full discussion of the subject based on 1700 cases of enteric collected by Keen and Westcott of Philadelphia is to be found in a recent work by the former.[15] In 115 cases of typhoid gangrene which figure in this series 61 were of arterial, as distinct from venous, thrombosis, and of these 12 were bilateral, but not necessarily of the extremities. The legs, however, constitute the site of preference. Of 214 cases of gangrene of all varieties following typhus and typhoid fevers the lower extremities were affected in 126 cases. As regards time of occurrence the gangrene was found to occur most frequently during, or just after, the time of greatest cardiac weakness. Of 41 arterial cases 18 occurred in the second or third week. As regards etiology Keen is disposed to attribute the chief share to imperfect emptying of the cavities of the heart and to a sluggish circulation. In this connexion the case described above possesses interest as being closely illustrative of Dr. Keen's views.

It appears likely from the history of the case that a heart thrombus, probably lævo-ventricular, had formed during the period of observed cardiac asthenia and that by the exertion of raising the body the thrombus, or a portion of it, had been swept into the aorta. Impinging on the bifurcation of the aorta the clot was either broken into two portions of approximately equal size, one of which became impacted in each femoral about its middle third, or, being detained as a riding clot at the bifurcation, it became the nidus of a thrombosis which descended into the femorals and blocked them. To my mind the patency of the femorals at the groin for at least three days after the occurrence appears to favour the former supposition, but Dr. Michell Clarke is of opinion that the latter hypothesis is quite as likely to be the correct one. In a case recorded by Hayem, quoted by Keen, two days after observed alteration in the heart, symptoms of gangrene—viz., pain, with sensation of cold—commenced in the legs. Pulsation then ceased, first in the dorsales pedis, then in the popliteals, and finally in the femorals. Amputation subsequently showed, however, that though no pulsation could be detected the femoral was only partially blocked and a feeble circulation was proceeding. Here, then, even partial obstruction by an incomplete clot was accompanied by absence of pulsation at the groin.

If, finally, it be asked what light the femoral thrombosis throws on the question of diagnosis the answer must be—none.

Arterial thrombosis, according to Welch, though rare, is yet more common in influenza than in any other acute infection, and symmetrical gangrene following plugging has been frequently recorded. In discussing the etiology of these catastrophes Leichtenstern observes[16] that embolism as a cause of thrombosis must be taken into account in cases where aortic arterio-sclerosis or endocarditis is present in the course of influenza, but that even where no gross change can be detected clinically or anatomically the embolism may still occur by means of thrombi dislodged from the left side of the heart.

Devizes.

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[13] Allbutt's System, vol. vi., article Thrombosis.

[14] Nothnagel, loc. cit., p. 155.

[15] Complications and Sequels of Typhoid Fever. London: Rebman, 1898.

[16] Loc. cit., p. 154.

CHURCH SANITARY ASSOCIATION.—The Bishop of Stepney, speaking at a recent meeting of the National Health Society, said that the laws of health, no less than the principles of religion, represent the laws of God. The Church Sanitary Association has for 10 years been seeking to raise public opinion throughout the empire to this high level. Local honorary secretaries are wanted in all parts of the empire to help in the extension and deepening of the work of the association. Full information as to methods of working may be obtained at the London office, Church House, Westminster.

LARGE MALIGNANT GROWTH OF THE PYLORUS; POSTERIOR GASTRO-JEJUNOSTOMY; PATIENT IN PERFECT HEALTH 15 MONTHS AFTER OPERATION.

BY MAYO COLLIER, M.S. LOND., F.R.C.S. ENG.,
SENIOR SURGEON TO THE NORTH-WEST LONDON HOSPITAL, ETC.

A MAN, aged 43 years, was sent to me on March 7th, 1901, complaining of great emaciation, loss of strength, and inability to digest or retain anything but the smallest quantity of nourishment. His present illness dated back some two and a half years when he was troubled with vomiting after meals, flatulence, a heavy feeling in the stomach, and much distension. The bowels were always constipated. 18 months before he had been an in-patient at Guy's Hospital. There, he stated, he was dieted and treated with medicines and his stomach was washed out twice daily. Whilst there he improved but on leaving hospital the vomiting returned. At this time he was able to take more food and liquids but the vomiting and discomfort continued and he was palpably getting worse. He lost flesh rapidly, his usual weight being 11 stones 4 pounds. He was now only 8 stones 6 pounds. Whilst in Guy's Hospital he had learned to pass the stomach tube and wash out his own stomach. This he had done ever since three times a day as the only means of obtaining a small measure of comfort. His present condition was evidently one of extreme gravity and urgency. He was so weak that the exertion of walking from the cab to my consulting-room was followed by partial collapse. He was extremely emaciated and cadaverous in appearance and had evidently abandoned all hope of improvement or recovery. His family and personal history were unimportant except for the fact that he was said to have suffered five years before from peritonitis and inflammation of the bowels following what was described as a strain experienced during his arduous work as a blacksmith. Palpation and examination of the abdomen revealed a definite lump or hardness in the right epigastric and hypochondriac region of the size of a small fist. This apparently moved with the liver and was evidently a part of, and attached to, the pylorus. I was not satisfied that I could make out any definite enlargement of the stomach. A consultation was held with Dr. G. Herschell and my opinion was confirmed in every respect except that he was able to make out some considerable enlargement and proptosis of the stomach. We advised immediate operation as the only means of prolonging life.

The patient was admitted into the North-west London Hospital and there, with the aid of my colleague, Mr. J. Jackson Clarke, I performed the posterior gastro-duodenal, or, rather, gastro-jejunal, operation, thus short-circuiting the stomach. The growth was of considerable size, involving the pylorus and the adjacent part of the stomach to the extent of two or three inches. The pylorus with growth was firmly adherent to the liver and gall-bladder and the whole of the structures were matted together by old adhesions. The patient did excellently well and on April 27th he left the hospital much improved in weight, health, and appearance. Five months afterwards he was shown at a meeting of the Metropolitan Counties Branch of the British Medical Association held at the hospital. He weighed 12 stones, looked very fat and well, and expressed himself as quite fit, and said that he had returned to his work as a blacksmith. On May 29th, 1902, just 14 months after leaving the hospital, he reported himself as enjoying the best of health and strength and as quite well. He was doing a full day's work at the forge and was able to eat and to drink most kinds of simple food with ease and comfort. He looked the picture of health, though somewhat thinner than before. The growth could still be felt in the old position, not much, if anything, decreased, but there was no tenderness or pain.

The object of publishing this case is to accentuate the fact, well known to some hospital surgeons and physicians, that the course pursued by malignant growths in the abdominal cavity after operation differs essentially from what one expects to experience in other parts of the body. The malignant process appears to be arrested for a time. A stasis takes place in the activity of the growth. The barometer indicates a steady rise in the health, strength, weight, and activity of the patient. This patient could not have been in a worse possible condition short of death. His prognosis was apparently hopeless, yet 15 months after operation we find him enjoying the best of health, performing a full day's work of the most arduous character, and apparently as well as ever he was in his life. Operative interference in these cases does one of two things, both in themselves desirable—it shortens the misery by death or it prolongs the life by recovery.

Harley-street, W.

EOSINOPHILIA ASSOCIATED WITH HYDATID DISEASE.

BY C. G. SELIGMANN, M.B., M.R.C.P. LOND.,
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AND
L. S. DUDGEON, M.R.C.P. LOND.,
ASSISTANT IN THE ELECTRICAL DEPARTMENT, ST. THOMAS'S HOSPITAL.

WE are indebted to Dr. Hector W. G. Mackenzie for permission to publish the following brief notes of a case under his care.

The patient, a well-nourished young woman from the east coast of England, aged 22 years, is one of a family of five children, all of whom, except herself, are stated to be healthy. There is a history of pulmonary tuberculosis on both sides of her family but she herself has always enjoyed good health until two years ago. Before that time she was in the habit of fondling a pet dog which constantly licked her hands. In December, 1900, and again in January, 1901, she suffered from attacks of pain in the right side which were considered to be due to pleurisy. Early in November, 1901, she suffered from abdominal pain which was not severe enough to prevent her following her usual occupation of nursery-maid. On Dec. 20th, 1901, she had malaise and pain in the region of the right shoulder which was so severe that she could not do her work.

On admission into St. Thomas's Hospital on Dec. 24th, 1901, her temperature was 101·2° F. By the evening of the 26th it had fallen to normal and remained so till Jan. 10th. There were enlargement of the right lobe of the liver and friction in the right axilla which suggested to Dr. Mackenzie the possible presence of hydatid disease. The patient's blood was examined on Dec. 27th at 11 A.M., about two hours after her last meal and gave the following results: Red cells, 6,290,625 per cubic millimetre; hæmoglobin, 70 per cent.; colour index, about 0·6; and white cells, 17,000 per cubic millimetre. A differential count of 500 white cells was as follows: polymorphonuclear neutrophiles, 22 per cent.; eosinophiles, 57 per cent.; lymphocytes, 20 per cent.; and basophiles, 1 per cent.

An operation was performed on Jan. 10th when 10 ounces of clear fluid, which contained hydatid booklets, were withdrawn from a cyst in the right lobe of the liver. The next day her temperature rose to 102 5° at midnight and continued to rise to this height nightly with morning remissions until the 18th. A second examination of the blood was made on the 13th. It showed 7000 leucocytes per cubic millimetre. A differential count showed: polymorphonuclear neutrophiles, 58 8 per cent.; eosinophiles, 12 per cent.; lymphocytes, 28 2 per cent.; and basophiles, 1 per cent. On the 16th it was noticed that the discharge from the cyst was copious and offensive and two days later it was purulent. At this time the temperature became normal for a couple of days; it then rose, and though fluctuating considerably for the next month, it was, on the whole, constantly high at night. Further hydatid cysts were evacuated through an incision in the right fifth intercostal space. A differential blood count was made on Feb. 20th, with the following results: polymorphonuclear neutrophiles, 60 per cent.; eosinophiles, 1 per cent.; lymphocytes, 29 4 per cent.; and basophiles, 0·6 per cent. At this time there was a considerable amount of purulent material draining from both wounds and a few collapsed cysts were also discharged. A blood count taken on March 13th, when the morning temperature was 102°, showed: red cells, 2,934,375, and white cells, 7600 per cubic millimetre. A differential count showed: polymorphonuclear neutrophiles, 73·2 per cent.; eosinophiles, 3·2 per cent.; lymphocytes, 22·2 per cent.; and basophiles, 1·4 per cent. On the 21st a further cyst was evacuated and a large quantity of clear fluid was withdrawn. On April 3rd the fifth examination of the blood was made when a differential count (200) gave: polymorphonuclear neutrophiles, 64·5 per cent.; eosinophiles, 1 per cent.; lymphocytes, 34·5 per cent.; and basophiles, *nil.* No urticarial rash was present at any stage of the patient's illness.

The chief interest of the case centres in the high percentage of eosinophiles present. The number found in the first count is in excess of any records which we have been able to find, with the exception of a case of trichinosis under the care of W. Osler,[1] in which the blood was examined by T. R. Brown and the eosinophiles were found to number 68 per cent. in a total leucocytosis of 1700, and a case of ankylostomiasis examined by Bücklers,[2] in which the eosinophiles numbered 72 per cent. It is most nearly approached by certain other cases of trichinosis and in bronchial asthma at the time of the paroxysms. In the latter complaint Billings[3] reports counts of 53 6 per cent., 38·2 per cent., and 33·9 per cent. eosinophiles in three cases in which the total leucocyte count was not increased. As is well known eosinophilia—for the most part of slight degree—occurs in a number of diseases, especially, according to Neusser, in pemphigus, in most non-malignant diseases of the liver, and "in trouble involving the female genitals, especially the ovaries."[4] Further, Neusser considers "that the increase of eosinophiles which he finds in hydatids serves to distinguish them from hydronephrosis, dilated gall-bladder, &c."[5] Recently Lovell Gulland[6] has shown that marked eosinophilia occurs in filariasis and his results have been confirmed by Coles[7] who, further, in a case of bilharzia disease occurring in an otherwise healthy and athletic Englishman, found that 20 per cent. of the leucocytes present were eosinophiles. None of the causes enumerated above were present in the case which we describe, with the possible exception of ovarian trouble, which might perhaps be considered to have been present since the patient had not menstruated for a few months preceding admission to St. Thomas's Hospital. We do not, however, think that this last-mentioned factor, even considering it to have existed, could have caused the enormous increase of eosinophiles found, and it seems alike simpler and more rational to regard hydatid disease as the cause of the blood change, more especially as the number of eosinophiles present gradually dropped to normal after operation. Again, it is interesting to note that, according to Bückler, "all kinds of helminthides, from the harmless oxyuris to the pernicious ankylostoma, may bring about an increase of the eosinophile cells in the blood, often to an enormous extent." The author makes no mention of hydatid disease.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF RABIES LATENT FOR 20 MONTHS.

BY HOWELL REES, L.R.C.P. LOND., M.R.C.S. ENG.,
AND
D. O. ROWLANDS, L.R.C.P., L.R.C.S. EDIN.

ON August 9th, 1900, a powerful, mountain-bred man, 63 years of age, was bitten on the metacarpo-phalangeal joints of the thumb and forefinger of the left hand by a fox terrier which hung on to his hand. In his attempts to free himself the wounds were considerably lacerated and were cauterised with nitrate of silver by one of us on the patient's arrival at the surgery. A little boy was also bitten on the leg by the same dog on the same day. The dog was shot and buried the same evening. An attempt was made to get the Board of Agriculture to exhume the carcass and to examine the head, and after a great deal of circumlocution and in reply to an urgent request to relieve the suspense of those bitten, the secretary wrote that decomposition would be now too advanced to allow of inoculation experiments being of any value. It was then determined to give the patients the benefit of the doubt as to whether the dog was suffering from rabies or not and to send them to Paris for treatment at the Pasteur Institute. But further delay was caused by the necessity of collecting subscriptions to defray the expenses and of writing to Paris to arrange for accommodation for the patients at a hotel, so that it was August 29th when they started on the journey. The man was under treatment at the institute for 19 days, and he returned home feeling as well as ever, and remained so until May 26th, 1902, when he complained to some of his friends of pain in his left arm, and on the morning of the 27th he visited one of us at his surgery complaining of pain in the left arm and in the stomach and of sickness. On trying to swallow the medicine given to him he found that he could not do so owing to the painful spasms caused by the attempt. On the evening of the same day he walked one and a quarter miles with a friend and a brother to see one of us, and he was then (6 P.M.) in a state of semi-collapse, with a cold clammy skin, a small rapid pulse of over 120, an expression of terror on his face, and frequent spasms of the muscles of deglutition and respiration, accompanied by deep sighs and groans and startings to his feet and gasping for breath, with the shoulders raised and the chest expanded. He was ordered to return home and to go to bed immediately, the brother being privately informed that he was suffering from rabies. We attended him and gave him a hypodermic injection of a quarter of a grain of morphine and atropine which was repeated twice up to 3 A.M. the following morning (the 28th), when the patient was raving mad, requiring five men to hold him down, and we suggested that chloroform might be administered. On returning with some chloroform we found that he was now under the influence of the narcotic and in a state of semi-consciousness; he recognised us with a faint smile but immediately relapsed into the terrorised expression of face, with the spasms still continuing though with lessened severity. An enema of gruel and one drachm of chloral hydrate were now given and later, as the spasms and restlessness continued, a hypodermic injection of hyoscine was given, but in the course of two hours or so another quarter of a grain of morphine had to be given. His temperature at 4 A.M. was 102° F. and his pulse-rate was 132. There were intense thirst and total inability to swallow anything to quench it, the sight of any fluid causing spasms; there were also great intolerance of light (photophobia) and hyperæsthesia. There was a wild expression of the eyes with protrusion of the eyeballs which were very bloodshot. While lying in bed he would suddenly spring up on his feet and then lie down again, wrapping the bedclothes around him. The saliva was not swallowed, as it ran out at the corners of his mouth. The slightest draught of air also disturbed him. His daughter-in-law attempted to wash his feet but as soon as the water touched him he started violently and she had to desist. He continued in very much the same condition throughout the day and and was seen to be getting weaker every hour, but he never lost complete consciousness and died without any convulsions at 8.30 P.M. No post-mortem examination was made.

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[1] Osler: Principles and Practice of Medicine, p. 357 (London, 1901); and Cabot: Clinical Examination of the Blood, p. 289 (London and New York, 1900).

[2] Quoted by Ehrlich and Loranus. Histology of the Blood, 1900.

[3] New York Medical Journal, May 22nd, 1897.

[4] Cabot. loc. cit., p. 117.

[5] Ibid., p. 289.

[6] *The Condition of the Blood in Filariasis*, Brit. Med. Jour., April 5th, 1902.

[7] The Blood in Cases affected with Filariasis and Bilharzia Hæmatobia, Brit. Med. Jour., *May 10th*, 1902.

Notwithstanding the blundering policy of the Board of Agriculture in delaying the examination of the carcass of the dog until too late, there could be no reasonable doubt that the dog was rabid. It was ascertained that it had bitten several people near its home, and a cow also bitten by it had died and also, it is said, several cats in the establishment of its owner had also died after being bitten. Whether the result would have been different if the man could have been sent to Paris immediately after being bitten it is impossible to say.

It has been to us a cause of wonder for some time why an institute similar to the Pasteur Institute in Paris should not have been established in London long ago. It was no light matter for these poor people from the Amman Valley, Carmarthenshire, knowing no language but their native Welsh and never having been outside their own country before, to undergo the long and tedious journey to Paris and back. Had there been a Pasteur institute in London patients from any part of the British Isles could be under treatment within 24 hours, at a trifling expense, and be independent of the red-tapeism of the Board of Agriculture. New York, St. Louis, and Kasauli, India, have their Pasteur institutes, and why not the greatest city of them all—London!

Glan-Garnant, South Wales.

CASES OF MULTIPLE EXOSTOSES.

BY A. E. FRANCIS, M.R.C.S. ENG., L.R.C.P. LOND.,
HOUSE SURGEON, ROYAL PORTSMOUTH HOSPITAL.

A BOY, aged six years, suffering from a sprained wrist, was brought by his father to the casualty department of the Royal Portsmouth Hospital. Upon examination a tumour was detected at the lower end of the right radius, near the junction of the epiphysis with the diaphysis. This was found upon manipulation to be a hard and painless pedunculated growth apparently springing directly from the bone. At the inner side of the upper end of the right humerus there was another tumour projecting visibly beneath the skin. It was about one and a half inches in length, smooth and slender, but expanded and tuberculated at its extremity. A still further examination of the child revealed similar outgrowths in the following situations: the acromial end of the right clavicle, the sternal end of the sixth rib on the right side, the lower ends of the right and left femora, and the upper ends of the right and left tibiæ. That on the rib was flattish and more sessile but the others were distinctly pedunculated. Those upon the femora took origin just above the internal condyle and projected upwards, whilst those upon the tibiæ arose from the internal tuberosity and projected downwards. The child was healthy and well nourished and showed no signs of rickets. The father was similarly affected and tumours were found at the upper end of the right humerus, the sternal end of the eighth rib on the right side, the lower ends of the right and left femora, the upper ends of the right and left tibiæ, and the lower end of the right tibia. He volunteered the information that the "lumps" had increased in size when he was a child but that when he became a man they had ceased to grow. They never caused him any inconvenience. He also said that his father had them too. His wife was quite healthy. They had no other child.

There is no doubt that these tumours were exostoses of the cancellous or spongy type. I think that the cases are of interest from the very well-marked hereditary history, the multiplicity of the tumours, and the degree of symmetry that existed between the outgrowths of opposite sides.

Portsmouth.

A RAPID AND SIMPLE METHOD OF LOCALISING FOREIGN BODIES BY THE X RAYS.

BY J. WISHART LITTLE, M.B., L.R.C.P. LOND.,
M.R.C.S. ENG.,
LIEUTENANT, INDIAN MEDICAL SERVICE.

THE method of localising foreign bodies described by Mr. W. R. Fox in THE LANCET of Sept. 21st, 1901, p. 784, is doubtlessly mathematically correct, but it is too tedious and complicated to be of great practical use when expediency is an important factor. The following may be worthy of note to those interested in x-ray work, but it is certainly of importance in military surgery, especially in active service, where time and means of transport are both limited.

The patient is placed on a couch or a table fitted with the usual drum and cross-wires in such a position as to allow the foreign body, the presence of which has previously been determined by means of the screen, to be as nearly as possible over the meeting point of the wires. The vacuum-tube is fixed at a height of 15 or 20 inches, according to the thickness of the part to be radiographed, measuring from the plate to the anode and as nearly as possible vertically over the crossing point of the wires. This position of the tube is known as the zero point. Two photographs are now taken on one negative, the first exposure being given from a point two inches to one side of the zero. The tube is then moved through a distance of four inches to a point two inches on the other side of the zero, in a horizontal direction, from which the second exposure is given. On developing the plate the cross wires and two shadows of the foreign body are seen. By means of a sliding caliper scale, which I have had specially engraved for the heights of 15 and 20 inches, the actual depth of the foreign body from the plate may immediately be read off from the instrument, after placing the fixed jaw of the scale on one part of the first shadow and sliding the moveable jaw along till it points to the corresponding part of the second shadow.[1] It is often, however, found advisable in cases where the foreign body is less than one inch from the surface to increase the distance through which the x-ray tube is moved to eight inches instead of four inches (i.e., four inches on each side of the zero), By this means the distance between the shadows is increased and consequently a more accurate result obtained but with some distortion of the images. Of course, it must be remembered that by doubling the distance through which the tube is moved the reading on the scale must be halved to give the true depth of the foreign body from the plate.

In rapid work, when great accuracy is not required or when photographic plates cannot be obtained, the screen, fitted with cross wires and a thin sheet of transparent celluloid on which the shadows may be marked, is employed in exactly a similar manner. In using the screen, however, it is advisable to work with a distance of only 10 inches (measuring from screen to anode) instead of 20 inches. The reading on the 20-inch scale must necessarily be halved to obtain the true depth of the foreign body from the screen. It must, nevertheless, be admitted that localisation by this means is not as satisfactory as when negatives are employed since the shadows are generally lacking in definition. It is obvious that this direct-reading localising scale, which only measures eight inches in length, has a great advantage over the other and more cumbersome localisers in use.

The above method is founded on the principle described by Mr. J. Mackenzie Davidson but it is more compact and simple.

Blackheath.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Prœmium.

ST. GEORGE'S HOSPITAL.

AN UNUSUAL CASE OF INTUSSUSCEPTION; OPERATION; RECOVERY.

(Under the care of Mr. H. S. PENDLEBURY.)

WE have published in the "Mirror of Hospital Practice" numerous cases of intussusception in which early operation was successful in saving life. The following case is a valuable addition to the series, for it demonstrates clearly the utter unlikelihood of a reduction of the invagination by any method of injection or inflation. The indurated iliac intussusception which was last reduced could be amenable only to direct surgical treatment. The practice of employing inflation or injection for the reduction of an intussusception is yearly less frequently seen and the value of an early laparotomy is more and more recognised. The best results will be obtained when the public have learnt the importance of the early symptoms of the disease and the danger of purgatives. For the notes of the case we are indebted to Mr. Adrian Caddy, house surgeon.

A boy, aged two years, was admitted into St. George's Hospital on Dec. 29th, 1901. The child had had a large meal of nuts on the 26th; in the afternoon of the 28th he was seized with sudden acute abdominal pain, followed by vomiting, and in a few hours' time by the discharge of much mucus and some blood from the rectum. The vomiting and rectal discharge continued and Dr. G. E. Hale was called in. He diagnosed intussusception and advised immediate removal of the child to St. George's Hospital.

On admission the patient was a bright, healthy-looking child who sat up in bed and did not seem to be much distressed. His pulse was 144 and his temperature was 99 6° F. On examination of the abdomen, movement of the parietes was free; there was little distension and on palpation no rigidity of the abdominal muscles or marked tenderness was noted, but a rounded, sausage-shaped tumour, dull on percussion, was detected extending from the right iliac fossa to the region of the umbilicus and freely moveable. Rectal examination elicited nothing except some mucous discharge. The child vomited some brownish-coloured fluid on two occasions after admission. Mr. Pendlebury was sent for and he decided on immediate operation 26 hours after the onset of acute symptoms. Ether on a cone was the anæsthetic chosen, and the abdomen was opened through a two-inch incision below the umbilicus in the right rectus muscle. The tumour was at once seen and was lifted out of the abdomen; it was about six inches in length. It showed only a slight degree of congestion and was reduced with little difficulty. After reducing the intussusception which was of the commoner ileo cæcal variety, there was exhibited about two inches from the cæcum a second intussusception of the ileum from one to two inches long; this also was easily reduced. At this spot the infiltration and thickening of the intestinal wall were greatest. The abdomen was closed with fish-gut sutures which were removed 10 days later when the wound was quite healed. The operation lasted 20 minutes The bowels acted naturally on the third day and abdominally nothing abnormal afterwards occurred.

The patient had been suffering from a slight cough for a few days before admission and, possibly as a result of the ether anæsthesia, he developed a severe attack of bronchitis with a troublesome cough which did not subside for 10 days. The temperature during this time fell gradually from 102° to normal and thus for some while his condition occasioned considerable anxiety. He was discharged 24 days after the operation and was seen again on Feb. 20th, when the scar seemed to be quite firm.

Remarks by Mr. CADDY.—The case is interesting on account of the very unusual type of intussusception and the slight injury which the peritoneum had received, and the length of time which had elapsed between the onset of symptoms and the operation (26 hours). The absence of collapse or of abdominal pain was marked and one would expect in an intussusception of this nature more acute symptoms.

Remarks by Mr. PENDLEBURY.—The chief point of interest in this case lies really in the actual anatomy of the intussusception. Clinically it might be described as a "typical case," for it presented all the usual phenomena expected in acute intussusception, from the history of the previous indigestible meal of nuts to the existence of a definite tumour. Perhaps, however, one might mention that the child looked remarkably fit and well considering his condition. This case, I think, comes under the variety denominated iliaco-ileo-colica by Leichtenstern.[1] I should say that the small intussusception of the ileum occurred first and acting possibly as an irritant tumour caused the further and far more usual ileo-cæcal form. Certainly, after reduction, which was easily accomplished, the stiffest and most infiltrated and inflamed part of the gut was the few inches occupied by the enteric intussusception. The case admirably illustrates the advantages of early diagnosis and immediate surgical treatment.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL.

A CASE OF AMPUTATION OF THE RIGHT SHOULDER AND THE RIGHT HIP.

(Under the care of Dr. P. A. PEARCEY.)

SIMULTANEOUS or rapidly consecutive amputations of two limbs are always noteworthy when the limbs are removed at a high level. Most commonly the lower limbs are the seat of double amputation, for it is more likely that both legs will be irreparably damaged than that both arms or one leg and one arm will be thus affected. In the following case the arm was amputated at the shoulder-joint and the thigh at the hip-joint, and it is probable that in this respect the case is without parallel. Several cases are on record where portions of three limbs have been amputated[1] but much less of each limb was removed than in the case recorded below. For gangrene portions of all four limbs have been amputated.[2] For the notes of the case we are indebted to Mr. Allan Walker, late house surgeon.

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[1] The instrument may be obtained from L. Miller, manufacturing electrician, 93, Hatton-garden, London, E.C.

[1] Treves. Intestinal Obstruction, p. 145.

A girl, aged 17 years, was admitted to the Monkwearmouth and Southwick Hospital on Nov. 18th, 1901, suffering from the result of an accident caused by her dress having become caught in between two small cog-wheels whilst she was oiling some machinery. On admission she was suffering from great shock but was conscious. Her right arm and right thigh were severely smashed and mutilated and though both brachial and femoral arteries were torn no tourniquet had been applied and there was little or no hæmorrhage—in fact, the limbs were merely hanging by small skin attachments. On seeing the patient, an hour after the accident, as she had been brought over two miles in a cart to the hospital, Dr. Pearcey at once decided to amputate both limbs. Amputation at the shoulder-joint was first performed. Owing to the mutilation some difficulty was experienced in obtaining flaps but a little manipulation overcame this. This having been accomplished Dr. Pearcey proceeded to amputate the right leg at the hip-joint, when the same difficulty of obtaining adequate flaps was present. Before commencing each amputation Dr. Pearcey ligatured the axillary and femoral arteries respectively. Chloroform was at first administered as an anæsthetic but this was soon changed to ether, only sufficient being given to keep the patient unconscious. Immediately on admission she was given one-thirtieth of a grain of strychnine and half a drachm of ether hypodermically. During the operation signs of heart failure commenced and a further hypodermic injection of one-tenth of a grain of strychnine was given. After the amputation at the shoulder was completed these symptoms reappeared and she was infused with three pints of saline solution, one drachm to the pint, at a temperature of 100°F. This was done whilst the amputation at the hip-joint was proceeding The operation lasted one and a half hours. The accident had occurred at brickworks and the parts required extensive cleansing. The girl had been swung round and round with the wheel and each time the limbs came in contact with the ground the tissues became embedded with clay and earth, so that it was impossible to obtain clean flaps free from earthy matter. Primary union was consequently not expected; in fact, the girl's condition appeared perfectly hopeless. Despite this the shoulder did practically heal by first intention. The hip gave more trouble; it suppurated but slowly healed. The after-treatment was simply that required by such a case—free drainage, stimulants, and generous diet.

Remarks by Dr. Pearcey.—The main points of interest in this case are the following: (1) that the girl escaped hæmorrhage; (2) that she survived the operation; and (3) the unique nature of the condition, both arm and leg being amputated at the shoulder- and hip-joints respectively on the same side of the body. I should be glad to know how many similar cases have been recorded with the same happy result.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Changes in the Bone Marrow associated with Suppuration within the Knee-joint.—Neuro-lipomata of the Median Nerve.—"Chyle" Cyst of the Mesentery.—Dermoid Cyst of the Inguinal Canal.—Meningococcus in a Case of Cerebral Tumour.—Tuberculosis in a Python.—Exhibition of Specimens.

A meeting of this society was held on June 17th, Mr W. Watson Cheyne, C.B., the President, being in the chair.

Dr. A. G. Phear read a paper on the State of the Bone Marrow of the Femur in a case of Suppuration of the Knee-joint, followed by Profuse Secondary Hæmorrhage. The changes in the medullary tissue were of a double order; there was (1) proliferation of myelocytes and allied cells similar to that which had been recorded in other cases of infective processes and constituting the so-called "myelocytic reaction" to infection; and (2) proliferation of cells of the erythroblastic type, of special interest when viewed in connexion with the severe hæmorrhage that took place some days before death; the characters of the erythroblasts were such as to denote an early stage in their growth. Giant cells were present in considerable number. The proliferation of the cellular constituents of the marrow had advanced to such a degree as to transform its general character; in the place of a tissue consisting almost wholly of fat there was found an opaque, firm, reddish tissue containing an insignificant amount of fat and composed chiefly of the various cells described. Reference was made to recent investigations into the marrow changes attendant on experimentally induced infection with pyogenic organisms and stress was laid on the close similarity between the results of experiment and the marrow lesions which in the present case were found to be clinically associated with suppuration. The importance of such observations, both clinical and experimental, lay in their bearing on the view that the bone-marrow was the source of the polymorphonuclear blood corpuscles, and therefore the chief tissue concerned in the leucocytosis that accompanied infective diseases.—Dr. H. Batty Shaw remarked on the absence of karyokinesis in the cells of bone marrow as observed by Dr. Phear. How was this to be brought into line with the view that bone marrow was the place of origin of the leucocytes?—Dr. Phear, in reply, said that no blood examination was made because the case did not come under his notice until after death. In regard to the absence of nuclear changes in the cells other observers had found karyokinetic figures and their absence in this case did not negative the origin of leucocytes from bone marrow.

Mr. H. J. Waring narrated a case of Neuro-lipomata of the Median Nerve occurring in a man aged 38 years. The patient had been quite well until June, 1895, when the right hand and forearm had been crushed by a heavy bar of wood. One year later he suffered pain in the hand and arm which continued until October, 1900, when he was first seen, and resulted in a considerable enlargement of the thumb and forefinger. Amputation was performed in April, 1901, and a diffuse lipomatous growth was found to have formed along the peripheral branches of the median nerve which was also found to be thickened in the forearm. The amputated hand and a skiagram of it were exhibited.—Dr. H. Morley Fletcher suggested the possibility of the case having some relation to von Recklinghausen's disease and asked if there were any tumours along the nerves or pigmentation of the skin in other parts of the body. Was it not a fact that the lipomatous growth had recurred in the limb since the amputation?—Mr Waring, in reply, said that there were no tumours in any other part of the body.

Dr. John Fawcett exhibited a "Chyle" Cyst of the Mesentery, which had produced intestinal obstruction in a child, aged three months, who was admitted into Guy's Hospital on Dec. 13th, 1902, and died the next day. He had been well till Dec. 11th, when diarrhœa and vomiting commenced and continued. At the necropsy an acute intestinal obstruction was found, due to a cyst which had caused a kinking of the small intestine. The cyst was a unilocular one, of the shape of a pear, and it was distended with a milky fluid. The glands in the mesentery were enlarged. The analysis of the fluid by Mr. J. H. Riffel showed it to be chyle. It contained coagulable proteids and 7 7 grammes per 100 cubic centimetres of fat. The reaction was alkaline. Sections made from two pieces of the cyst wall showed it to be composed of fibrous and muscular tissue. The characters of this cyst, both as regard its position, contents, and structure, were similar in many ways to those described by Eve,[1] Moynihan,[2] and others. The classification previously adopted, based largely upon the contents of these cysts, was not thought satisfactory The nature of the contents was more or less a matter of chance. The most satisfactory plan would be to classify them all as of embryonic origin (as suggested by C. Dowd in the Annals of Surgery, vol. xxxii., 1900), arising by sequestration from the intestine or its neighbourhood, some from mesoblastic tissue having fibrous or muscular walls or both, others from hypoblast tissue as well, and therefore showing epithelial structures.

Mr Herbert Paterson showed a Cyst removed from the

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[1] The Lancet, April 13th, 1889, p. 730, and Ashurst's Medical and Surgical Reporter, 1888, vol. i.

[2] Brit. Med. Jour., 1898, vol. i., p. 81.

[1] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxi., p. 51.

[2] Annals of Surgery, vol. xxvi., p. 1.

Inguinal Canal of a man, aged 35 years. A swelling thought to be hernial had been noticed for five years. Shortly before its removal the swelling had suddenly become painful and an attempt had been made under an anæsthetic to reduce it. On opening what was thought to be a hernial sac thick pultaceous material escaped. Further examination showed the swelling to be a closed sac, not communicating with the abdominal cavity. On dissecting it out it was found very adherent to the surrounding structures. At its inner part it was attached to the front of the symphysis pubis by a fibrous band. One hair was detected growing on the wall of the cyst. Microscopical examination showed the cyst to be lined with skin. Mr. Paterson commented on the rarity of dermoids in this region and referred to a similar case recorded by Mr. A. Pearce Gould in THE LANCET of Nov. 4th, 1893, p. 1126. He had been unable, however, to find any case in which the supposed nature of the cyst had been verified by microscopical examination.

Dr. CLIVE RIVIERE read a paper on the Meningococcus in a case of Cerebral Tumour Simulating Posterior Basic Meningitis. The case occurred at the Shadwell Children's Hospital. A male child, aged nine months, suffered with head retraction and progressive hydrocephalus with a spastic condition of the limbs and died after an illness of four and a half months. A diagnosis of posterior basic meningitis had been made, but at the post-mortem examination no meningitis was found, only a large caseous tumour in each corpus striatum, that in the left being the larger and extending back into the pons, obstructing the Sylvian aqueduct and giving rise to extreme hydrocephalus. In this pent-up fluid was found a diplococcus (isolated on three occasions; twice from fluid obtained during life and again at the post-mortem examination), the morphological and cultural characteristics of which pointed to its being a variety of the meningococcus. The discovery of this organism during life had seemed to confirm the diagnosis of posterior basic meningitis. Dr. Riviere pointed out that though the meningococcus had been isolated from cases of tuberculous meningitis he had not been able to find a case in which it had been found under the conditions described above.

Mr. S. G. SHATTOCK recorded an instance of Tuberculosis in a Python, and a portion of the creature's gullet was exhibited. The lesions of unusual character were those of the œsophagus, in the mucosa of which there were a series of oval swellings, each consisting of a compact aggregate of small spherical tubercles. No such lesion was met with in the human subject, in whom tuberculous disease of the œsophagus was known only as a result of direct extension from neighbouring structures. The peculiar lesions in question were explained by the fact that in ophidia there occurred normally in the mucosa of the œsophagus oval lymphatic nodules or "glands" like those of the intestine; they lay immediately beneath the epithelium which was of the columnar-celled variety. Mr. Shattock viewed the infection as direct and due to the consumption of tuberculous food, the main lesion being in the stomach. The food consisted of ducks and the bacillus was probably avian in source. Acid-fast bacilli were demonstrable in the œsophageal lesions. Mr. Shattock observed that there was no trace of ulceration over these lesions, the infection having occurred between the cells of an intact epithelium. It was not so much that the bacillus had selected the site as that the sites had selected the bacillus. The process was a transport of bacilli by wandering cells like that of inhaled inorganic particles to the bronchial glands. As regarded the temperature it had long been known that the tubercle bacillus would grow at comparatively low temperatures, and as the python in question had lived in an atmosphere of 70° F., the temperature of the water in its tank being as high even as 80° F., the growth of the bacilli offered no difficulty though occurring in a "cold-blooded" creature.

Mr. WARING exhibited: (1) A Congenital Lipoma of the Face and (2) a Congenital Tumour of the Superior Maxilla.

OBSTETRICAL SOCIETY OF LONDON.

Pregnancy after Removal of Both Ovaries for Cystic Tumours—Primary Ovarian Gestation.—Exhibition of Specimens.

A MEETING of this society was held on June 4th, Dr. PETER HORROCKS, the President, being in the chair.

Mr. ALBAN H. G. DORAN read a paper on Pregnancy after Removal of both Ovaries for Cystic Tumour. A woman, aged 25 years, after bearing one child, underwent ovariotomy for a multilocular adenomatous cystic tumour of the left ovary. She then bore four more children and afterwards, when 39 years of age, came under Mr. Doran's care and he removed a similar tumour of the right ovary. The base required enucleation, part of the capsule was ligatured like a pedicle with silk, and the greater portion was cut away, but in that part no trace of the Fallopian tube could be detected. A small tubercle on the left of the uterus was the sole remnant of the left appendages. After convalescence the period recurred and continued till the patient became pregnant and bore a child at term two years after the operation. The period then returned and ceased abruptly when the patient was 45 years of age. The consequent menopause symptoms were distinct though mild. Mr. Doran briefly reviewed a few cases, already reported, where pregnancy ensued after the removal of both ovaries for tumour or chronic inflammatory disease. In a case recorded by Schatz, in which both ovaries were removed for cystic tumour, one tube and a piece of ovarian tissue were purposely left behind. Five years later the patient gave birth to a child at term. Stansbury Sutton of Pittsburgh reported a case in which both ovaries were removed for cystic disease; the right pedicle was severed by cautery, the left by scissors. The patient was twice pregnant afterwards. Dr. Gordon of Portland, Maine, U.S., removed both tubes and ovaries for inflammatory disease and the patient was delivered of a child two years later. Other reported cases were doubtful. The presence of ovarian tissue was essential in these cases. In Mr. Doran's case it was probably a detached area lying in the right ovarian ligament; the cyst itself was certainly enucleated entire. Mr. Doran suspected that the Fallopian tube escaped ligature and removal altogether, the base of the tumour being enucleated from the posterior layer of the broad ligament. The condition after operation would then be as in Schatz's case, the tube remaining entire. It was not absolutely certain, however, that the tube was not included in the ligature and in the part removed. This occurred in the cases of Stansbury Sutton and Gordon and reference was made to a case where pregnancy occurred after Cæsarean section and ligature of both tubes with silkworm gut for "sterilisation" (Galabin-Horrocks). The ligature might either loosen or perhaps ulcerate through the tube, which managed to heal behind it without stricture of its canal. The tube might then resume its functions, even if reduced to a stump.—Mr. J. BLAND-SUTTON observed that Mr. Doran's interesting communication really raised two important questions for consideration—namely, the occurrence of pregnancy after double ovariotomy and the effect of a ligature on the continuity of the lumen of a Fallopian tube. Probably no one in England had studied so closely the "fate of the ligature" after successful ovariotomy as had Mr. Doran, and he certainly was the first to study the changes which took place in the stump of the pedicle after intra-peritoneal ligature. It was now quite certain that when a Fallopian tube was ligatured in continuity it did not necessarily permanently obliterate the tubal lumen. In his Cæsarean section for pelvic contraction Mr Bland-Sutton in 1891 tied the Fallopian tubes with thin silk within an inch of the uterus; this patient had remained sterile. On a subsequent occasion, where it was deemed prudent to induce labour for uncontrollable vomiting and epileptic seizures, an attempt was made to sterilise the patient by drawing out each tube and transfixing the mesosalpinx with a needle armed with thin silk and then tightly tying the tube near its middle. This failed, for the patient quickly conceived again and had reconceived many times, though her constitutional condition had never allowed a pregnancy to go to term. Since this experience Mr. Bland-Sutton had always tied the tubes in two places and exsected a piece of the tube when it was desirable to sterilise a patient. Mr. Doran's suggestion that "the ligature might perhaps ulcerate through the tube which then healed behind it without stricture of its canal" was probably true, and the following case in a measure supported it. In 1898 Mr. Bland-Sutton removed an ovarian cyst; its very slender pedicle was tied with thin silk. Although recovery was uneventful the patient complained during many weeks of cramp-like pain on the side from which the cyst had been removed. The pains gradually passed away and 10 months later during menstruation the patient accidentally noticed on her napkin a tiny loop of silk which she saved. This was the loop of silk used to secure the Fallopian tube; it had ulcerated into the tube and had been very slowly conducted into the uterus and so had escaped. A silk ligature applied to the cut end of a ureter in the course of a nephrectomy was sometimes conveyed to the bladder in the same manner. Mr. Bland-Sutton was glad to have the opportunity of stating that the opinion which he expressed to the society in 1892 had not been borne out by subsequent experience, and it was now abundantly clear to all that the mere application of a silk ligature to the Fallopian tubes could not be depended upon to obliterate permanently their lumina and thus prove an obstacle to pregnancy.—Dr. A. L. GALABIN said that he had met with two cases in which the attempt to sterilise by tying the Fallopian tubes had failed and which were those referred to by Mr. Doran. In that in which Dr. John Shaw had tied the Fallopian tubes with silkworm gut in performing Cæsarean section it was certain that the ovum had passed by the tube on which the ligature appeared to remain *in situ*, for on the side on which the ligature had cut through and the tube was divided the divided ends were absolutely closed. In the second case he had himself in performing Cæsarean section tied the tubes with kangaroo tendon and the patient became pregnant again within a year or so. Taught by the experience of these cases he had since then adopted the plan of cutting a piece out of the tubes between two ligatures, then pulling out the stump on each side as far as possible and cutting it off so that the open lumen was left at the bottom of an inverted cone of cellular tissue. None of the patients so treated had become pregnant again and he was inclined so far to regard this as a trustworthy method.—Mr. A. O. BUTLER-SMYTHE asked Dr. Herbert R. Spencer if he could give any information relative to the pregnancies of Mr. Bland-Sutton's patient. She had attended the Samaritan Hospital and had stated that subsequent to the operation she had twice miscarried with twins, which rather surprised her inasmuch as all her previous pregnancies had been single. He also wished to know if the fits had been benefited by the operation.—The PRESIDENT had expected to hear a hot discussion on how pregnancy could have taken place when both ovaries had been removed; but Mr. Doran had frankly admitted that a piece of ovarian tissue had been left behind at the second operation, so that there was nothing strange about the case. He was surprised to hear Mr. Doran advocate the removal of both ovaries entire when it was possible to leave a healthy piece. He thought it better to leave some ovary whenever possible.—Dr. AMAND J. M. ROUTH thought that sufficient cases could now be collected to explain the occasional occurrence of menstruation and ovulation after double ovariotomy, and he observed that in most of the reported cases a latent period of a few months or even years elapsed before menstruation again appeared. He thought it likely that a small piece of the hilum of one ovary might be left containing no Graafian follicles sufficiently developed to come immediately to maturity. He believed that such a piece of ovarian stroma, together with the follicles, became in a few months further developed, and ovulation and menstruation then recurred.—Dr. R. BOXALL remarked on the impossibility of making absolutely sure that sterility would necessarily result from ligature of the Fallopian tubes. The importance of the question often arose when operation was undertaken and the tubes were at the same time ligatured with the object of rendering the woman sterile; but it might also arise when from disease of the appendages operation was indicated. For instance, he had recently met with a case in which, owing to long-continued and recurrent attacks of inflammation, it became necessary to urge surgical interference with the appendages. To this procedure objection was raised both by the patient and by her husband solely on the ground that complete removal of the appendages would entail sterility. In that event cohabitation would be forbidden by their church. Eventually the symptoms became so urgent that operation was rendered imperative. Fortunately, it was found possible to retain a healthy part of one ovary, in consequence of which the menses had not been discontinued. Notwithstanding that the greater part of both tubes as well as one ovary and part of the other were of necessity removed no occasion arose for the separation, which they both so much dreaded, for it was possible to assure them that impregnation was not, by the operation at any rate, put beyond the bounds of possibility.—The paper was also discussed by Dr. HERBERT SPENCER and by Dr. W. JAPP SINCLAIR.—Mr. ALBAN DORAN, in replying, said that he was much interested in the discussion on attempts to sterilise a patient by tying or cutting the Fallopian tubes. He believed that in his own case a trace of healthy (not cystic) ovarian tissue was left in the right ovarian ligament. It was easy to extirpate all ovarian tissue when the ovaries were taken away with the uterus and not difficult when a pedunculated ovarian cyst was removed, as the ovarian ligament was elongated and very prominent. But when the base of the cyst burrowed and lay close against the uterus the ovarian ligament could rarely be distinguished. In one case where Mr. Doran was obliged to remove the uterus with the burrowing adherent tumour he found on examining the specimen that it would have been practically impossible to leave the round ligament or part of a pedicle without leaving also ovarian tissue, morbid or healthy. As it was with a cystic tumour, so it was with inflamed adherent appendages, and so it very often was with an ovary removed to check the growth of a uterine fibroid. In all these cases the operator dared not cut the pedicle sufficiently short to remove all ovarian tissue, for he knew that if he did so the ligature would probably slip. Hence it was not very hard to understand that in some cases menstruation or even pregnancy occurred after removal of both ovaries. In his own case the ovarian ligament with some healthy tissue had probably been flattened against the uterus and had thus escaped the ligature. After-histories of all abdominal operations were valuable, especially as to the fate of ligatures which were shed sometimes eight or 10 years after they had been applied.

Mr. A. W. MAYO ROBSON contributed a short communication on a case of Primary Ovarian Gestation. He pointed out that though he had operated on about 50 cases of extra-uterine gestation the present specimen was the only one of the series in which he had been able to prove ovarian gestation. Doubtless many of the cases described previously as ovarian pregnancy had been of that nature, but this was apparently only the fourth case in which absolute proof had been furnished by showing an early embryo in its membranes and contained in a sac in the ovary. The patient, who was 24 years of age, was admitted to the Leeds General Infirmary on April 11th, 1902, in a state of profound collapse. She stated that on the previous night, six weeks after her last menstrual period and a fortnight after missing her menses, she was seized with a sudden pain in the right side while engaged in blackleading a grate. She became very faint and pallid and soon she vomited. She was put to bed but the pain continued during the night and was much worse next morning. The pallor also increased. She was seen by her medical attendant (Mr. H. Towers) who diagnosed extra-uterine gestation and advised her removal to the infirmary. She said that she was a married woman but had never had any children. On admission the patient was very pale indeed. Her temperature was 98° F., the pulse was 130, and the respirations were 48. She complained of pain on the right of the abdomen, which was distended and did not move on respiration. It was very tense and tender, rendering palpation difficult, but a fluid thrill could be obtained on flicking with the finger. No tumour could be felt. Examined per vaginam the uterus was found to be fixed and Douglas's pouch was prominent. There was no history of bloody discharge from the vagina. A diagnosis of ruptured extra-uterine gestation was confirmed and immediate operation was advised. The patient was wrapped in warm blankets and taken to the theatre, where she was put on a heated operating table and anæsthetised with ether. The skin of the abdomen was then quickly washed and purified and a vertical incision was made above the pubes. When the peritoneum was opened there was a sudden gush of blood and clot. The right appendage was at once seized and clamped, as bleeding was going on, but before it could be brought to the surface it was necessary to detach the Fallopian tube which was firmly adherent to the bottom of Douglas's pouch, the ovary projecting above the tube, to which it was not adherent in any way. On the top of the ovary there was a firm mass surrounded by clot and on lifting this from the ovary a cavity was found in the ovary itself, into which the small ovum would easily fit. The left ovary and tube were examined and were found to be healthy. The mesometrium was then transfixed and the tube and ovary were removed after ligature. For the following description of the specimen, which was now in the museum of the Royal College of Surgeons of England, thanks were due to Mr. S. G. Shattock: "The parts removed are those of an ovarian pregnancy. They comprise the fimbriated end of the right Fallopian tube, the ovary and the ovum partly surrounded by, and embedded in, recent blood-clot. Connected with the fimbriated extremity of the tube are two small pedunculated cysts, the larger about half an inch in diameter. The ostium is crossed by a thin membranous band of adhesion, beneath which a black bristle has been passed. The tube was firmly adherent to the bottom of Douglas's pouch and quite free of the ovary, the highest part of which projected above its level. At the inner pole of the ovary is a partly collapsed cavity about three-quarters of an inch in diameter. This cavity is widely open through a sharply defined semicircular rent of recent origin; in the thin summit of the lid-like portion there is a second narrow, less regular slit half an inch in length. Over the cavity in the ovary lay the lens-like recent clot which is mounted separately in the preparation. The clot is about an inch and a quarter in diameter and of concave-convex form; in its concavity, partly embedded in it and partly free, there lies a villous chorional sac. The sac has been opened in the right half of the clot and the membranes everted; connected with the everted membranes there is displayed a minute embryo about four millimetres in length." From the position of the right tube, the fimbriated extremity of which was firmly fixed to the bottom of the pouch of Douglas, leaving the ovary free above it, it seemed probable that the spermatozoa must have reached the right ovary through the healthy left tube.—The case was discussed by the PRESIDENT and Mr. ALBAN DORAN.

Dr. ARNOLD W. W. LEA showed a rare type of Malignant Ovarian Tumour.

Dr. C. H. J. LOCKYER brought forward a Uterus which showed rapidly growing Epithelioma of the Cervix.

The PRESIDENT and Dr. WILLIAMSON showed specimens of Extra-uterine Gestation.

Dr. A. H. N. LEWERS having demonstrated some sections of Cancer of the Cervix in which from four to 15 years had elapsed without recurrence the subject was discussed by the PRESIDENT, Dr. WILLIAM DUNCAN, Dr. BOXALL, and Mr. MAYO ROBSON.

LARYNGOLOGICAL SOCIETY OF LONDON.

Cancer of the Œsophagus.

A MEETING of this society was held on June 6th, Mr. E. CRESSWELL BABER, the President, being in the chair.

A discussion on the Diagnosis and Treatment of Malignant Stricture of the Œsophagus was opened by Mr. CHARTERS J. SYMONDS whose address we hope to publish shortly.

Dr. HERBERT TILLEY related two cases illustrating the apparent simpleness of the early symptoms in Malignant Œsophageal Stricture. The first case was originally diagnosed as ulcer of the stomach. There was no difficulty in swallowing. On examining the larynx the left vocal cord was found to be paralysed and about three inches down the trachea a small nodular mass projected into its lumen. The patient died from hæmorrhage and on post-mortem examination a malignant ulcer of the lower end of the œsophagus was found. The mass in the trachea was a secondarily infected mediastinal gland. The second case occurred in a man, aged 51 years. He complained of loss of voice and inability to swallow solid food. On examination complete bilateral recurrent paralysis was found. Attempts were made to pass an œsophageal bougie but even the smallest one was arrested opposite the lower end of the manubrium sterni. On further examination a mass of stony hardness was observed in the region of the left lateral lobe of the thyroid. The patient died but no post-mortem examination was made. Dr. Tilley thought that these cases suggested that invaluable information as to the cause of the patient's symptoms might be obtained by the use of the laryngoscope.

Sir FELIX SEMON pointed out the value of the presence of laryngeal paralysis and enlargement of the cervical glands as aids to diagnosis. He thought that alterations in the voice were often present before the ordinary symptoms of malignant disease of the gullet. In cases where the disease affected the posterior aspect of the cricoid cartilage the substance of the crico-arytenoid muscles became affected and caused a myopathic paralysis of one or both of these muscles. This might produce respiratory defects of greater urgency than the difficulty of swallowing. Paralysis might also occur by involvement of the laryngeal nerves when the disease was situated lower in the œsophagus. He considered enlargement of the glands, especially those felt on deep pressure behind the clavicle, to be of diagnostic value. He agreed with the advice which Mr. Symonds had given—namely, in cases where great difficulty was experienced in passing a bougie, to prescribe a night's rest and a dose of opium previously to further attempts. He considered that the dangers of chloroform in these cases should not be underrated and related a case in which unfortunately death had occurred. He thought that functional or spasmodic stricture, apart from organic, certainly occurred.

Dr. E. CLIFFORD BEALE called the society's attention to the possibility of diagnosing growths of the œsophagus by means of the x rays and showed some photographic plates which had been kindly lent to him for the purpose by Dr. Hugh Walsham. He thought that this method of examination gave more information as to the amount of growth and thickening present. Referring to the case related by Mr. Symonds in which a patient, after gastrostomy, had been able to swallow with comfort, he suggested that this good result was produced by rest and freedom from irritation. Other similar cases had been reported and, acting on them, he was then treating a case by getting the patient to swallow hot water after every meal in order to wash the œsophagus and afterwards to swallow a sticky mixture of opium. The result so far had been most satisfactory. He agreed that intra-thoracic disease seldom caused dysphagia.

Mr. H. B. ROBINSON emphasised the importance, which had been pointed out by Sir Felix Semon, of the enlargement of the cervical glands and instanced a case where a mass of glands above the right clavicle had been the first sign which finally led to a diagnosis of stricture of the œsophagus. He also narrated a case of cystic adenoma of the thyroid which had caused dysphagia by pressure which was relieved by operation.

Dr. J. DONELAN related a case of malignant stricture of the œsophagus situated 16 inches from the teeth in which a long bougie had been of great use. Its introduction had been considerably aided by the use of cocaine and he suggested that adrenalin might also be useful.

Dr. J. DUNDAS GRANT related some difficulties which he had experienced in this class of case.

The PRESIDENT doubted the value of œsophagoscopy from a diagnostic point of view and referred to the value of letting a patient sip a solution of cocaine or eucaine before the introduction of bougies. He had not obtained much assistance from the Roentgen rays. As regards anæsthetics in these cases, he could not help thinking there was some peculiar danger. He asked Mr. Symonds if he had had any experience of œsophagectomy in these cases and if he would give a few more particulars about the risks of gastrostomy.

Mr. SYMONDS, in reply, thanked Dr. Tilley and Sir Felix Semon for raising the question of laryngeal paralysis and its value as an early diagnostic sign. He had seen cases where laryngeal paralysis had helped him in the diagnosis, but as a rule he had been able to settle it on other grounds. He could not recall any case where enlargement of the cervical lymphatics had led him to the diagnosis of malignant stricture of the œsophagus and was glad to learn of Mr. Robinson's case. He had had one case of spasm of the sphincter at the lower end of the œsophagus which might be called spasmodic stricture. Replying to Dr. Grant's difficulties he suggested the use of the steel bulb, without which he would certainly have missed many cases. He was interested in Dr. Donelan's case but held strongly that long tubes were inappropriate for disease of the cardiac orifice owing to the many disappointments which he had had. Answering the President as to the danger of gastrostomy he was not prepared at the present time to give a definite reply; if performed at an early stage it should involve very little risk.

DERMATOLOGICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on June 11th, Dr. H. RADCLIFFE CROCKER being in the chair.

Mr. MALCOLM A. MORRIS showed two cases of Bullous Eruption. The first of these was that of a young man, aged 24 years, who had suffered from annual attacks of bullous erythema for many years. The type was that of erythema iris and the present attack was the severest that he *had ever had*. The hands and feet, the extensor surfaces of the knees and elbows, and the mucous membrane of the mouth were all severely affected. The unusual point about the case was the anomalous mode of development, the bullæ appearing first and leaving the infiltrated papules behind on their disappearance, instead of the erythematous papule being the initial lesion, as is the rule. The second case was that of a man, aged 55 years, suffering from Dermatitis Herpetiformis. This was a classical example of the disease of nine months' duration, the supposed cause being mental anxiety from the loss of his situation. The disease had started as a patch of erythema on the left arm and had become multiform and generalised. When shown the arms were the most severely affected, hardly any normal skin being visible, the whole area being covered with erythematous patches, papules, bullæ, and crusts. All treatment had been ineffectual and the disease appeared to be increasing in intensity.

Mr. **WILLMOTT H. EVANS** showed a case of Bullous Eruption, the patient being a woman, aged 39 years. 12 years previously she had taken some quinine and had almost immediately become covered with an erythematous eruption. 10 years previously she had also taken quinine and a bullous eruption had been the result. Now 10 days before admission she had taken what was calculated to be about four grains of quinine in the form of citrate of quinine and iron and the result was the outbreak of an intense erythematous eruption all over the face and arms, with large bullæ of the size of pigeon's eggs on the knees and feet. There was no affection of the mucous membrane of the mouth and the drug had caused no other symptoms than the eruption. The aspect of the patient somewhat suggested renal disease but the exhibitor had not yet been able to obtain a sample of urine for examination.

Dr. **RADCLIFFE CROCKER** showed two cases illustrating different Sequelæ of Vaccination. Both patients were females and both had been vaccinated in October, 1901, with calf lymph. In one of the patients the vaccinia had run an apparently normal course but the healing of the lesions had been accompanied by the formation of hypertrophic scars, so that when shown each of the four lesions appeared as a pinkish, shining, firm, and somewhat dome-shaped swelling, the hypertrophy not extending quite as far as the edge of the scar. The second patient had developed an attack of psoriasis for the first time in her life three weeks before exhibition, the first papules appearing on the sites of vaccination and the spread of the disease having taken place from these situations.—Several members stated that they had recently had under their care similar instances of initial attacks of psoriasis after vaccination.

Dr. **E. G. GRAHAM LITTLE** showed two cases of Tuberculosis of the Skin. The first case was that of a small child, aged two and a half years, who had suffered for 14 months from a small patch of verrucose tuberculosis on the dorsal surface of the right thumb. The patch when shown was of about the size of a sixpenny-piece, raised, horny, and showing on close inspection that soft cushion-like infiltration characteristic of the disease. A point of interest was that two months previously the little patient's father had died from phthisis after a prolonged illness. It was pointed out how likely a child of a little over a year would be to inoculate himself on the hand when crawling about a room undoubtedly containing dust contaminated with the bacillus tuberculosis The second case was that of a child, aged 13 years, suffering from tuberculous adenitis in the neck who exhibited his second attack of the small follicular, acneiform variety of tuberculide. The present eruption affected the extensor surfaces of the arm and legs and the buttocks, and the scars of the previous attack of a year ago were visible upon various parts of the body.

Dr **RADCLIFFE CROCKER** brought forward a case showing the After-effects of the Small Papular Tuberculide of the Face described by Bartelmy as folliculitis. The patient, a young man, had been treated by the application of mercurial plasters with entirely beneficial effects. The resulting scarring was all that remained after this treatment and in time this would flatten down sufficiently to become almost unnoticeable.

Dr. **PRINGLE** showed a case of Lupus Erythematosus. He reminded the members that the patient had been shown before and that the case had been published in the *British Journal of Dermatology* for 1900, p. 1. She had then been affected with multiple patches of epithelioma growing upon an old-standing lupus erythematosus. These growths had been successfully removed by a surgical colleague, but within the last few months a large mass had grown in the region of the right socia parotidis and had lately ulcerated. Further operation did not offer much hopes of success and he would point out that this case was in direct opposition to the view of Holländer that carcinoma on lupus erythematosus was a relatively innocuous form.

Dr. **WHITFIELD** showed a man, aged 30 years, who was suffering from very extensive Lupus Erythematosus of the Face affecting the whole of both cheeks, the bridge of the nose, both ears, several patches on the hairy scalp, and the inside of the lower lip and right cheek. The type was very much infiltrated with a relatively large amount of horny plugging and somewhat deep cribriform scarring. The fingers were also affected to some extent but the great interest of the case lay in a curious violet eruption on the chest and back which took the form of circumscribed infiltrated papules resulting in scarring. These were associated with a certain amount of ordinary acne and the question was whether these lesions were disseminated patches of lupus erythematosus or whether they were tuberculides. The exhibitor held the former opinion which was agreed with by most members present.

Dr. **GRAHAM LITTLE** showed a very classical example of Pityriasis Rubra Pilaris in a child. The face was in the usual diffuse, scaly condition, while the extremities showed the small follicular papules with horny spines and generalised hyperkeratosis. In addition to these there were one or two patches strongly suggestive of psoriasis and it was an interesting fact that a sister of the patient had undoubted psoriasis.

To compare with the above case Dr. **ORMEROD** showed a young woman suffering from extensive Lichen Planus of the Arms and Legs with unusually marked affection of the palms and soles There were among the usual flat lesions on the arms well marked follicular lesions with small spines—the acuminate papules of the disease—and it was pointed out how easily confusion might arise between the two diseases exhibited in the two patients.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Intra-peritoneal Rupture of the Bladder —Hæmorrhage into the Spinal Cord during Pregnancy

THE eleventh ordinary meeting of this society was held on June 4th, Professor T. R. FRASER, F.R.S., the President, being in the chair.

Dr **GEORGE GIBSON** showed two patients suffering from Locomotor Ataxia with unusual symptoms The first was that of a man, aged 41 years, who had an isolated paralysis of the internal rectus muscle of the left eye; there were no Argyll-Robertson phenomena or changes in the optic disc; the patient was subject to curious attacks of delirium. The second case was that of a man with few ataxic phenomena but with absolute atrophy of the optic nerve of the left eye and also the same in the right side to a great degree. He also showed peculiar twitching movements of the skeletal muscles.

Mr. **F. M. CAIRD** showed a male patient in whom he had performed double enterectomy for Tuberculous Stricture of the Small Intestine at one *séance*. The patient had suffered for six or seven years from gastric symptoms—pain and vomiting after eating Diarrhœa had commenced 14 days previously to the operation. He was greatly emaciated and suffered constant pain. Nothing abnormal could be felt in the abdomen but the diagnosis was made of tuberculous stricture.

Dr **WILLIAM ELDER** exhibited a boy who had suffered from Choreiform Movements since he had scarlet fever five years previously During convalescence from this exanthem movements began to show themselves in the facial and oral muscles. These movements had gradually spread to other parts of the body. A peculiar distressing grunting noise was produced involuntarily by the contraction of the intercostal muscles. At times, as during service in church, he could control these motions, as also when making any voluntary efforts, as in holding his knife and fork or raising a cup. Intellectually he was correct but at times expletives escaped involuntarily. Dr. Elder rather thought that this was a case of paramyoclonus multiplex and not a case of chronic chorea (Sydenham).

Mr. **H. ALEXIS THOMSON** exhibited a patient after laparotomy for Purulent Peritonitis of Gonorrhœal Origin and Removal of the Left Ovary and Fallopian Tube. The disease developed five weeks post partum. A second laparotomy had to be performed 10 weeks after the first on account of acute intestinal obstruction due to at least six constricting adhesion bands.

Mr. F. M. Graham showed the Base of a Skull in which there was absence of the Right Lateral Sinus, &c.

Mr. Caird showed an Intestine in which there was a Double Tuberculous Stricture.

Dr. Harvey Littlejohn showed: (1) specimens illustrating Compression of the Brain from hæmorrhage; (2) specimens illustrating the effect produced on the hands and feet by prolonged immersion in water; (3) *a*, Uterus showing appearance in Menstruation and *b*, Uterus from a case of Abortion at the Fifth Month resulting from External Violence; and (4) Photographs of a case of Drowning.

Mr. Shaw M'Laren read a paper on Intra-peritoneal Rupture of the Bladder with notes of two cases, one of which recovered after suture. He began by noting the comparative rarity of the accident. Rivington was able to record only about 190 cases in all. Recovery from the accident was a still rarer event. Alexander of New York in a paper published last year gave a list of 23 recoveries, in all of which the bladder was sutured. As regards the cause of rupture, blows on the abdomen containing a distended bladder, the crushing of a cart wheel, falls from a height, &c., were common. In Mr. M'Laren's second case the rupture followed on a simple fall on the abdomen, not from a height, but while the patient was ascending a stair. Mr. M'Laren did not think that it was proved that the accident could not occur but to a fully distended bladder (that was, when the pelvis was not broken). Several cases seemed to throw doubt on this generally accepted condition, notably one where it was stated that a man was thrown from a dogcart and sustained a rupture of the bladder half an hour after he had emptied it. This the patient was certain of and even though he had been drinking fairly freely, alcohol could scarcely be capable of producing so pronounced a diuresis as to fill the bladder to distension within half an hour. It must, however, be remembered that the "tone" of the bladder varied apparently at different times; in certain circumstances the demand for urination was urgent though the bladder contained only a small quantity of fluid, while at another time it might have collected a large quantity and yet its walls be lax enough to require further distension before micturition was called for. The rent was usually vertical; in only eight out of 110 cases was it transverse. There was one site where it occurred by far most frequently —viz., the posterior superior aspect of the bladder. Rivington explained this by stating that the lower part of the bladder was supported by the pelvis, while the upper part was surrounded merely by the yielding intestines and so the fluid escaped from this area when the bladder was crushed. Alexander held with others that the bladder was driven up against the sacral promontory and ruptured at this point. It was difficult to understand this from a study of frozen sections and, even if it were driven up, how the transverse projection of the bone could produce in almost every case a vertical rent. It was possible that the disposition of the muscular fibres of the bladder wall had not been sufficiently considered in this regard. There were three muscular layers in the bladder, two being disposed longitudinally and one circularly. This middle circular layer was not the strongest and its upper fibres tended to assume the longitudinal direction. In fact, the circular fibres were strong only in the lower and extra-peritoneal portion. The upper and back part of the vesical wall thus mainly consisted of longitudinal fibres and pressure on the contained urine would tend to drive it through between these strands. This would explain both the situation and the direction of the rupture. The symptoms were well known —shock, vomiting, inability to stand, hypogastric pain, urgent desire to urinate with inability to do so, bloody urine, and certain peculiarities in catheterisation. Shock was frequently, however, absent and in some cases the patient was able to stand, but in few could he stand upright. Desire to urinate might be wanting on account of alcoholic intoxication in the early stages and in the later from uræmic intoxication. Pain and tenderness in the hypogastric region Mr. M'Laren regarded as extremely important symptoms. He had found them present in all cases of rupture he had met with, both intra- and extra-peritoneal. The absence of this symptom must not, however, allow one to be misled. One symptom which Mr. M'Laren had not seen recorded was related by the first patient he treated: this was that as the cart passed over his abdomen urine squirted from his penis. The chief symptom was failure on attempting to urinate and on passing the catheter merely a few drops of bloody urine were obtained. This "bloody anuria" (*blutigo anurie* of Rose) was most striking and characteristic and occurring after an injury to the abdomen it almost sufficed for a diagnosis. The catheter drew off only a few drops of bloody urine and found itself in a contracted bladder which permitted no movement of its point and only rarely did it pass through the rent in the bladder. In the latter case it might give exit to large quantities of urine almost or quite free from blood, especially in the later stages. Mr. M'Laren thought that the injection and inflation tests were useless; all the fluid injected might return though there was a rent in the bladder, and inflation test was really dangerous. Cases difficult of diagnosis occurred, as when the patient was able to walk after the accident, or even continued well for some days either urinating normally or through a catheter. The symptom of bloody anuria might possibly seem to point to contusion of the kidney or rupture of the urethra. In the first case, however, the bloody urine was normal in amount and there was great tenderness on pressure over the loins, while in the second there was a spontaneous flow of blood from the urethra and if urine was retained the bladder dulness was easily recognised. The cause of death after rupture was either peritonitis or uræmic intoxication. Why should septic peritonitis arise? It had been often proved that aseptic urine could be introduced into the peritoneal cavity without injury. In many cases where peritonitis was the cause of death the urine was normal. On the other hand, organisms could pass through the intestinal wall even though it was unruptured provided that the tissues of the wall were damaged. It was possible that the bruising of the intestines which must result from the blow which ruptured the bladder might permit the passage of organisms through its wall and so infect the extravasated urine. As regards treatment, this consisted in opening the peritoneal cavity and suturing the rent in the bladder wall. Should the mucous membrane be sutured as well as the other layers? Most surgeons merely passed one or two rows of Lembert's sutures through the muscular and peritoneal layers. Mr. M'Laren sutured the mucous membrane in his first case but he had only found one other surgeon (Mikulicz) who did so; catgut sutures, of course, must be employed. Except in a few cases a tube should always be left in the pouch of Douglas because they had to deal with a damaged peritoneum and bruised viscera. Mr. M'Laren also thought it was better not to tie in a catheter to drain the bladder but that it should be passed once every two to four hours for the first one or two days. In every case the bladder should be emptied by the catheter at the end of the operation. The notes of the two cases were as follows. Case 1.—The patient was a van driver, aged 33 years. A wheel had passed over his abdomen. There was inability to urinate. There was no collapse. He had swelling in the right hypogastric and umbilical regions. At the operation a vertical fairly clean cut rent from three to four inches long on the postero-superior aspect was found. The mucous membrane was stitched separately and then two rows of Lembert sutures were inserted. There was prolonged washing of the peritoneal cavity. Complete recovery ensued. Case 2.—The patient was a tailor, aged 45 years. While intoxicated he fell on the steps of a stair. At the operation large quantities of blood-clot were removed from the abdomen. There was a very ragged rent three inches long on the postero-superior aspect of the bladder. There was great prostration after the operation but the patient rallied when five pints of hot saline fluid had been injected into the median basilic vein. He urinated normally in two days. On the fourth day, however, symptoms of delirium tremens developed and he died six days after operation. Pelvic peritonitis was present at the sectio—slight leakage from the posterior sutures was found. In all, 23 recoveries were recorded and Mr. M'Laren's made the twenty-fourth.—Mr. Caird, Dr. A. Miles, Dr. Harvey Littlejohn, and Mr. Alexis Thomson took part in the discussion which followed.

Dr. Alexander Bruce read notes of a case of Hæmorrhage into the Spinal Cord in a Pregnant Woman. The symptoms were sudden onset with acute tearing pain in the mid-dorsal region, extending into the extremities; complete and permanently flaccid paralysis of the lower extremities, abdominal walls, bladder and rectal sphincters; early abolition and subsequently slight return of deep reflexes;

occurred and that contamination, although on a comparatively minute scale, during continuance of supply is probable. Chemical analysis of the water, and still more microscopical examination, afford important confirmatory results. Dr. Dupré, to whom samples were sent for analysis, reports that water taken from a house tap in Henry-street *before the nightly intermission of service* was pure, while that from the same tap after intermission gives evidence of animal contamination and of the appearance of low forms of life. Water from a tap in Victoria-street (Miskin) shows similar deterioration both in the night and morning supplies."

An interesting case at Buckingham in 1888 was reported upon by Dr. Franklin Parsons. There was a sudden outbreak of typhoid fever in that town in January and February, 1888, confined at first to a poor suburb of the town, and especially affecting persons drinking water from a particular "spout." "The water conduit to this spout was exposed to pollution from a leaky drain which had received specifically infected excreta from a previous case of enteric fever."

An outbreak of typhoid fever at Fareham (Hants) was reported by Mr. Spear in 1888 to have been traced by the medical officer of health "to pollution of an intermittent water-supply through numerous direct connexions between the water mains and the pans of water-closets. After this was remedied and a constant supply of water afforded enteric fever became less prevalent in the town." Mr. Spear also reported in the same year that an outbreak had taken place in Flint, where the water-supply was intermittent and where in the specially infected locality there was an "allegation of discolouration of the water when turned on in the morning" In 1889 Mr Spear reported that at Strood and Rochester, where typhoid fever had been prevalent, he "found water-closets supplied direct from the mains—i.e., without the intervention of any cistern or tank. The danger of insuction of air and even of solid matter into the water-pipes from closet-pans during any temporary disconnexion of water-pressure is well known to attend this objectionable arrangement."

Dr. Wheaton reported in 1893 on an outbreak which was almost entirely confined to a limited area in the town of Atherstone (Warwick). The "outbreak was not due to excrement disposal, sewerage, drainage, or milk-supply; *but to the introduction nightly into the town water mains for a period of eight weeks of an extraneous water-supply which was subject to pollution*. The localisation of the fever outbreak was explained by the peculiar distribution of the water mains owing to which the suspected water was almost entirely consumed within the area to which the fever in question was almost entirely confined. The prevalence of the disease was in part due to infection from the privy-middens, also to contamination of water-supply by a residue of suspected water remaining in the mains and continued consumption of the same water, which was obtained from a public tap."

In 1899 Dr. G S Buchanan reported with regard to a serious outbreak at Falmouth (Cornwall) that there were "reasons for inferring that insuction of infectious matter into Falmouth water mains during periods of intermission of supply had concern with the epidemic." The water-pipe, in which there was a roughly made and leaky joint, was laid underneath the stones of a yard where the soil was "everywhere black and impregnated with foul organic matter" This was caused by the leaky drain and a water-closet down which typhoid excreta had been thrown, and Dr Buchanan proved by a test that suction into this main actually did take place under certain circumstances.

There are very few instances in which sewage irrigation on land has been shown to be the cause of typhoid fever It is indeed a remarkable fact that typhoid fever does not occur among the employés on sewage farms, even when they drink the water of wells on the farm, which is frequently the case. In some few instances, however, owing to mismanagement of some kind or other, outbreaks of typhoid fever have occurred in connexion with sewage irrigation. One was the outbreak at Beverley in 1884 already referred to.

We now come to the *distribution of the disease by means of infected milk*. In 1862 an investigation was made by Professor John Gamgee on Cattle Disease in Relation to the Supply of Meat and Milk and his report was published in the fifth report of the medical officer of the Privy Council. He came to the conclusion "that the cause at present operating most actively to deteriorate the milk of cows in this country is the prevalence of epizoötic aphtha. This disease attacks the human subject and many cases of communication from cattle to man have been observed either from the virus penetrating a wound or passing into the system with the milk." Sir John Simon adds to this: "Experiment seems to have established as certain that, at least under some circumstances, the human affection may be caused by the consumption of milk drawn from a diseased animal." And it is in a footnote that "more than 20 years ago Professor Hertwig published particulars of such experiments performed by him on himself and two friends with the result of producing a very definite eruptive fever."

Dr. Edward Ballard, when medical officer of health of Islington, first traced an outbreak of typhoid fever through milk supply in 1870 This investigation is so important that I insert the following lengthy quotations from his report: "The general result of an inquiry into the milk-supply of the families within the quarter-mile radius into which I ascertained that typhoid fever had entered was this—viz.: That it occurred in the house of the milk vendor where the business, was carried on. He died and seven other persons, members of his family or boys employed and living on the premises, had typhoid fever and one of the latter died. That it occurred in the family of a person who dwelt in a small cottage in the cowyard distant about 100 yards from the last-mentioned house and dairy, three persons having fever here. The first case here was in a girl, who, a fortnight before she actually fell ill, had left a situation at a public-house supplied with milk from this dairy and since then had been residing at home. This family, the mother of the girl told me, rarely took milk, except on Sundays, being poor, but when the girl was ill milk was given to them from the dairy The mother herself, and subsequently a little boy, had typhoid fever when the girl was convalescent. That, in addition to the two boys who had lived in the house for a longer or shorter time, two men engaged in the business who did not live in the house had typhoid fever. One of these was the cowman engaged after the master was taken ill; the other was a young man who worked at the cowyard and carried out milk and who took all his meals at a coffee-shop supplied from the dairy and where two families also supplied from the dairy had fever. That a fifth man employed at the cowyard and residing at home had fever. He also occasionally had his meals at the above mentioned coffee shop and his tea at his mother's who was supplied from the dairy His family being poor he bought no milk for them anywhere and he was the only member of it attacked. That another single man residing within the radius in a wholesome house and engaged as a coachman outside the radius, who habitually took his meals at this same coffee-house, had an attack of typhoid fever. That (omitting the girl who came ill from the country) out of 62 other families within the district which are known to have suffered from typhoid fever, 54, or fully 87 per cent., were constantly supplied from the dairy with the milk they required, two were occasional customers, and five only stated that they did not deal there at all. I am not quite sure that complete reliance can be placed on this last statement; certainly I doubt it in one case of the five. All five resided close to the dairy and it is very probable obtained there, as the most convenient place, any extra milk their families required. In another instance a girl was attacked in a family not supplied by the dairy, but it appeared that on two consecutive days in the beginning of July she had taken tea with a schoolfellow who, with her mother, had typhoid fever a few days later, this family being supplied from the dairy. No one else in this girl's family had fever."

On inquiring into the fatal cases happening in families residing in the quarter-mile radius from the dairy he found, "That the members of 142 families were supplied with milk from the dairy in question. The district within the quarter-mile radius alone must contain over 2000 families. So, after all, no very considerable proportion got their supply from this source. Out of these 143 families (which include the dairyman's household) I have ascertained that 70 were invaded by typhoid fever within the 10 weeks during which the outbreak extended—that is to say, half of them were invaded. This includes all the families which had deaths from typhoid fever" On searching for the cause of the contamination Dr Ballard found that it came from an underground wooden tank constructed 16 years before which had become rotten and was found to communicate with two old drains by means of rat-burrows in such a manner that not only foul air from the drains but also an overflow of sewage slight dorsiflexion of the great toe on tickling the soles, rapid formation of sacral and gluteal bed sores, painless and unconscious delivery of twins, with temporary relief to previous embarrassment of respiration, subsequent development of bronchitis, and sinking from exhaustion. Post-mortem examination showed a tubular hæmorrhage, mainly in the lower half of the dorsal region and occupying the grey matter, pushing the white substance aside without completely interrupting its continuity In the upper dorsal and lower cervical region the grey matter was infiltrated with blood but to a much less extent. In the lower dorsal region a tubular structure with thick walls evidently due to irregular closure of the central canal, was filled with blood which had ruptured into it. The source of the hæmorrhage was evidently an angio-glioma in the grey matter There were several similar small angio-gliomata in the dorsal region under the membranes and in the white matter, and one larger in the postero-lateral columns at the level of the fifth cervical segment. The paper was illustrated by lantern slides showing the seat and distribution of the above mentioned morbid appearances. Dr Bruce discussed the etiology and pathology of hæmatomyelia and also referred to Dr Amand Routh's paper on parturition in cases of paraplegia from lesions at various levels of the cord —Dr GEORGE A GIBSON related a case of Sudden Onset of Complete Paraplegia in a woman, aged 47 years. The right mamma had been removed on account of carcinoma. It was therefore thought that the lesion in the cord was due to such a new growth there or that it was a case of acute transverse myelitis The case was under observation for several months so that it was not likely to have been a hæmatomyelia. After death a fracture of the sixth dorsal vertebra was found This had not been noted at the time of the onset of the paraplegia. Dr Gibson thought that it was remarkable that Dr. Bruce's patient should have exhibited no phenomena due to the lesion in the cord prior to the onset of the hæmorrhage.—Dr C E. UNDERHILL and the PRESIDENT having spoken, Dr BRUCE replied.

EDINBURGH OBSTETRICAL SOCIETY

Exhibition of Specimens —Epithelioma of the Vulva — Repeated Ovariotomy —The Use and Abuse of the Forceps

A MEETING of this society was held on June 11th, Dr JAMES RITCHIE, the President, being in the chair

Specimens were exhibited by Professor A R. SIMPSON, Dr D BERRY HART Dr J HAIG FERGUSON, and Dr W FORDYCE.

Dr D A. CALLENDER read notes on a case of Epithelioma of the Vulva. The growth was removed but in six weeks there was recurrence and a second operation was carried out there was, however, rapid advance of the disease with discharge of a large quantity of thin serous fluid The x rays had recently been employed and after four applications the discharge had become much less, the pain had greatly abated and the general health had improved.

Professor J A C KYNOCH (Dundee) read a paper on Repeated Ovariotomy Repeated ovariotomy raised the interesting question, What was to be done with the apparently healthy ovary in cases of operation for unilateral cystic disease? The exact clinical significance of papillomatous growths was a disputed question but the researches of Pfannenstiel and Williams had done much to show their true character The former had shown that papillomatous growths might be associated with perfectly simple ovarian cysts causing implantation and metastasis on the peritoneum with ascites, and yet the condition might be permanently cured in many cases on the removal of the tumour On the other hand he found that one half of the cystic carcinomata of the ovary were papillary in nature and gave rise to true metastasis in the glands, the liver and other organs. It was therefore in the case of papillary cysts that the removal, partial or complete, of the other ovary was of most importance because it was difficult or impossible during the course of an operation to say with any degree of certainty whether they were dealing with a simple or malignant papillomatous tumour The operator should inform the patient before operation that the other ovary might at the same time have to be removed. This was especially necessary during the child bearing period. In women at or about the climacteric it would probably be a safe rule to remove the unaffected ovary in every case. In younger patients they had to consider the relative advantages of leaving the ovary, of partially excising it, or of removing it altogether By leaving the ovary the absence of the distressing symptoms of an artificial menopause and the possibility of a subsequent pregnancy must be contrasted with the slight risk which the patient ran of a repeated ovariotomy According to the statistics of Spencer Wells only in 2·6 per cent. of unilateral ovariotomies was the repeated operation necessary and of 228 ovariotomies 120 of the patients subsequently bore children If patients could be kept under observation after operation so that early manifestation of recurrence could be detected there would not be the same danger in leaving the unaffected ovary But in the case of papillomatous tumours the recurrent growth spread so rapidly that by the time the patients came under observation operation was frequently useless When the other ovary showed incipient disease simple puncture with the knife or cautery might be sufficient. Of 10 cases treated thus by Martin during the course of an unilateral ovariotomy three of the patients subsequently became pregnant and in no case was a second operation required for recurrent cystic disease In small œdematous and dermoid cysts resection of the ovary had the advantage in younger patients of probably removing the disease and at the same time leaving sufficient ovarian tissue to permit of ovulation and subsequent pregnancy Mathai reported from Olshausen's Klinik six cases of pregnancy following partial resection of dermoid cysts. Mere resection of a papillary cyst was not safe, such a case of recurrence was reported by Odebman Pfannenstiel wrote that in all cases of papillomatous, sarcomatous or carcinomatous tumours of the ovary the other ovary must be removed at the same time, and in all forms of tumour the other ovary should always be removed in patients over 40 years of age. Professor Kynoch then gave detailed reports of three cases of recurrence in his practice. One was a multilocular cyst recurring in two and a half years in the other ovary, in another an ovarian cyst chiefly unilocular was followed by a unilocular papillomatous cyst in the other ovary 15 months afterwards, and in the third an apparently simple multilocular cyst was followed in nine months by a second ovariotomy when nodules were also found scattered over the peritoneum.—Dr HART Dr F W N HAULTAIN Dr J LAMOND LACKIE, Dr FERGUSON, and Dr J W BALLANTYNE discussed the paper and Professor KYNOCH replied.

Dr MICHAEL DEWAR read a paper on the Use and Abuse of Forceps in General Practice. Reference was made to discussions on the subject at the medical congresses at Montreal in 1897 and at Edinburgh in 1898. Most of the speaking on those occasions came from men who were engaged in hospital and high-class practice. Much was said about the great dangers attending the use of forceps to mother and child, but very few facts were given which showed the percentage of injuries said to be due to the use of forceps. In obstetric practice everyone must or ought to be an expert and in many cases the practical training during the student curriculum was very deficient. Dr W J Sinclair of Manchester five years ago had made a vigorous onslaught on the too great frequency with which forceps were used in practice and had urged that anything above from 3 to 5 per cent of forceps cases was unnecessary Others admitted that from 12 to 15 per cent was a fair average In making an estimate discrimination should be exercised as to whether the cases occurred in city or country practice In the city the patients were often more or less anæmic poorly developed, and often with some contraction of the conjugate which though slight, would yet be sufficient to cause a difficult labour By intercommunication the city woman had learned to be less patient and many among the working classes demanded the help of chloroform and forceps soon after the arrival of the medical attendant. Among the higher classes there was more self control and a well trained nurse helped to calm the fears of the patient so that there was not the same importunity for assistance If a woman was in hospital then she was surrounded by a discipline which compelled her to wait till the obstetrician thought it necessary to interfere, that no doubt accounted for the small percentage of forceps cases in hospital In the country the women were more robust and owing to the greater segregation and the distance of their residences from that of their medical attendants they were taught to endure pain of all kinds more heroically Many country women had a horror of the 'irons, as they were called and only when quite exhausted would they permit assistance to be given. The percentage of forceps cases was thus very much smaller in the country than in the town. 30 years ago the percentage of forceps cases in the Edinburgh Maternity Hospital was 0·21, with a maternal mortality of 0 8 per cent. In the Dresden Hospital from 1883 to 1888 the percentage was 2 8, with a maternal mortality of 3·4 per cent. and an infantile mortality of 17 per cent. Recently the percentage in the Edinburgh Maternity Hospital was 10 6 per cent., with a maternal mortality of 1·3 per cent. and an infantile mortality of 4 per cent., while in the extern practice the percentage of forceps cases was 4·3 per cent., with a maternal mortality of 0 4 per cent. and an infantile mortality of 11 per cent. Several obstetricians maintained that 5 per cent. should never be exceeded, which might be correct and proper under the best conditions but which would be impossible to carry out in a working-class practice. Dr. Dewar stated that while he was in country practice from 1877 to 1881 he used forceps in 11 per cent. out of 700 cases; of this series the percentage in primiparæ was 20. Other medical men in the country had given their forceps cases as 10 per cent., 12 5 per cent., 13 per cent., 30 per cent., and 10 per cent. These numbers might be taken as the fair average in careful midwifery in the country. In his city experience of 300 cases Dr. Dewar applied forceps in 35 per cent., and he found the percentage of six other practitioners to be 35, 38, 39, 40, 45, and one of 10, but he stated that it had been 20 a few years ago. Regarding the maternal mortality Dr. Dewar had no death after forceps in his 700 cases in the country; among the children there were 20 deaths, or a percentage of 2 8. In his series of 300 city cases there was no death after forceps—indeed, only one in the whole number, from heart disease. Two infants died in the instrumental cases, or a mortality of 1·9 per cent. for forceps. Dr. Dewar also considered the mortality and the period of convalescence of the different classes of cases.—The paper was discussed by Dr. S. MacVie, Dr. G. Keppie Paterson, Dr. Haultain, Dr. Ferguson, Dr. Hart, Dr. Ballantyne, and Professor Kynoch, and Dr. Dewar replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Obstetrics.

First Stage of Labour.—Exhibition of Specimens.

A meeting of this section was held on May 23rd, Dr. W. J. Smyly being in the chair.

Mr. E. Hastings Tweedy read a paper entitled "Observations on the First Stage of Labour: the Causal Relation of this Stage to Rupture of the Uterus." He said that the onset of labour ought to be reckoned from the moment of the establishment of uterine polarity. Uterine polarity was probably induced by an over-stretched condition of the lower uterine segment nerves brought about as a result of labour contractions. A fully dilated os was not always of a diameter sufficient to permit of the passage of the fœtus. The condition known as rigid os, with its thin knife like edge, was in reality an os that had reached its maximum degree of expansion. In primiparæ especially an os in this state was readily torn, but in the event of its not quickly doing so it moved in a direction upward and backward in response to the more powerful pull exerted on it by the posterior uterine muscular fibres. In consequence of this the anterior cervical lip became enormously elongated and was erroneously spoken of as being incarcerated or nipped between the os pubis and the presenting part of the fœtus. The liberation of the lip necessitated the tearing of the cervix. A lip such as this became rapidly œdematous and often protruded through the vulva at the completion of labour. Under these circumstances the cervical rent, though extensive, could not be dealt with by immediate suture, not alone because of the great œdema but chiefly for the reason that there was never any posterior lip to which to stitch it. Occasionally the os did not tear after it had moved upward and backward. Then rupture of the lower uterine segment and of the anterior fornix of the vagina became probable. These structures would, under the conditions named, lie one on the top of the other and would be subjected to the counter pulls of anterior and posterior uterine fibres. Ruptures such as these took place insidiously, the only symptom which marked their onset being the moving of the rigid os upward and backward—Dr. A. J. Horne said that in his experience cases of ruptured uterus were usually associated with contracted pelves and were consequently unusual in Dublin where the condition named was seldom met with. He did not look on the strong pains as the principal cause: he rather inclined to the idea that insufficient dilatation or dilatation slowly occurring was the chief factor, the head being suddenly forced through rather than pressed through.—Dr. Alfred J. Smith said that he did not see much benefit from Mr. Tweedy's new definition. "Polarity" was hardly a practical term. The old definition of the beginning of labour was equal to all demands.—Dr. Henry Jellett said that he did not accept Mr. Tweedy's explanation of polarity; he associated it more with some regulating nerve-fibres connected with the higher nerve centres which regulated the muscular contractions in a manner analogous to the simultaneous contractions of the fibres of the body and relaxation of the sphincter of the bladder and the rectum. In his opinion the first stage of labour ended clinically with rupture of the membranes.—Dr. Smyly said that Mr. Tweedy's paper dealt with two subjects—the first stage of labour and rupture of the uterus. Much depended on where he considered the polarity to begin; if he included the whole lower uterine segment the labour might be said to commence at the seventh month of pregnancy.—Mr. Tweedy, in replying, said that he did not see that any analogy could properly be drawn between the bladder mechanism connected with urination and that of the uterus in the first stage of labour. The formation of the lower uterine segment during pregnancy caused considerable displacement of the vessels and nerves, as these had to course through this segment in order to reach the cervix. In consequence of this the relaxation of the os during the period of a labour contraction could be accounted for in a manner more simple than by inferring a special nerve centre which had so rarely to be called into existence.

Dr. Smith exhibited two specimens of Double Pyosalpinx of Tuberculous Origin. The first consisted of tubes removed from a patient, aged 19 years, who had suffered from amenorrhœa for one year previously; the second consisted of tubes from a patient, aged 35 years, who had suffered from dysmenorrhœa with profuse menstrual flow. He also exhibited a large Pyosalpinx removed from the left side of a married woman who was anxious to become pregnant. In the latter case the right tube and ovary were apparently normal; the enlarged tube was intimately adherent and very tense and its contents showed tuberculous deposits and pure cultures of staphylococci. This was interesting as there was no history of the invasion and the right tube and ovary were normal.

Dr. Horne exhibited a Uterus removed by Vaginal Hysterectomy. The patient was 50 years of age and was the mother of two children, her last pregnancy having taken place nine years previously. Menstruation remained regular until a year previously, when it ceased for three months and then became irregular. On examination the uterus was found to be freely moveable and in its normal position. There had been no watery discharge. Curettage of the uterus was performed to check the hæmorrhage. On examination of scrapings from the uterus Professor E. J. McWeeney reported:—"These are very succulent, richly cellular, and exhibit an adenomatous overgrowth of the uterine glands which appears to be undergoing malignant change, is in fact partly converted into adeno-carcinoma." Vaginal hysterectomy was thereupon performed. The convalescence was perfectly normal. The important points which he wished to call attention to were the absence of the usual symptoms associated with malignant disease, and the importance of having uterine scrapings carefully examined by the microscope in women near the climacteric when menstruation was irregular.

Bradford Medico-Chirurgical Society.—A meeting of this society was held on May 27th, Dr. H. J. Campbell being in the chair.—Dr. F. W. Eurich gave a microscopical demonstration of (1) specimens showing Calcification of Arteries, Nerve Cells, and Capillaries in the Brain; and (2) Sputum containing an Aspergillus which was thought to have been the primary cause of the pulmonary disease.—Dr. W. Mitchell exhibited the cast of a Hand showing a Supernumerary Thumb.—Dr. J. H. Bell read a paper on Pulsating Exophthalmos. After reviewing the history of the disease and of its treatment and pointing out its great rarity Dr. Bell related the following case. The patient was a man, aged 29 years, who was admitted to the Bradford Eye and Ear Hospital in July, 1896, complaining of prominence of the right eye together with a loud buzzing noise in the head. Ten days previously he had received a blow on the left eye during a drunken brawl. The next day on awaking he heard a loud noise in his head; the left eyelids were black and the right eyelids were not so. For some days there was vomiting and headache due probably to the drink which he had taken. The right eye then became prominent and he had diplopia for about a week. There was no history of syphilis. Examination showed the right eye to be prominent and there was paresis of the superior, inferior, and internal recti muscles. The vision of both eyes was equal to average normal. Ophthalmoscopical examination was negative. He worked for a week and said that his eye got fairly well and he then became ill with weakness and vomiting and had to go to bed and the eye became worse. He was then taken as an in-patient at the hospital. The right eye-ball was displaced downwards, outwards, and forwards. Pulsation developed and a loud bruit was heard with the stethoscope all over the head. The bruit was lessened by pressure on the right common carotid artery and was stopped by pressure on the left common carotid. The heart sounds were clear; the urine was normal. The ophthalmoscope showed fulness of vessels in the fundus but no pulsation and no papillitis. Digital compression by the patient was commenced on the left side and after a week was changed to the right side. It was carried on for two minutes hourly during the day and for one minute hourly during the night without causing much pain. After three weeks the vision was normal, the bruit remaining as before. From Oct. 14th Carte's tourniquet was applied daily for five months, averaging four or five hours a day. In February the noise occasionally stopped and the bruit sometimes could not be heard. On March 4th, 1897, the left common carotid was tied. The bruit at once ceased but had returned by the time that the patient had been put to bed. On the following day the bruit was heard faintly at the vertex, then for 19 days no bruit could be heard, but it returned on March 24th, though it was not so loud as before. On April 21st the man was made an out-patient. On May 11th he was re-admitted, the vision of the fundus oculi and the noise in the head being the same as they were before. Compression by means of Carte's tourniquet of the right common carotid was now practised daily but without any result as regarded the symptoms. On July 22nd the right common carotid was tied. The bruit ceased and there was no pulsation in the temporal artery. On the next day the patient was drowsy, with slow cerebration, there was no bruit, and the pulsation had returned in the temporal artery. On the 24th he became hemiplegic on the left side, with hemianæsthesia. There were chronic and tonic spasms of the right side. He died on the next day. The necropsy showed softening of the right cerebral hemisphere. The vessels at the base were normal. The right cavernous sinus was dilated but no further abnormality was detected. In his remarks on the case Dr. Bell said that the following points were of interest: (1) the blow was on the left eye and the exophthalmos was on the right side; (2) the vision was practically normal throughout; (3) the bruit was controlled by pressure on the opposite carotid artery; and (4) the patient was able to bear such long-continued compressions of the arteries without suffering much discomfort.—Dr. S. Lodge, jun., read the notes of a case of Tuberculous Tumour of the Middle Lobe of the Cerebellum which ended in sudden death. The brain from the case was shown.—Mr. J. Phillips made some remarks on the Treatment of Burns. He advocated the use of gauze soaked in 10 per cent. eucalyptus oil. He said that burns treated in this way did not require such frequent dressing as when ointments were used and further that the discharges could soak through and be taken up by an outer layer of some absorbent material, thus preventing the healing surface from being constantly bathed in pus.—Dr. A. Bronner made remarks on the Use of the Electro-magnate in Ophthalmic Surgery. He advocated the use of very powerful magnets and described some of these instruments together with the methods of their employment.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on June 12th, Dr. Heywood Smith, a vice-president, being in the chair.—The President, Dr. J. Halliday Croom, had sent for the consideration of the Fellows the following two specimens: 1. A Uterus removed for disease diagnosed from microscopical examination to be malignant but proving to be only recrudescing fibroid. His note suggested that similar cases might account for some alleged cures of cancer by hysterectomy. 2. A Uterus and Placenta removed after delivery of a living child by Cæsarean section on account of a large fibroid obstructing labour.—Dr. H. Macnaughton-Jones read notes of a case of Albuminuria in which early in the seventh month without rupture of the membrane or any laceration of the cervix he had in 20 minutes effected dilatation by means of Professor Bossi's instrument.[1]—Dr. Heywood Smith showed Kurz's Suture Forceps, one blade of which acted as needle-holder; the other, on closing the instrument, seized the threaded needle and, when the blades were separated, withdrew it.—In a paper entitled, "Is there any Real Deciduoma Malignum" Dr. Herbert Snow questioned whether the malignant developments immediately following and often unmistakeably due to the trauma of parturition showed any title to a special term differentiating them from cancerous new growths in or about the uterus apart from gestation. Micro-photographs Dr. Snow considered misleading where malignant cell-growth was concerned; a conscientious drawing might convey the truth, but a micro-photograph could not do so. Clinically, the lesions in no way differed from those of uterine carcinoma, sarcoma, or myosarcoma of the uterus under the increased vascular tension of pregnancy. Even in the most acute forms of cancer some time was required for the development of widely sundered metastases, and from what they knew of malignant disease elsewhere it was highly improbable that the extensive lesions met with in many cases could have commenced during pregnancy, as cancer was never set up while healthy cell-proliferation was going on. The only inference to be drawn was that the malignant development began before conception and that the phenomena of cancer of the uterine body, always obscure and insidious, were masked by the pregnancy. The only valid treatment was complete hysterectomy.—Dr. Heywood Smith was inclined to attribute greater value to micro-photographs than Dr. Snow attributed to them; a drawing was done with a certain amount of bias and might accentuate points that a photograph would represent with greater truth. If the disease originated in the decidua a theoretical distinction might be drawn between it and malignancy arising in the wall of the uterus. Many patients seemed to have lost ground very rapidly after the use of the curette.—Dr. Macnaughton-Jones held that practically they must recognise deciduoma malignum as a malignant disease connected with the products of conception, with characteristic profuse hæmorrhage and tendency to necrosis. Whether it approached carcinoma or sarcoma in character was of little importance compared with its early recognition and prompt extirpation.—Dr. J. J. Macan pointed out that widely as Veit differed from Marchand as to the nature of the disease they entirely agreed as to its clinical aspects and all its essential microscopical characteristics. In view of the number of recorded cases it seemed idle to deny the existence of a peculiar form of malignant disease intimately connected with pregnancy for which, out of the dozen or score of names that had been given to it, "chorio-epithelioma malignum," the one suggested some years ago by Marchand, was now most generally acceptable.

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[1] THE LANCET, March 1st, 1902, p. 591.

AFFILIATED BENEFIT NURSING ASSOCIATIONS.—The ninth annual conference of the Affiliated Benefit Nursing Associations for the supply of cottage nurses on the Holt-Ockley system was held on June 13th at 68, Ennismore-gardens, S.W. Lord Ancaster, who presided, said that during the past year the associations had made great progress and had met with considerable success. There was great difficulty in getting sufficient nurses to supply the demand. Miss Broadwood, the honorary secretary, said that during the year which ended on March 31st, 1902, 70 nurses were sent into training and placed on the cottage nurses' register. Of these 35 were trained at Bury House and others in different districts or in maternity or cottage hospitals for periods varying from four weeks to 12 months. In regard to the work carried on by the associations in cottage nursing they did not want to fall back on district nursing because they were convinced that it was often for the benefit of the patients to have the entire services of the nurses during the time the illness lasted and there were certainly instances in which neither patient nor medical man would be satisfied with the attendance of a nurse for an hour or an hour and a half a day.

Reviews and Notices of Books.

Visual Œconomics, with Rules for Estimation of the Earning Ability after Injuries to the Eyes. By Professor H. MAGNUS, M.D. Breslau, and Professor H. V. WÜRDEMANN, M.D. Milwaukee, Wisconsin. Milwaukee: C. Porth. 1902. Pp. 144. With five Plates. Price $2·50 (10*s.*).

CONSIDERING the numerous cases of injuries to the eyes that occur in civil life, entailing more or less impairment of vision and consequent loss of earning powers, it is surprising that so few appear in the law courts. Probably the majority are settled by arbitration, but when they do become the subject of litigation it is soon perfectly clear that the medical experts, the judge, and the jury have no kind of standard to which they can refer or on which they can rely to form an estimate of the money value of the damage done. The sum awarded is determined by a consideration of the circumstances of the plaintiff, the wealth of the defendants, and the opinion of experts, which is not infrequently contradictory. Much injustice is thus often inflicted.

The authors of this work state that the loss of an eye has in America been valued at sums varying from $1000 to $7000 (from £250 to £1750). Many circumstances have to be taken into consideration before justice can be done and the authors endeavour to deal with the subject in a mathematical and actuarial spirit. Their method of proceeding is explained in the following sentence: "Normal physiologic vision consists of a series of different factors—the central acuity, the visual field, light and colour senses, the adaptive faculty, the muscular movements, and the cerebral processes—all acting together in creating the sense of sight. We may, therefore, regard the act of seeing as a sum whose numerals are formed by the different functions; if one numeral be taken from the sum which represents the complete act of seeing, then the balance will be left—i.e., vision will be damaged to the extent of the loss of one of these visual functions; but vision is yet in existence in a limited way." A relative value must be assigned to each of these factors and this value must be dependent on the avocation of the individual, the effect of the lesion on the earning power of the patient, the prospect of recovery, the capability of the normal or uninjured eye learning to work, and other considerations to which we need not here refer. These points are treated mathematically and formulæ are given which will prove fascinating to some of our readers. Examples are given of the application of the formulæ to young and old artisans, to an architect or draughtsman doing fine work, to a travelling salesman, and to an iron moulder.

The treatise is founded on the essay by Professor Magnus on the estimation of the pecuniary value of injuries to the eye, but is practically a new work, having been rewritten by Professor Magnus and Professor Würdemann. It will surely fall into the hands of barristers and woe be to the medical witness who is not able to hold his own and has not made himself master of the contents. We recommend it strongly to everyone who is likely to be called as a medical expert in accidents affecting the eyes.

Introduction to the Study of the Dependent, Defective, and Delinquent Classes and of their Social Treatment. By CHARLES RICHMOND HENDERSON, D.D., Professor of Sociology in the University of Chicago. First English edition enlarged and rewritten from first American edition. London: D. C. Heath and Co. 1902. Pp. 397 and viii. Price 7*s.* 6*d.*

THE author's work, we are told in a puff preliminary which is marked with three asterisks and which appears on page i., has been welcomed with acclamation in some parts of America. "The first American edition was received in the United States as an extremely important contribution to the study of some of the gravest problems which society has to consider and copies of the edition are very difficult to obtain." The work before us, we are told, "although nominally a reissue of the former one, is practically a new book, it having been almost entirely rewritten in the light of criticism and further experience in charity organisation work." It seems, therefore, that as this is, according to its author, practically a new book it need not be taken for granted—we are not compelled as a matter of obligation to believe without inquiry—that this book, like the rare first edition, is an important contribution to "systematic study of the nature, condition, and social relation of dependents, defectives, and delinquents."

We cannot imagine that the book will be of use to those of our countrymen who are interested in this study or that it will, as the author supposes, "promote an understanding of the reality under consideration" or lead to "the goal of knowledge." The book, however, contains a few literary gems which it may be worth while to preserve. The sentiments expressed are not unlike those which were formerly in use in this country to improve the mind of the student of penmanship whilst he was employed with a quill in imitating the calligraphy of his teacher. Here are examples: "The dry light of science is focussed in the lens of affection" (p. 1). "Observation is the prime source of real knowledge" (p. 3). "All human beings are dependent on parents in infancy and helplessness is natural to the babe." "Extremes are met" (p. 74). We refrain from quoting more, for the following paragraph, which is to be found in the chapter on "The Criminal before the Law," seems to breathe out threatenings and slaughter against over-quotation (which is pilfering): "The more refined and just estimate of the value of literary products has created copyright laws protecting authors from theft of their spiritual labors." We are not informed how an "estimate" came to create a law.

We fear we may have given an unduly favourable view of the book and it is necessary therefore to warn anyone who might wish to read it that we have given specimens only of the most striking passages. In former days such excerpts might have been printed under the title of "The Beauties of Dependents, Defectives, and Delinquents." The book is illustrated by a bad reproduction of a photograph, or a reproduction of a bad photograph, of a most inartistic medal issued by the American Numismatic and Archæological Society to commemorate "the Twenty-fifth National Conference of Charities and Correction."

Contributions to Practical Medicine. By Sir JAMES SAWYER. Third edition, revised and enlarged. Birmingham: Cornish Brothers. 1902. Pp. 209.

THE lectures which comprise these contributions to practical medicine have been revised, pruned, and supplemented for the purpose of a third edition which as regards both size and finish is a far more ambitious volume than the two which preceded it. The lectures contain a fund of useful knowledge which has been acquired during a long and useful career as a physician in active practice and they cannot fail to arouse the interest not only of those who are themselves in practice but also of those who have still to learn the art and science of medicine. The first two chapters discuss the causes and the cures of insomnia which, for the purpose of description, is classified as symptomatic and intrinsic or in a somewhat more amplified form as psychic, toxic, and senile. The appetite for sleep, to use the author's quaint expression, should only be encouraged by natural means and by resorting to a variety of devices for changing the current of conscious cerebration—devices which are described in detail and include among others the practical method of the late Mr. Gardner, which was maintained as a secret until revealed by Dr. Binns. Symptomatic insomnia, according to Sir James Sawyer, should be treated on the principle of "*causâ cessante, cessat et effectus*"—a principle, by the bye, which has no general application to the operations of living protoplasm and clearly no special application to a rhythmical process such as sleep. The habits and periodicities engendered in the human body persist long after the stimulus which has evoked them ceases to operate. But this is a mere detail; the advice and recommendations which Sir James Sawyer supplies for securing the blessings of sleep are full of resource and should be very helpful to many of those who are often at their wits' end to know to what expedient to turn to alleviate inveterate cases of insomnia.

Gastralgia, which is the subject of the next chapter, receives a very fine clinical description and the author advises his readers not to diagnose cancer or gastric ulcer from merely subjective symptoms and not to assume that a patient is dyspeptic because he has pains in his stomach. As regards the treatment Sir James Sawyer boldly states that gastralgia, which is a more common complaint than is generally supposed, can be "cured" by arsenious acid which he recommends to be given in pill-form and in doses of $\frac{1}{60}$th of a grain combined with two grains of extract of gentian.

The subject of the Accentuation of the Pulmonary Second Sound of the Heart has a chapter to itself and as a diagnostic sign of increased tension in the lesser circulation it is regarded by Sir James Sawyer as pathognomonic. The author has frequently referred before to the significance of this physical sign and we believe he was one of the first to indicate its importance in the diagnosis and prognosis of mitral disease.

The treatment of habitual constipation, of eczema, of pulmonary tuberculosis by chloride of calcium, and of hæmorrhoids by unguentum ranunculi ficariæ, forms the subject matter of some excellent chapters which contain many invaluable suggestions of an entirely practical character. Ether as a vehicle for drugs requiring administration by the skin is apparently a favourite subject with Sir James Sawyer and for the purpose of testing its value he has conducted a series of experiments and has drawn up a formula for the exhibition of various drugs by this means which he claims to be entirely satisfactory. We cannot, however, convince ourselves that this method has any therapeutic advantage over inunction of the same drugs with valsol or vasogen as the vehicle, and, further, there are several practical objections to the use of ethereal solutions which readily suggest themselves.

This little book, with its quaint expressions and old-world air, is well suited to a profitable and enjoyable hour's reading.

The Academic Gregories. By AGNES GRAINGER STEWART. Famous Scots Series. Edinburgh and London: Oliphant, Anderson, and Ferrier. 160 pp. Price 1s. 6d. net.

THE Academic Gregories well deserve a place amongst the Scottish worthies who have been the subjects of this biographical series, and this work has been carefully and lovingly done by one whose intimate knowledge of the history of Scotland and whose keen sense of the humour of its people have combined to make the book extremely entertaining—it is instructive without being dull. It is not too much to say that most of the talented Gregorie family are entirely unknown to the vast majority of English readers, and with the exception of him who gave a powder to the world it is doubtful whether any one of them is at all a familiar figure. Many of them are well worthy of acquaintance. They were a fighting race and came of the Macgregors (of whom was Rob Roy) and they assumed the name of Gregorie before the year 1603. The first of them to obtain distinction was the Rev. John Gregorie of Drumoak, who suffered for his faith—he was an Episcopalian—and for his loyalty to Charles I. On one occasion he was somewhat discourteously treated by the Mr. Cant whose name has lived after him. From a contemporary account of the proceedings it appears that "Mr. Johne Gregorie ... .. at the visitatioun of the Kirk of New Abirdene teichit most lernidlie upone the 4th vers of the 2nd chapdour to the Collosians and reprehendit the order of our Kirk. ...... Mr. Andrew Cant, sitting besyde the reidar, as his use was quicklie cloisit the reidaris buke, and laid down the glass befoir it wes run, thinking the minister sould the sooner mak an end." In this, however, he reckoned without his host, for "he beheld and preicht half ane hour longer nor the tyme." The punishment inflicted was certainly a severe one, but in the circumstances it was possibly deserved. Cant, however, was allowed to preach back, and "he raillit out in his sermon aganes the said Mr. Johne Gregorie's doctrein." A truce between the combatants was ultimately arranged by the "mediatioun of the toune's baileis at a coup of wyne" when "they twa war satled with small credet to Cantis bussines."

A strong fighting tendency was manifested by most of the Gregories. The combative impulse which caused the Rev. Johne to fight Cant in the days of the Stewarts led his descendant Professor James Gregory to attack a brother physician with a stick. This occurred within the precincts of the University of Edinburgh and the assailant was prosecuted for assault and mulcted in damages. Most of the members of the family had a very good conceit of themselves and seem to have been richly endowed with the critical faculty. Dr. James Gregory's advice to Burns for the emendation of his verses is not devoid of interest. He did not like the title "On seeing a wounded hare limp to me, which a fellow had just shot at." "Fellow" was wrong, "it is but a colloquial and a vulgar word." "Shot," he continues, "is improper too. On seeing a *person* (or a sportsman) wound a hare, it is needless *to add* with what weapon, but if you think otherwise you should say with a *fowling-piece.*" The Professor then promises Burns that if he will call on him he will show some more poems written by a Mrs Hunter. "Mangled" is a coarse word. As an emendation for *blood-stained*, he opines that "bleeding bosom is infinitely better." Hamlet's estimate of Polonius is not entirely inapplicable to Professor James Gregory, yet he was a physician of discernment; he advocated the advantages of "change of air" and did not prescribe phlebotomy in all cases. He succeeded Cullen in the chair of Medicine at Edinburgh, lectured in a cocked hat, and accumulated a considerable fortune.

John Gregory, the father of Burns's critic, was born in 1724 and was professor of Medicine in the University of Edinburgh from 1766 to 1773. He had an interesting career. After studying anatomy at Edinburgh under Monro he went to Leyden and became the pupil of Albinus. Here he met Charles Townsend and Wilkes whom he described as a man "who wanted to be a fine gentleman and man of taste, which," he said, "he never could be for God and Nature had been against him." On his return journey he met the charming lady who afterwards became Mrs. Garrick. He went for a time to King's College, Aberdeen, and whilst he was there married a beauty and an heiress—the Hon. Elizabeth Forbes. In 1752 they went to London. He was made a Fellow of the Royal Society and through Mrs. Montague he became acquainted with the members of the literary society of that time, Johnson, the Burneys, Sir Joshua Reynolds. In 1756 he returned to Aberdeen. It was then that the Aberdeen Philosophical Society was started. It was a club which met at a tavern, wine was to be found on a side table and the evenings are described as having been "merry." Sometimes an essay was read. In the case of

Gregory as a rule his "discourse" was "not readie." Then a philosophical discussion was held and frequently Hume's sceptical speculations were attacked. Reid, one of the party, wrote to Hume to tell him that his company (although they were all good Christians) "would be more acceptable than that of Athanasius." Dr. John Gregory was an advocate for keeping children warm and did not approve the cold morning bath which it may surprise many people to learn was *de rigueur* in every well-constituted Scottish nursery in his time. Mrs. Montagué visited the professor when she was getting old and she did not "find acceptance" as the Scots have it in Edinburgh society.

It is quite impossible to mention all the illustrious Gregories, but enough it may be hoped has been said to show that the book is well worth reading. It is more than the history of a family, for it gives incidentally pleasant and graphic sketches of the home-life of the Scottish people as seen from the brightest side by a sympathetic student.

LIBRARY TABLE.

Traité de la Chirurgie d'Urgence. (A Treatise on the Surgery of Emergencies.) By FÉLIX LEJARS, Professor Agrégé at the Faculty of Medicine of Paris, Surgeon to the Tenon Hospital, and Member of the Society of Surgery. Third edition, revised and enlarged, with 751 figures, of which 351 are drawn from nature by Dr. E. DALEINE and 172 are from original photographs. Paris: Masson et Cie. 1901. Pp. 1045. Price 25 francs.—We have noticed an earlier edition of this work and all the praise which we have given to that is equally applicable to the present issue. Extensive alterations have been made, many chapters have been rewritten, and others are entirely new. Among these may be mentioned those on hepatic, sub-diaphragmatic, and perinephritic abscesses, irreducible and strangulated prolapses of the rectum, diaphragmatic hernia, acute osteomyelitis, and burns. Such extensive alterations have necessitated 134 additional illustrations and 133 extra pages. The general idea of the work is to provide the surgeon with all that he needs to know when called upon suddenly to deal with an emergency. A little consideration will show everyone that emergencies will include not only traumatisms but also many other conditions. To treat successfully sudden calls on his skill the surgeon must accustom himself to be prepared for these emergencies before they arise and this volume should prove valuable as an aid for this purpose. The illustrations are very numerous—for instance, there are 12 figures to illustrate the method of marking on the skull the fissure of Rolando and four figures show the several stages of Kocher's method of reduction of a dislocated shoulder. Some illustrations are given which demonstrate how some manipulations should *not* be performed. In all there are 18 illustrations of the reduction of a dislocated humerus. We commend the volume to the attention of all surgeons who read French.

Photographic Atlas of the Diseases of the Skin. By GEORGE HENRY FOX, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York, &c. Parts 13, 14, 15, 16. Philadelphia and London: J. B. Lippincott Co. 1901. Price 6s. each part.—These four parts complete this useful atlas, the previous parts of which we have already noticed. They fully maintain the high level of the earlier portions and the whole will form a most valuable atlas of cutaneous pathology. The photographic method has many excellencies; its fidelity to truth as to the shape and size of lesions should count for much. The misrepresentation of the colour of the morbid condition is but a minor defect and in these plates this is to a great extent overcome by the colouring which has been added. The text is chiefly concerned with therapeusis and is likely to be of value to those who have had little experience in the treatment of skin diseases.

A Manual of the Diseases of the Eye and Refraction, including Treatment and Surgery. By GEORGE M. GOULD, A.M., M.D., formerly Ophthalmologist to the Philadelphia Hospital, and WALTER L. PYLE, A.M., M.D., Assistant Surgeon to Wills Eye Hospital, Philadelphia. Second edition, revised and enlarged, with 109 illustrations, some of which are coloured. London: The *Optician and Photographic Trades Review.* 1900. Small 8vo. Pp. 295.—This little manual is divided into two nearly equal parts. The first deals with the mode of examination and with the refraction and functional anomalies of the eye; the second deals with the diseases of, and the ordinary operations upon, the eye. Dr. James Thorington, a well-known authority on the subject of the refraction of the eye, has written the chapter on Retinoscopy. The theory of the ophthalmoscope is briefly but well given. There is nothing in the account of the diseases of the eyes calling for special notice. The symptoms of the various affections are shortly described and the treatment is in accordance with that generally adopted. Of the illustrations the least satisfactory is that which forms the frontispiece, stated to be after Jaeger, but which might advantageously be replaced by a better executed chromo-lithograph of the fundus. Judging from the place of issue it seems to be intended as a manual to be studied by those who are about to present themselves as candidates for the examinations held by the Spectacle-makers Guild or Society.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXVIII., No. 3. May 28th, 1902. London: C. J. Clay and Sons. Price 5s.—The contents of this number of the *Journal of Physiology* are: 1. Fatigue in Non-medullated Nerves, by T. Grigor Brodie, M.D. Lond., and W. D. Halliburton, M.D.Lond., F.R.S. These experimenters, having observed that the assertion that the nerve fibres are insusceptible of fatigue rests on the excitation for long periods of time of medullated fibres, determined to repeat with some modification the experiments on non-medullated fibres. They selected the nerves distributed to the spleen and found that even after many hours of stimulation no evidence of fatigue could be demonstrated; nevertheless, they obtained proof that certain non-medullated as well as medullated fibres are injuriously affected by prolonged faradic stimulation, so that the spot which has been excited is no longer excitable until a considerable period of rest has elapsed. 2. A Note on Fœtal Muscle-spindles, by Laura Forster, M.D. Berne. A description is given of the appearances presented by muscle in fœtuses of the age of four, five, and six months. Dr. Forster shows that in the youngest embryo of these three the sheath of the muscle-spindles is very thin, that no lymph spaces are to be seen, and that the size of the fibres is more uniform than in the older embryos. 3. On the Formation of Lymph by the Liver, by F. A. Bainbridge, M.B. Cantab. Amongst other results it appears from Dr. Bainbridge's experiments that the intravenous injection of moderate quantities of sodium taurocholate or of pure hæmoglobin leads to an increased flow of lymph from the liver and to increased metabolic activity of the liver cells. 4. On the Local Reactions of the Arterial Wall to Changes of Internal Pressure, by W. M. Bayliss, with 11 figures in the text. Mr. Bayliss demonstrates that the muscular coat of the arteries reacts like smooth muscle elsewhere to a stretching force by contraction and to a diminution of tension by relaxation. These reactions are of myogenic nature and are independent of the nervous system and can be observed not only in the living state but in excised arteries some hours after death. 5. A Method of Estimating the Oxygen and Carbonic Acid in Small Quantities of Blood, by Joseph Barcroft, B Sc., and J S. Haldane, M D Edin , F R.S., with three figures in the text. The apparatus consists of a small glass vessel attached by tubing to a pressure gauge of narrow bore. The oxygen in the blood can be liberated by potassium ferricyanide and the resulting increase of pressure measured by means of the gauge and from this the volume of oxygen can be calculated. By similar manipulation, with the use of tartaric acid in the place of the potassium ferricyanide, the carbonic acid is subsequently determined. 6. Intestinal Absorption of Solutions by E. Waymouth Reid, M.B. Cantab., professor of Physiology in University College, Dundee, St. Andrews University The experiments of Professor Reid show that a physical explanation of absorption is not admissible. 7 The Proceedings of the Physiological Society

ERRATUM.—The price was wrongly stated in our review of Gaylord and Aschoff's "Pathological Histology" Our reviewer gave the price as 5*s* 6*d* , whereas it should have been 31*s* 6*d* net

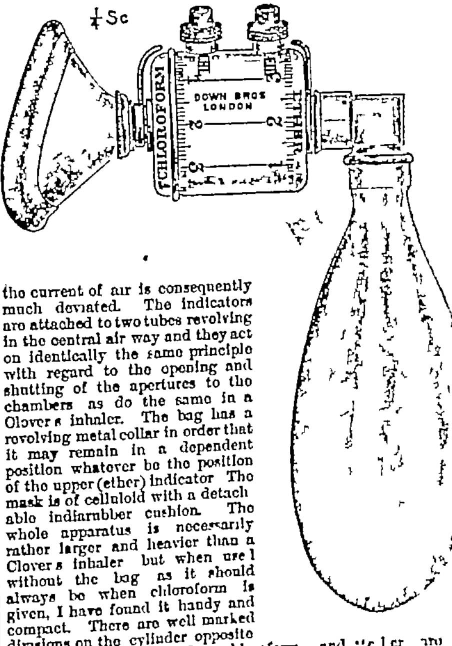
New Inventions.

PORTABLE SPRAYING APPARATUS FOR DISINFECTION

A CORRESPONDENT in whose judgment we have confidence has written to us in reference to the letter of "M O H." whose inquiry as to the best form of portable spraying disinfecting apparatus appeared in THE LANCET of May 31st p. 1562. Our correspondent says that he has tried every variety of such apparatus that has come to his knowledge, but that he has found most of them to be mere toys. He makes an exception in favour of a spray recommended by Dr W Leslie Mackenzie of Edinburgh, a medical inspector of the Local Government Board for Scotland. This spray, he says, answers admirably but is rather heavy and clumsy to use. It is made by Messrs. Benton and Stone, brassfounders, Bracebridge street, Birmingham We have quite recently learned, however, that the Thresh Disinfector Company has succeeded in diminishing the weight of Dr Mackenzie's apparatus by nearly 50 per cent. and has so modified it that it can be carried on a bicycle. The apparatus consists of a short force pump with air chamber attached to a foot piece. A rubber section tube dips into a collapsible canvas bucket holding enough solution to spray an ordinary sized room. The spraying nozzle is attached to a suitable handle and connected to the pump by about six feet of especially strong rubber tubing Upon working the pump a very effective spray is produced with which the ceiling walls, floors, and furniture of a room can be speedily covered with disinfecting solution. Additional lengths of brass rod are provided and a cross piece carrying two nozzles, so that large and lofty apartments or tents can be easily disinfected. When not in use the whole apparatus folds up and packs in the flexible bucket, occupying a space of 18 inches by six inches. The pressure obtained by the pump is from 40 to 60 pounds to the square inch and the spray produced is so fine that in the sunshine beautiful rainbows are visible in it The apparatus therefore is not a toy like many of the portable sprays and can be thoroughly relied upon Its cost is two guineas For many purposes of disinfection where spraying is not available Dr Thresh's portable "emergency" disinfector is very useful and satisfactory It consists of an oblong chamber five and a half feet high and two and a quarter feet square which is found to be sufficiently large to take an ordinary sized bed when properly folded. The apparatus is heated by an oil furnace specially devised for the purpose, weighs under two hundredweight, and can be moved on a hand-cart. Both the spraying apparatus and the disinfector are made by the Thresh Disinfector Company, Limited, 16, Great George-street, Westminster

AN INHALER FOR GIVING MIXTURES OF ETHER AND CHLOROFORM.

THE apparatus here described has been devised by me to meet a want which I have personally felt in the administration of anæsthetics and which I believe may have been shared by others who believe in the advantages of mixtures The object I have had in view has been to give ether or chloroform singly or together, in any proportion, during an administration and to be able to vary that proportion at will at an instant's notice. With these considerations I have had constructed an inhaler on the "Clover" type. Two Clover inhalers are in fact superimposed with an air way right through and an indicator at each end There are two chambers in the main cylinder The upper is the larger and will hold two fluid ounces (of ether). The lower smaller chamber will hold one and a half fluid ounces (of chloroform) The larger ether chamber is placed above on account of the denser vapour of this substance Separate hollow glass-ended plugs are fitted to each chamber A particular point in the apparatus is the central air way which is double the calibre of that of the ordinary Clover inhaler and allows ample passage for the strongest respiratory blasts, even when both indicators are turned well on and the current of air is consequently much deviated. The indicators are attached to two tubes revolving in the central air way and they act on identically the same principle with regard to the opening and shutting of the apertures to the chambers as do the same in a Clover's inhaler. The bag has a revolving metal collar in order that it may remain in a dependent position whatever be the position of the upper (ether) indicator The mask is of celluloid with a detachable indiarubber cushion. The whole apparatus is necessarily rather larger and heavier than a Clover's inhaler but when used without the bag as it should always be when chloroform is given, I have found it handy and compact. There are well marked divisions on the cylinder opposite the pointers and the words "chloroform" and "ether" are plainly marked on their respective chambers so that there may be no mistake as to which anæsthetic is being given. The instrument has now been used a considerable number of times and personally I have found it particularly useful in abdominal cases and in those cases in which mixtures of ether and chloroform are especially suitable



The method of administration that I employ in most cases is as follows First the bag is entirely removed and chloroform given for the initial respirations by slowly turning on the lower indicator until Mark 1 is reached and the patient is beginning to lose consciousness I then continue with ether by the upper indicator until Mark 2 is reached In this way a quiet anæsthesia is induced without the [illegible] tions produced by ether The administration can then be continued in the same proportion or in any proportion the anæsthetist desires, or chloroform can be shut off entirely and ether given alone with the bag on or chloroform given alone without the bag. Ether, it will be found, evaporates four or five times as fast as chloroform with the proportion E_2C_1 being used as measured by the indicators. The following are some results showing this:—

Sex.	Age	Part operated on.	Time under anæsthetic (minutes).	Proportions by indicator.	Quantities actually used.	
					Ether (drachms).	Chloroform (drachms).
F.	44	Breast.	55	E. 2; C. 1.	28	6
F.	46	Umbilical hernia.	47	E. 2; C. 1.	28	4
F.	30	Gall-bladder (bronchitic patient).	60	E. 1, C. 2½.	20	11

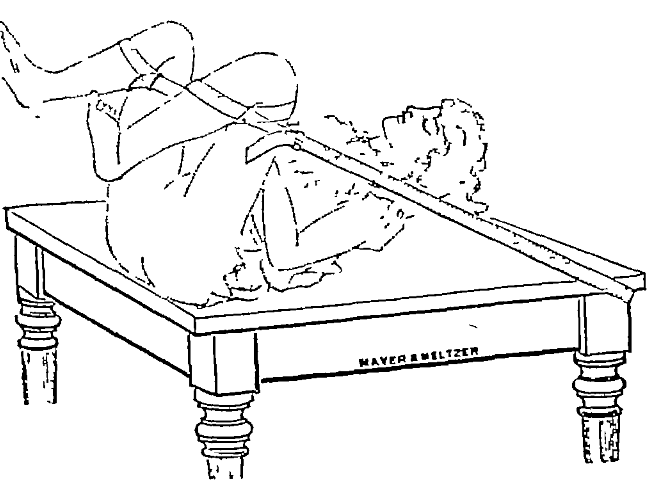
I have found that the initial stages of anæsthesia are somewhat prolonged, seven or eight minutes being the usual time to get patients well under, this being due to a tendency to somnolence. Struggling is, however, much reduced. The colour remains very good, the cyanosis of ether being rendered impossible by the free air passage, while the mixture of the two anæsthetics counteracts the pallor produced by chloroform alone. Other advantages are those attendant on the administration of mixtures. I have not yet given chloroform alone by this apparatus but consider it would be safe to do so if no bag were used, the free air-way giving plenty of oxygen. It may be remarked that the respective vaporisations of ether and chloroform vary so at different temperatures that the indicators are of little value whereby to judge the proportions actually being given. The temperature of operating rooms and theatres is, however, nearly always between 65° and 70° F. A little practice will quickly demonstrate the rapidity of evaporation when refilling has to be done and the water-chamber fitted to the ether compartment will help to regulate the vaporisation of the ether.

The instrument has been made for me by Messrs. Down Bros. who have executed the work exceedingly well.

F. VICTOR MILWARD, M.B., B.C. Cantab., F.R.C.S. Eng.
Birmingham.

LITHOTOMY STRAPS.

THESE straps are made of stout webbing and are in three parts. The knee-straps are fixed round the flexed knees, the end of each strap, on which is a buckle, taking its attachment from the outer side of the knee. The long straight strap which in Clover's and similar crutches or straps passes round the patient under one shoulder and over the other is in these straps made extra long to allow of its being passed round the head of the table instead of round the patient. By this means, the table being considerably wider than the patient's body, which is really comparatively narrow, the knees, on the long strap being buckled to the knee-straps and tightened, are drawn backwards and strongly outwards, the separation approximating in extent to the width of the table. The advantages of these straps are: (1) the wide separation of the flexed legs and thighs; and (2) the portability and lightness. They are packed in a soft case weighing less than nine ounces and measuring eight by two and a half by two and a half inches and are made by Messrs. Mayer and Meltzer of 71, Great Portland-street, London, W.



Plymouth. C. HAMILTON WHITEFORD.

Looking Back.

FROM

THE LANCET, *SATURDAY, JUNE 19*, 1824.

Foreign Department.

ROYAL ACADEMY OF MEDICINE AT PARIS.

(Sitting of the 23d. of March.)

M. ITARD read a paper on the spontaneous development of the prussic acid in the alvine evacuations He quoted two cases of this kind. The subject of the first case had an inflammation of the intestines, the other presented symptoms of inflammation of the liver. In both the individuals, the stools smelt strongly of bitter almonds. M. ITARD regards these facts as important in a medico-legal point of view, and concludes from them, that the existence merely of the smell of prussic acid in the fæces should not lead one believe that the person had been poisoned with this medicine. M. DELENS related on this occasion several facts, which shewed that prussic acid had been found in the perspiration, urine, and expectoration, accounting for the blue colour of these liquids.

Mr. DUPUY observed, that cows fed in certain pastures gave blue milk. M. VIREY quoted a case where cows fed with the *prunus padus*, exhaled a very strong smell of bitter almonds. The existence of prussic acid in the excrements of these animals was ascertained by the existence of the sulphate of iron. M. MARC related, that in Germany some persons had been poisoned by eating sausages, in all of whom a great quantity of prussic acid was spontaneously developed.—*Archives Generales.*

A NEW MODE OF OPERATING FOR STONE ADOPTED BY M. DUPUYTREN.

M. DUPUYTREN has just performed the operation for stone in a new mode, and with the aid of a new instrument. The operation may be called the transverse operation (*taille transversello*), and the instrument, the double *lithotome caché*, which consists of two blades, arranged so as to cut at the same time, both right and left in withdrawing the instrument from the bladder. The catheter is introduced, and the membranous portion of the urethra cut to allow the introduction of the *lithotome* into the bladder. On withdrawing the instrument it is opened, by which means it divides the prostate on each side into halves the one anterior, and the other posterior. By this method, the vasa deferentia, rectum, transverse arteries of the perineum, and the pudic is avoided in the operation. M. DUPUYTREN operated a few days ago on a child; since which no bad symptoms whatever has appeared.—*Archives Generales, May.*

J. K. STARLEY MEMORIAL FUND.—A fund has been started with the object of commemorating the work of the late Mr. J. K. Starley who in 1885 introduced to public notice the safety type of the bicycle. The form and extent of the memorial will necessarily depend upon the total sum received, but it is the intention of the committee of the fund to associate it with the pastime of cycling and to make it of general value to the great community of cyclists. Subscriptions and offers of assistance should be sent to Mr. J. C. Parkinson, honorary treasurer, or Mr. R. T. Lang, secretary, at 27, Chancery-lane, W.C. Cheques and postal orders should be made payable to the "J. K. Starley Memorial Fund" and crossed "London and Westminster Bank (Temple Bar Branch)."

THE LANCET.

LONDON: SATURDAY, JUNE 21, 1902.

The Election of Members of Council of the Royal College of Surgeons of England.

ON Thursday, July 3rd, the Fellows of the Royal College of Surgeons of England will proceed to the election of four members of the Council. These four members will form a sixth part of the whole of that body and therefore will have no small effect on the results of its deliberations. It behoves, therefore, all Fellows earnestly to take into consideration their duties with regard to this election. From their position as Fellows they have the right of voting for four of the candidates for these vacancies and their duty to the College requires that they should exercise this right with care. There can be no excuse for failing to vote, for under the present rules a voting paper is sent unasked to every Fellow in the United Kingdom of Great Britain and Ireland and the voting can be done without trouble or effort. Formerly, indeed, it was not so, and every Fellow who wished to vote had to journey to Lincoln's Inn-fields and personally to record his vote. This was by no means easy even for Fellows living in London and for the vast majority of Fellows living in the country it was practically an utter impossibility. So much, then, having been done to facilitate the voting of the Fellows it is their duty to avail themselves of their privilege and to vote. The numbers voting have indeed increased since these alterations were made, but even now only about half of the Fellows care to exercise the power of voting which they possess. This harmful apathy is mainly responsible for all the evils from which the Royal College of Surgeons of England suffers. Under the present constitution the Fellows of the College can only influence the action of the Council, the *de facto* governing body of the College, by care in the election of members of the Council. The entire *personnel* of the Council can be changed in eight years, for every year one eighth of its members retire by rotation. The reforms needed by the College could, therefore, be effected within a very short time were all the Fellows actuated by a sincere desire to advance the best interests of the College by the recognition of the claims of the Members and by electing to the Council only those Fellows who sympathise with the desire of the Members to have a share in the government of the College of which they form so important and so essential a part.

In the selection of candidates for whom to vote many Fellows experience great difficulty. It is not customary for the candidates for the vacancies on the Council to give any public expression of their opinions to the constituency and there is much to be said in favour of this practice; but the electors are left without any guide as to the views held by the candidates on the vexed questions of College politics. Frequently, therefore, the elector has to rely on the general surgical eminence of the candidate as a guide to his suitability to direct the affairs of the College. The general principles on which the posts on the Council should be distributed may be laid down as follows. There are 24 seats on the Council and of these four or five seats may be reasonably considered as belonging to provincial Fellows, and this is about the number of provincial Fellows usually on the Council. The 19 or 20 remaining seats must be divided amongst the 12 London medical schools. If possible every school should be represented and the number of representatives from each school should bear some relation to the relative importance of the school. On the present occasion for the four vacancies which exist there are eight candidates. Of the three members who retire by rotation one only, Mr. HOWARD MARSH, seeks re-election. It is a good rule that if a member of Council has served his term with credit to himself and benefit to the College he should be re-elected. Mr. HOWARD MARSH was first elected to the Council in 1892, but as he was then a "substitute" member his term of office came to an end in 1894, when he was re-elected for the full term of eight years. Mr MARSH has done good work on the Council and we consider it highly desirable that he should be re-elected. The other candidates are, in order of seniority, Mr. JOHN HAMMOND MORGAN of Charing Cross Hospital, Mr. HENRY HUGH CLUTTON of St Thomas's Hospital, Sir WILLIAM HENRY BENNETT of St. George's Hospital, Mr. CLINTON THOMAS DENT, also of St. George's Hospital, Mr CHARLES WILLIAM MANSELL MOULLIN of the London Hospital, Mr. GEORGE JORDAN LLOYD of Birmingham, and Mr JOHN BLAND-SUTTON of the Middlesex Hospital.

To consider these in order. Mr MORGAN is connected with Charing Cross Hospital, one of the most progressive of the smaller medical schools of London and at present without a representative on the Council. Of Mr. MORGAN's fitness for the post no more need be said than this—all who know him must recognise his suitability for the membership of the Council. Moreover, we consider that Charing Cross Hospital deserves a representative. Mr. CLUTTON is the senior surgeon of St. Thomas's Hospital. He is a good administrator and possessed of great energy and he would undoubtedly prove a most valuable acquisition to the Council. Moreover, by the death of Sir WILLIAM MAC CORMAC St. Thomas's Hospital has been deprived of its only representative and it would be surely very anomalous that so large and so important a medical school should have no representative on the Council. St. George's Hospital provides two sound candidates—Sir W. H. BENNETT and Mr. CLINTON DENT. This medical school is at present represented by Mr PICKERING PICK and may not unreasonably expect to have a second representative on the Council. Mr. MANSELL MOULLIN is surgeon to the London Hospital and the author of several well-known works on surgical subjects. The London Hospital at present has one member on the Council, Sir FREDERICK TREVES. Mr JORDAN LLOYD is the only provincial Fellow who is coming forward and since one of the vacancies results from the retirement of Mr. J. HARDIE, a provincial Fellow, it would only be reasonable that Mr.

JORDAN LLOYD should be elected. He will without doubt receive much support from provincial Fellows and we shall not be surprised if he is returned. Mr. BLAND-SUTTON is the last candidate whom we have to consider. He is attached to the Middlesex Hospital, which has already two such able representatives as Mr. HENRY MORRIS and Mr. PEARCE GOULD, and we cannot think it desirable that a third representative should be added.

Our consideration of the claims of all the candidates leads us to the conclusion that the most suitable choice the electors could make would be Mr. HOWARD MARSH, Mr. MORGAN, Mr. CLUTTON, and Mr. JORDAN LLOYD.

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Insanity and the Death Penalty.

THE trial of a man named SIMMONS, who was indicted for murder at the recent assizes at Dorchester, affords an example of the change which has taken place during the past 50 or 60 years in the attitude of the criminal law towards those mentally affected. The prisoner had committed his crime in the light of day, going into a public-house close to the club at which he was employed as steward and shooting his victim, a barmaid, with a revolver in the presence of several witnesses. There was evidence that he had given her presents, but if he had made other amatory advances to her there was nothing to show that he had been successful. Two days before the commission of the crime he had made accusations of intemperance and dishonesty against her to her employer which, if believed, would have insured her dismissal. Her employer, however, had refused to listen to his story. He had then purchased a revolver and two knives. With the revolver he shot her fatally and tried immediately afterwards to kill himself. Before shooting his victim he withdrew what was for him a considerable sum of money from the bank and in the bar he made some observation or proposal to her which was inaudible. Her reply, however, was given in evidence and was to the effect that she would have nothing more to say to him and the death-shot followed immediately.

It will be seen from the above brief account that the crime was on the face of it more or less deliberate; it was committed by an angry man upon a woman who had refused apparently to respond to his passion. Those concerned for the defence, however, were able to trace with considerable minuteness the history of the prisoner's childhood, youth, and early manhood. This history, with the narrative of the crime itself, had been laid before Dr. L. A. WEATHERLY of Bailbrook House, Bath, and Dr. W. B. MORTON of Brislington House Asylum, Bristol, with the result that these two gentlemen gave evidence in the witness box to the effect that at the time when the prisoner committed the crime he had not a full appreciation of the nature and quality of his act. Both expert witnesses agreed that he was at the time of the crime, and had been for long, suffering from the effects of "minor epilepsy." In the end, after a very brief consultation together, the jury found that the murder was committed by the prisoner but that he was insane, and Mr. Justice BUCKNILL, after expressing his concurrence with this finding, ordered him to be detained until His Majesty's pleasure should be known. Such a result to a trial based upon such facts would hardly have been possible in the days of the fathers of the present generation. In 1843, when DANIEL MCNAUGHTON murdered Mr. DRUMMOND, apparently mistaking him for Sir ROBERT PEEL whose secretary he was, evidence was given by medical witnesses and others on behalf of the prisoner which clearly showed that he was insane in the broadest and most popular sense of the term, suffering as he was from delusions which prompted him to fire the fatal shot under a sense of injury and to redress imaginary wrongs. Upon this evidence, and in the absence of any rebutting evidence, Chief Justice TINDAL stopped the case and directed the jury to find a verdict to the effect that when the prisoner did the act, which he had undoubtedly committed, he was not of sound mind. After this the House of Lords met to consider the question of how far insanity was to be held to exonerate a criminal from the consequences of his act and took the advice of the judges thereon. It was then laid down by the judges of the day, in answer to questions placed before them, that to establish a defence on the ground of insanity it must be clearly proved that at the time of the committing of the act the party accused was labouring under such a defect of reason from disease of the mind as not to know the nature and quality of the act he was doing, or that, if he did know it, he did not know that he was doing what was wrong. It was further declared upon this occasion that an accused person proved to be suffering from a delusion supplying a motive for his crime must be considered in the same situation as to responsibility as if the facts with respect to which the delusion existed were *real*. That is to say, that a man might be held irresponsible who killed another under the delusion that he was defending his own life from a murderous assailant, but must not be so excused if he took life merely because he was under the delusion that his victim had done some great injury to his character. In the case of the murder referred to above the law, as it was laid down in MCNAUGHTON'S case, if strictly applied, would hardly have excused the prisoner, of whom Dr. WEATHERLY expressed the opinion that when he did the act "he was overwhelmed with morbid delusive fears," and as to whose mental condition Dr. MORTON'S view was that "at the time he committed the crime he had not a full appreciation of the nature and quality of the act."

As far as we are aware, no decision enunciated by any court to which appeal has been made has varied the law as laid down for the guidance of judges in MCNAUGHTON'S case, but the development of medical and psychological knowledge and the tendency towards mercy natural to advancing civilisation and a milder age have modified the summing up of judges and the verdicts of jurymen. The result of this is that where it appears that a murderer acted under a delusion or under an impulse which a reasonable man would have controlled, whereas in his case there was an absence of self-control owing to mental infirmity, he may now escape the capital penalty which would formerly have been meted out to him. Of such conditions as these the case we have commented on appears to be a noteworthy example, but if there is trustworthy evidence of unsoundness of mind upon which a jury may act it is clearly only merciful and just that the person so afflicted should not be executed as a criminal.

itself could obtain access to the tank. The water from this tank was used for washing the milk-cans.

An outbreak at Balsall and Moseley Heath, near Birmingham, was investigated in 1873 by Dr. Ballard who thus sums up its etiology:—"1. Two wells upon adjoining premises occupied by milk-sellers became infected early in November with the infectious matter or virus of enteric fever through the soakage from a privy into them of excremental matters containing that matter of infection. 2. Through the medium of water drawn from these wells the milk supplied by these milk-sellers became infected and many of their regular customers who drank the milk suffered from the disease. The same infected milk having been sold to two other milk purveyors, some of the persons using the milk supplied by these milkmen also suffered in a similar manner. 3. There is no evidence that the disease spread in these districts in any other way than through the consumption of these infected milks" (Report of the medical officers of the Privy Council and the Local Government Board, New Series, 1874).

A serious outbreak of typhoid fever in Marylebone was investigated in 1873 by Mr J. Netten Radcliffe and Mr. W. H. Power, the former making the country inspections and the latter the inquiries in London. Mr Radcliffe was also accompanied in his inspections by Dr Whitmore, the medical officer of health of Marylebone, Colonel W Hope, V.C., and Mr. Chalmers Morton, representing the company supplying the milk, and myself as medical officer of health of St. George's, Hanover-square, and also sanitary adviser to the company. "Early in the outbreak Dr Murchison, whose family suffered very severely from it, satisfied himself that the only probable mode of introduction of the disease into his house was by the milk-supply. The suspicion having been aroused, he quickly ascertained that almost the whole of the families which were then affected with enteric fever within his knowledge and that of his professional friends, obtained their milk from the same dairy which supplied his household The preliminary inquiry had made it certain that the milk of six out of the seven farms supplying the dairy was, at the time of the outbreak, free from any suspicion of infection with enteric fever material. But with regard to the milk from the seventh farm the result was very different. Here a condition of things was found which rendered it highly probable that milk from this farm had been charged with enteric fever material and not improbably with the excremental discharges of a patient suffering from enteric fever, shortly before and during the earlier period of the outbreak in Marylebone *From this farm was obtained all the milk specially supplied by the implicated dairy for nursery use, the consumption of which milk, as has already been shown, furnishes the strongest evidence of the infection of the milk.* On June 8th the occupier of the farm died suddenly in the fourth week of an attack of ambulant enteric fever (typhus ambulatorius). For some time previous to the seizure it had been suspected that he suffered from some disease of the heart. The suddenness of the death at a time when it was believed by his medical attendant that recovery from the enteric fever had commenced led to the death being ascribed to the presumed heart disease and to its having been certified as occasioned by this cause, no mention being made in the certificate of the disease from which he was considered to be recovering at the time of death. The history of this case, indeed, is that of well-marked ambulant enteric fever. Previously to the hæmorrhage there had been no disturbed action of the bowels. After the hæmorrhage Mr. Humphreys gave directions that all discharges from the bowels and bladder should be kept out of the common privy of the farmhouse and buried somewhere outside the premises This direction was carefully carried out, and from the first hæmorrhagic stool to the last chamber slops all the discharges were removed to an ash-heap beyond the precincts of the farm buildings (as will presently be more fully described) and there the evacuations from the bowels were buried and the slops cast. No disinfectant was mixed with either the one or the other before being got rid of, for, on the one hand, it did not seem to be necessary from the place of burial or casting away, and, on the other, it was not advisable to retain upon the premises the great bulk of the evacuations passed within a brief period until a disinfectant had been procured. On August 12th, a son of the above patient, aged 13 years, was seized with enteric fever, and he passed through a slight but well-marked attack.

"A series of carefully executed excavations were carried out under the supervision of Colonel Hope, V C, one of ourselves and the manager of the implicated dai also present, to determine whether soakage from t and from the drains of the farmhouse could find into the dairy well. A previous examination of the of the well, the water having been pumped out purpose as low as practicable, disclosed a of soakage through the interstices of the brick on the south side of the well, three feet six inches the inlet of the drain from the feeding well and feet from the surface. Other more doubtful point soakage existed, which need not be described. excavations proved conclusively (1) that no soakage possible from the privy into the dairy well; (2) that soakage had taken place either from the surface y drain or from the dairy drain into the well; and (3) th no soakage from the farmyard drain or the farmyard elsewhere had passed along the upper part of the in which the conduit from the well in the meadow to th dairy well was laid. These questions having been carefully put aside a trench was run up to the yard wall from the garden plot on the south side, a little to the east of the position of the well, and on digging beneath the of this wall unquestionable signs of soakage of some foul matter were found. On this being discovered an excavation was made between the well and the yard wall and a line of soakage disclosed along the foundation of the wall through the made earth intervening between the wall and the well to the point where soakage had been discovered in the well. The reason of the growing foulness of the from this well, which had caused its disuse some time before for drinking and cooking, now became at obvious. The soakage could only come from one direction —that of the pigsty. The yard wall and the southern wall of the pigsty were continuous. The drainage of pigsty flowed to the south side of the wall and accumulated. The surface drainage from the yard also occasionally dammed up against the wall, as one us at the time of the first inspection of the premises occasion to see. Now there can be no reasonable doub from the result of the excavations, that the drainage of th pigsties and of the yard had in the progress of time mad its way along the foundation of the wall, a distance of about 25 feet, to the vicinity of the well and then soaked through the intervening soil into the well. The latter process from the nature of the soil would be a slow one, but it had been accomplished so effectually that the clay which constituted the bulk of the made ground between the wall and the well was, along the line of soakage, reduced to the consistence of very soft paste. Against the wall along the foundation of which this soakage takes place and close to the pool formed by the drainage from the pigsty is the ash-heap of the farm. In this ash-heap were buried all the evacuations from the bowels of the sick occupier of the farm on June 1st, 2nd, and 3rd, and upon it were cast all the chamber slops of the sick man's room from June 1st to 8th. *In other words, by an unhappy and altogether unforeseen chance and in carrying out precautions to obviate any possibility of mischief the matters from which mischief was most apt to arise were deposited in perhaps the only spot on the farm premises where they would certainly find their way into the water used for dairy purposes*

"For the ultimate purpose of this inquiry it is sufficient to have shown a probability, amounting for practical purposes to a certainty, that (1) the outbreak of enteric fever which forms the subject of inquiry was caused by milk infected with enteric fever material, (2) that this milk came from a particular farm, and (3) that the water used for dairy purposes on this farm contained excremental matters from a patient suffering from enteric fever immediately before and at the time of the outbreak" (Report of the medical officer of the Privy Council and the Local Government Board, New Series, No II, 1874)

In the seventh annual report of the medical officer of the Local Government Board, 1877, is a report on an unusual prevalence of enteric fever at Ascot during a period of four years and a half by Dr E Ballard, from which I quote the following "In the middle of 1873, at the very time that the outbreak in Marylebone which was traced to the milk supply of a particular dairy was in progress, three cases of enteric fever occurred almost simultaneously on the top of the ridge of hill on which the village of Ascot stands. ....

"The three cases occurred in persons who had recently been in London, *and two of whom had certainly whe there used the milk of the particular dairy*

Coronation Rejoicings and Fire.

THE recent fire in Queen Victoria-street and the terrible loss of life which accompanied it have called attention, as attention has been called before, to our Metropolitan Fire Brigade system and particularly to the means for rapidly summoning the assistance of the fire brigade and to the appliances provided by the brigade for enabling persons to escape from burning buildings. We are now expecting in the near future the coronation of King EDWARD VII. and his beloved QUEEN and one of the modes of celebrating it is to consist in illuminations on a scale never before attempted in London, while at the same time enormous crowds will hinder the operations of the fire brigade should any necessity for them arise, and in many miles of thoroughfare temporary stands of a highly inflammable character will be a grave source of anxiety and danger should any fire take place in their neighbourhood. In these circumstances it will be the duty of everyone who seeks to exhibit loyalty by illuminating his house or windows to act with extreme care and with consideration for possible danger to his neighbours and to himself.

With regard to illuminations in which electric light is used there can be little fear of conflagration; there is no naked flame to come in contact with other decorations, and the probability of serious accident arising through short-circuiting is not great. In the case of gas jets there is often a naked flame which may come in contact with a flag or with unprotected woodwork, but care will prevent this and a fire so occasioned will be, as a rule, outside and not inside a substantially built house Illuminations, however, in which gas or electricity play a part are usually exhibited by the wealthier classes and are erected by skilled workmen It is in the display of what we may call "amateur" illuminations that danger of accidents will lie, and where accidents take place there will always be a possibility of serious results owing to the fact that the inhabitants of many of the houses will be out in the streets and that the crowd and confusion will hinder the movements of those who otherwise might render assistance. These amateur decorations will consist chiefly of lights contained in coloured glass receptacles or Japanese lanterns, and once safely lighted and placed outside the house there is no great danger even in these. The dangers that may arise are likely to occur in lighting them; this should be done by a responsible person and if it is done inside the house caution should be exercised lest window curtains and other inflammable substances may come near them. In all cases where exposed lights are used attention should be paid to the possibility of window curtains coming in contact with them outside the house—that is to say, all windows behind illuminations are best closed. With Japanese lanterns, which are always liable to catch fire, and the glass receptacles referred to, if these are suspended, wire of serviceable stoutness should be used and never string Any makeshift devices, such as have been suggested at times on such occasions by foolish persons, consisting in placing candles or lamps close to windows inside the house, should be avoided even though they are prompted by the loyalty of persons too poor to afford more elaborate exhibitions.

There is one form of rejoicing akin to illumination which should be absolutely forbidden, and that is the letting off of fireworks of any kind, either in the streets or from houses. At the time of popular rejoicing over the relief of Ladysmith and of Mafeking in some parts of London rockets were let off from house-tops with absolute disregard as to where the rocket-sticks might fall, and we do not know that any police-court proceedings followed. Indeed, in one case of which we are aware inquiry at a police-station had as its result the reply that the police were powerless to interfere as long as fireworks were let off from private premises—that is to say, that a man might discharge a succession of rockets from his house-top over, or into, the crowd in the streets, the houses of his neighbours, their vehicles, and their horses, and the police could not do anything to stop him or to have him punished. If this attitude of the police is correct we can only congratulate London that popular rejoicing does not take the form of the discharge of firearms and that rockets are used and not "pom-poms." Fireworks of any kinds are dangerous in careless hands and near buildings. The smallest, such as squibs and crackers, let off in a street may injure eyesight or cause a temporary rush or panic in a crowd. A rocket does not always descend in the form of a stick; it sometimes fails to rise, but whether it comes down as a blazing firebrand or a smouldering lath it may go through a window and set fire to a house, it may frighten a horse, or it may hurt a human being. A rocket-stick, even if quite extinct, falling among the upturned faces of a crowd might do serious damage. Whatever means, however, are taken by the police to forbid imprudence or to supervise the safety of London during the nights succeeding the coronation the real safety of London will have to lie in the prudence and good sense of individuals, and it will be the duty of all who have influence with the careless and irresponsible to use it to the utmost. Any accident connected with fire commencing at such a time might have terrible results that on an ordinary night might not occur, while the illuminations that are to take place next week promise to be practically universal and the crowds prodigious

Annotations.

"Ne quid nimis"

THE PSYCHOLOGY OF JUBILATION.

"MY masters, are you mad, or what are you?" was the question asked by Malvolio and on several occasions during the last two years he might have put the same query As a nation, and perhaps even individually, we are more sober in adversity than in success, certainly we are much more dignified in the dogged acceptance of conditions that have gone against us than in the exuberant manifestations of an accomplished victory Why should the burning of gas, for example, the making of noise by gun-firing, bell-ringing and shouting, feather-tickling and squirting be the outward signs of joy? Partly because they are the local signs of a desire for the general diffusion of what is agreeable individually (does anyone, however, like to be squirted at?), partly because they are the means for an actual physical restoration of balance by the provision of an outlet for pent-up explosiveness. Of course, such exuberance is an insanity of the moment. When it is over we make excuses for having been so demonstrative, we look sheep-faced when brought to reflection on the temporary aberration, but we are able to settle down to prosaic existence much more quickly than would have been possible if we had fought against the volcanic explosion of feeling and had endeavoured to cool ourselves down by more gradual and rational methods. In these public outbursts of enthusiasm it is the night-time which sees the culmination of seismic social disturbance, because inhibition is then at its lowest ebb. The light of day has gone, we must have more light, so we flout the quiet heavens with artificial fire. The silence of night is oppressive, we must have a soothing noise. Shout, then; laugh and sing, until the larva of jubilation has run out and we can rest, lapped in the peace that follows an irresistible letting-go. So might argue, if arguing it can be called, the crowds filling our streets upon Mafeking nights and Peace nights, and the affinity of this frame of mind to madness must strike observant men. The essential difference between the madness of the man inside the asylum and the insanity of the man outside is that the former has his failure of inhibition at times when there is no excuse for it except his own personal morbid condition, when, therefore, the rest of society is unprepared and resents the forcible exhibition of what is against its feeling of the moment. The latter's outburst exactly represents that feeling and the sanity of what is really a manifestation of insanity is accepted by all. Are these ebullitions good for the community? We think that they are, though we feel that this is tantamount to confessing that the march of civilisation has not modified human nature so much as might be believed. The world is very much as it was long ago. There is still the same tendency to explosiveness, to mind-storms, to loss of inhibition, and it takes very little to seduce the sedate citizen into the destructiveness of the child, the "rag" of the university student, or the hooliganism of the man of the street. Habit may do much. Events of the last three years have been of the nature of a new experience; there was no preparation, no gradual adaptation to new conditions, while everything that argued for explosiveness was provided. But perhaps we are now more acclimatised. We have had time to prepare for the Coronation and we shall probably display less convulsive and hysterical jubilation than we should have done had the occasion been suddenly sprung upon us.

THE CIVIL SURGEONS AND THE LATE WAR.

THE civilians who took part in the South African campaign have returned, or are returning, to their usual avocations with a store of new experiences which cannot fail to be of value to them, whatever their calling in life. Some will have more opportunity than others of turning to account the practical lessons that they have learned, but all our volunteer and auxiliary forces are coming back to civilian life with their views broadened, their knowledge of men and matters immensely enlarged, and their qualities of endurance and self-reliance tried in the fire of experience. With regard to the civil surgeons now resuming their peaceful callings we wish to call attention to a suggestion made by Surgeon-General A. H. Keogh, C.B., the Deputy Director-General of the Army Medical Service, at the dinner of the South African civil surgeons last week. Surgeon-General Keogh thought that civil surgeons who have seen service in South Africa might well organise themselves into field hospital units in times of peace, and the idea is, in our opinion, a thoroughly valuable one. One of the most striking episodes in connexion with the war was the promptitude, nay eagerness, with which a large number of medical men voluntarily offered themselves for active service, in many cases giving up lucrative civilian positions, regardless of the fact that they might be sacrificing their lives as well as their professional prospects. Undoubtedly the Army Medical Service was at the time that the war broke out seriously undermanned. The country really stood in need of the help of civilian medical volunteers and this fact was, not too quickly or too gracefully, recognised by the War Office. At once all possible vacancies were filled. These volunteers have discharged their duties admirably and while doing so have got into touch with their military colleagues in a manner that certainly ought to be made available for future use. The union now made should be cemented. The civil surgeons have seen the work of the officers of the Royal Army Medical Corps in the field, they have taken part in their duties, and they now know the peculiar difficulties which the medical military officer has to encounter. For the future, whenever the civilian medical man can help his colleague of the Army Medical Service he may be trusted to do so. To return, however, to Surgeon-General Keogh's suggestion. Willing as the civil surgeon showed himself to help his brother in the army, the services which he rendered, valuable and effective as they were and rightly as they earned the praise of the authorities, would often have been enhanced by a knowledge of army routine and an appreciation of military discipline. Supplementary help to our armies in time of war must always be more effective if organised in time of peace and under the direction of, or at any rate in some degree in touch with, the military authorities. The suggestion made by Surgeon-General Keogh to the effect that civil surgeons who have seen service in South Africa should organise themselves into field hospital units rather than attach themselves to volunteer regiments is one that should be acted upon promptly, we consider, if the lessons of the war so far as they affect the civil surgeon are not to be largely lost. In the late campaign the field hospital proved itself to be a unit of the greatest importance. We have, however, no field hospitals maintained in time of peace and the question how such hospitals are to be organised is a matter for consideration. The first thing to be done is for the civil surgeons to signify their willingness to form themselves into such an auxiliary branch of the service and then to draw up a working scheme. We know that there are difficulties in the way of such a scheme, but they are not insurmountable, and as far as the matter of equipment is concerned we do not anticipate financial difficulties. That the Director-General of the Army Medical Service would welcome such a scheme there can be no doubt, and we trust that before long the field hospital in time of peace will have become an established institution.

FREE LIBRARIES FOR THE BLIND.

THERE is a feeling at once natural, general, and laudable which leads men and women at a time of national rejoicing to seek out and to help proper objects of charity. The feeling arises, no doubt, from that sympathy with his fellow-men which dwells to a greater or a less extent in every human breast. It is the same feeling, dependent upon the same sympathy, which makes a man laugh more readily when others can laugh with him and which draws tears to a woman's eye when she sees other women weep. At the present moment when thousands of happy men and women in England are preparing an extra happiness for themselves in the acclamation of a well-beloved Sovereign some such sympathy spreads far and wide. Every man who rejoices feels that he would do something to help those to whom joy comes less easily, if at all. In this way such times as these of coronation celebrations are a double blessing. The happy rejoice and the unhappy—the poor, the sick, the blind—have at least some alleviation shed upon their misery. With reference to the last-named class of sufferers—the blind—we wish to draw the attention of our readers to the Home Teaching Society for the Blind, a society whose benevolent efforts, successful though they are in adding pleasure to the scant enjoyment of hundreds of the poor blind, might be still more so but for the need of funds. A letter from the president of the society, Viscount Midleton, appears in the *Times* of June 16th and contains this sentence: "Want of money alone limits the extent of its work." As the letter points out, the Home Teaching Society has a centre for exchange as well as a complete organisation for free distribution of books. We cordially agree with the society's president in thinking that the philanthropic who wish to commemorate the Coronation in a special way in connexion with those who suffer from blindness will be better advised in aiding the established society than in seeking to found an additional free circulating library, and we can imagine no more suitable object for such specially directed charity than the Home Teaching Society for the Blind.

ANTECEDENTS AND TERMINATIONS OF EPILEPSY.

DR. WILLIAM SPRATLING, medical superintendent of the Craig Colony for Epileptics, New York, contributes an interesting article to the *Journal of the American Medical Association* of May 3rd on some points connected with the antecedents and terminations of epilepsy, information concerning which is not usually given in text-books. The article is based upon observations made during several years at the Craig Colony for Epileptics, an institution offering exceptional opportunities for the study of the disease in its various aspects. In the United States, says Dr. Spratling, one person in every 500 of the population suffers from epilepsy, a ratio which is about the same as that prevailing in England. From a study of 1100 cases during the past six years in regard to etiology it appeared that in 15 per cent. of males and 17 per cent. of females epilepsy existed in and was inherited from the parents (similar heredity). Among other important causes alcoholism was present among the parents in 16 per cent. of males and 12 per cent. of females, insanity in the immediate ancestors was met with in 7 per cent. of males and 10 per cent. of females, while parental tuberculosis was found in 15 per cent. of males and 12 per cent. of females. Taking the chief hereditary factors above mentioned it was found that they could be traced in 56 per cent. of the entire number of cases observed. Cerebral palsies sustained during childhood were recognised as the cause in 117 cases, or 11 per cent. of the total cases, while head-injury during birth or childhood accounted for a few more. The fevers and infections of childhood—measles, scarlet fever, diphtheria, and obscure forms of intestinal disease—probably assisted in the production of epilepsy in some cases but no exact conclusions could be reached regarding their etiological value. Epilepsy arising from hereditary sources almost invariably manifested itself during childhood, puberty, or early adolescence, but when appearing for the first time after adolescence it was probably due to syphilis, traumatism, or some form of toxæmia such as resulted from alcohol, absinthe, or lead poisoning. Epilepsy tended to shorten life, the greatest danger being the occurrence of the status epilepticus, a condition which was likely to develop in any form of epilepsy at any time and which was the cause of death in 25 per cent. of all deaths among epileptics. Epileptics were unusually prone to disease of the heart and lungs. Thus of the deaths in Craig Colony during six years 24 per cent. were due to pulmonary phthisis, 10 per cent. to organic disease of the heart, and 8 per cent. to pneumonia. Under proper treatment—i.e., under conditions which enabled the physician to control absolutely the habits of the patients—from 8 to 10 per cent. of epileptics, if taken in time and treated long enough, might be made to recover. The most discouraging symptom was mental enfeeblement or dementia which affected fully 90 per cent. of all cases of epilepsy when the disease had been in existence some years. Treatment comprised the giving of bromides and a simultaneous withdrawal of all sodium chloride from the patient's food (salt starvation). The sedative action of the bromides was thus enhanced—almost doubled. The addition of opium (Flechsig) or of adonis vernalis (Bechterew) facilitated recovery in some cases. Epileptics should be promptly treated in case of constipation with aperients, and beta-naphthol or salol in five-grain doses should be given with the aperient. Status epilepticus should be treated with a mixture of chloral, opium, and bromides. The diet of epileptics should be always plain and unseasoned—e.g., milk, eggs, rice and cereals, and fruit. Meat or fish should be taken sparingly at noon and the evening meal should always be light.

INDUSTRIAL DANGERS IN THE TRANSVAAL.

DR. THOMAS OLIVER, one of the physicians to the Royal Infirmary, Newcastle-upon-Tyne, sends us an interesting communication on this subject which we have had pleasure in reproducing in our columns.[1] Dr. Oliver speaks with authority on industrial dangers. He is the confidential adviser of the British Government on those matters and has recently published[2] the best English work of recent years on this important branch of State Medicine. It appears that many of our north-country colliers who had previously emigrated to South Africa in search of lucrative employment have during the last two years returned to their homes in Northumberland and Durham owing to the closing of the South African mines and the continuance of the war. These miners, we are told, present the appearance of men broken down in health who sooner or later succumb to pulmonary disease—they return to their homes in this country "only to die of phthisis." As Dr. Oliver has in the course of his out-patient practice become familiar with the form of disease presented by the Transvaal miners, he has been at considerable pains to write a very useful description of the symptoms and physical signs of the malady as it occurs among these workers and has suggested rational principles for its prevention. He has done this public service with a view, if possible, of inducing those in authority to bring about improved and more sanitary methods of mining in the Transvaal, as well as of advocating the necessity for revising the mining regulations of that recent addition to the British Empire with a view to the saving of life and the promotion of health among the miners. To those who are especially interested in this question no better text-book could be recommended than that which Dr. Oliver himself has provided in his recently-published Treatise on Dangerous Trades, which embodies several contributions by eminent authorities at the Home Office and elsewhere in England and Scotland. In particular we would refer to the chapter on the Regulation of Injurious or Dangerous Occupations in Some of the Chief European Countries, and also to the section on the Vital Statistics of Miners and Others Engaged in Dust-producing Occupations, which forms an important part of the earlier pages. It is, of course, true that in Great Britain there is no industry precisely analogous to the gold mining of the Transvaal and therefore that the experience of this country cannot supply complete instruction as to the best methods by which the health and life of gold miners may be safeguarded; nevertheless, Dr. Oliver tells us that gold mining is, *inter alia*, a dust-producing occupation—that "gold miners' disease" is essentially a slowly-developing pneumoconiosis due to the inhalation of dust; it is therefore a malady akin to stonemasons' or steel grinders' phthisis. In using the term "phthisis" to describe this particular malady we are pleased to note that Dr. Oliver is careful to distinguish miners' phthisis from the tuberculous infection to which, unfortunately, the same name is still indiscriminately applied, even here in England. In the miners' phthisis of gold workers there are few of the well-known signs of the tuberculous malady. Hæmoptysis, for example, although it sometimes occurs, cannot be said to be a symptom of the disease. There is no night-sweating; it is essentially an afebrile disease, and until towards the approach of death there is no rise of temperature, and even then it may not be very marked. In all these respects, and also in regard to the physical signs which accompany it, gold miners' phthisis contrasts strongly with pulmonary tuberculosis and shows a striking similarity to the fibroid lung disease or pneumoconiosis of this country. On the question of treatment Dr. Oliver has few suggestions to offer. If any good at all is to be got by treatment he thinks that this can only be attained by the gold miners renouncing their work in the very earliest stages of the illness and following outdoor employments. He is, however, of opinion that until a larger experience of the disease has been gained it would be better to send the patients for change of air, not to the seaside but inland to fairly high altitudes—say, 700 feet or more above sea level. It is therefore mainly to preventive science that we must look for a reduction of the evils which South African miners suffer as a consequence of their avocation, and Dr. Oliver's thoughtful essay will not have been written in vain if it awakens in the right quarter the conviction that something in the direction of prevention is practicable and therefore ought to be attempted forthwith.

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[1] THE LANCET, June 14th, 1902, p. 1677.

[2] Dangerous Trades, by Thomas Oliver, M.D. Glasg., F.R.C.P. Lond. London: John Murray. 1902.

DINNER OF THE OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

ON June 13th, following the delivery of the Bowman Lecture by Professor Fuchs of Vienna, the above society celebrated its majority by a dinner at the Trocadéro, Piccadilly, the members and guests numbering nearly 100. In the absence of the President, Dr. David Little, through illness, the chair was worthily filled by Dr. D. Argyll Robertson of Edinburgh. The Royal Toast having been honoured Dr. W. H Allchin, President of the Medical Society of London, proposed "The Welfare and Prosperity of the Ophthalmological Society." Specialism, he said, had come to stay, and ophthalmology more particularly justified itself owing to the time necessarily devoted to special study and technique. Before the establishment of that society ophthalmic subjects and cases were brought before the Medical Society of London and he cited some remarkable instances of the heroic treatment adopted in former days. He observed that during the past 10 years no communications on ophthalmic subjects had been received by it. Many Fellows of the Medical Society of London were original members of the Ophthalmological Society of the United Kingdom, the comprehensive title of which, as well as the eminence and number of its members, some of whom were present from India and the Colonies, testified to its extent and prosperity. Sir Anderson Critchett, who proposed in graceful terms "The Health of the Bowman Lecturer," said that it was as difficult to praise a friend before his face as it was to disparage an adversary behind his back. Professor Fuchs was known as the writer of the most popular work on ophthalmology in the whole world, as well as a most successful teacher and practitioner. He was worthily numbered among the pre-eminent men in medicine whom Vienna had produced. Professor Fuchs, in reply, referred to a statement that "hospitality was most developed in primitive countries and disappeared with the progress of civilisation." England, maintaining its primitive hospitality, welcomed men who were sometimes driven from their own countries on account of advocating new ideas, and maintained her tradition of freedom in science as in government. In his younger days he had studied in London and was greatly indebted to Bowman and Critchett for their teaching and work. He congratulated Sir Anderson Critchett on having so well maintained the honour of a celebrated name. Mr. H. R. Swanzy (Dublin), who proposed "The Health of the Guests" in a speech at once witty and in good taste, congratulated the society on maintaining good fellowship among its members, and welcomed the guests, among whom he mentioned Sir William Church, Bart., President of the Royal College of Physicians of London; Dr. Landolt of Paris; Dr. Allchin; and Mr. H. W. Page, President of the Neurological Society. Sir William Church and Dr. Landolt replied, and after a tribute to the chairman and secretaries a most enjoyable entertainment was brought to a close.

THE APPROPRIATE FORM OF LENS FOR CONICAL CORNEA.

M. J. JANSSEN read a paper on this subject on May 5th before the Académie des Sciences, an abstract of which appears in the *Comptes-Rendus* of May 20th. He proposes the use of a deep meniscus lens, the inner surface of which is concave to such an extent that it is approximately parallel to the convex surface of the conical cornea while the outer surface is convex to the extent of a normal cornea. Mention is made of only one case for which such lenses were made 10 years ago and succeeded in restoring sight almost to normal (*une vue très sensiblement normale*). It is obvious that the effective area of the meniscus must not measure more than half an inch from side to side, or the weight of these deep menisci would be intolerable. Further, such glasses would be exceedingly costly if the inner surface were made to correspond exactly with the conical cornea of each individual. Practically very deep concave plano-spherical lenses of known curvature might be kept in stock by opticians. On finding the biconcave trial lens which gives with a patient the best visual result it would be an easy matter to determine the requisite additional curvature that would have to be ground on the outer surface which would make the meniscus of the same strength as the trial lens. A lens made in this way should be more suitable for a conical cornea than the ordinary biconcave lens, while the cost of its manufacture would not be excessive.

AN OUTBREAK OF RABIES.

THE strong manner in which the Rabies Order was enforced and the Muzzling Order carried out in the face of so much bitter outcry and opposition on the part of the fanatical section of the dog-owning community has borne good fruit in England, but that it is still necessary not to relax any precautionary measure is shown by the fact that even within the past few days a case of rabies has been reported from Wales. The rabid animal was a Scotch collie belonging to a farmer in Pembrokeshire and it commenced its wanderings one Sunday evening. On the following Wednesday it was seen, and, unfortunately, ran amongst a lot of children who were coming out of school, biting one of them. Eventually it was shot, and a post-mortem examination, made by the county council veterinary inspector at Haverfordwest, revealed evidence of rabies, this being subsequently confirmed by inspectors sent from London by the Board of Agriculture. Unluckily, during the three days when the collie was away, its wanderings spread over a large area and it is impossible at present to trace the exact amount of damage done. Several dogs are known to have been bitten and these have been destroyed. A sheep, one of a flock through which the dog was seen to pass, has died from rabies, and the probability is that many animals were bitten and may become mad. The seriousness of the affair has caused considerable excitement and comment in the district, the Muzzling Order has again been enforced, and it is to be hoped that the precautions taken will attain the desired result. The western district of Wales is the only one in Great Britain in which rabies exists or has recently existed, and when once this part can be declared free it is to be hoped that this dreaded disease will become as complete a stranger to our shores as rinderpest and other diseases which have been stamped out by the Board of Agriculture and its veterinary and administrative advisers.

LORD SALISBURY AND THE LONDON WATER BILL.

ON June 12th the Prime Minister received a deputation who attended to request him to use his influence to support the London Water Bill and to urge the claims of the metropolitan boroughs to receive adequate representation on the Water Board. The deputation included the mayor of the City of Westminster and the mayors of the boroughs of Chelsea, of Camberwell, of Hackney, of Holborn, of Islington, of Lewisham, of St. Pancras, and of Stepney, and representatives from the urban districts of Beckenham, of Chiswick, of Kingston, of Isleworth, of Surbiton, of Twickenham, and of Wimbledon. The awakening interest in the water-supply shown by some of the metropolitan civic authorities is a wholesome sign, but it is becoming manifest somewhat late, and even now a small proportion only of the metropolitan mayors seem to have been present as members of the deputation. Lord Salisbury did not appear to feel much enthusiasm for the Water Bill, nor did he take a particularly cheerful view of its prospects A perfect scheme, he said, was unattainable and he agreed with the deputation that the "present form" of the Bill is the best that they could attain. The London County Council was convinced that it ought to have control over the water supply—that was nothing against the London County Council On the other hand, there was no reason why the deputation should not resist the Council in that matter In fact, the fate of the Bill would largely depend on the efforts of the deputation.

PHYSICIANS AND THE FRENCH PRESS

THE physicians of no nation in the world hold a higher standard of medical ethics than do those of France.[1] It is by no means so certain that the general public in France quite appreciate the high standard of medical etiquette which is observed by the leading members of the medical profession One of the most popular of the Paris papers lately[2] contained a short article entitled "Hygiène et Médecine" in which the name and address were given of a medical man who is said to be an attractive writer and a well-known specialist. Three of this gentleman's recently published books are then lauded. Of the first of these ("La Peau et l'Estomac") it is said that it enables the reader to put his finger on the causes of maladies connected with these organs, gives the newest hygienic precautions to be adopted for avoiding them, and the most rational methods for their treatment. All this useful information may be had for one franc. The second book ("Consultations pour les Arthritiques") deals not only with rheumatic and gouty affections but gives advice also concerning diabetes and obesity as well as certain constitutional diatheses. This volume also costs one franc. The third book is rather more expensive—in fact it costs as much as the other two put together It should be said, however, that the volume may be considered almost topical. "Inspired by the very suggestive title of M. de Brieux's play Dr X has taken for his title 'Conseils aux Avariés' and has produced a popular work of undoubted usefulness." We cannot pretend that lay opinion in England is at all well informed on questions of medical etiquette and it was recently the duty of THE LANCET to make the matter clear on one or two points. At the present time it seems that French physicians have even more reason than we have to take exception to some of the writing in the lay press of their country, for it is inconceivable that an article like the one from which we have quoted would be printed in the columns of a leading London journal.

SULPHUR IN RAIN SHOWERS

MORE than one observer in different parts of the country has volunteered the statement that the recent rains have left a deposit of sulphur on the earth and the conclusion has followed that this sulphur had its origin in the recent volcanic eruption in the West Indies. It is open to doubt whether the yellow deposit was due to sulphur at all, the probability being that it is the pollen of certain conifers. Assuming, however, that free sulphur was present its origin could not have been the dust showers of the West Indies eruption, for a recent analysis of the deposit collected from the deck of the steamer *Roddam* shows no free sulphur at all, but chiefly the silicates of alumina, iron, calcium, and magnesia. The only sulphur found was present as sulphate, and then only to the extent of less than 1 per cent The analysis, in short, shows that the dust possessed the composition of crude pumice.

THE MIDWIVES BILL.

ON Friday, June 13th, the Midwives Bill was read for a third time in the House of Commons after an interesting debate which will be found fully reported in our columns The amendment by which a woman uncertified under the Act is not only prevented from assuming the title of midwife but is also prevented from practising the habitual rôle of midwife for gain received the approval of the House though Mr Jesse Collings and Mr Ritchie both spoke against it. Mr Ritchie concluded the debate by defining his own position in the following terms "I prefer the Bill as it was originally, but I very much prefer the Bill as it stands now to not having any Bill at all.' After this statement it seems improbable that the Government will offer any resistance to the passage of the measure in the House of Lords.

THE NEW EXPEDITION OF THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

DURING the researches of the last expedition of the Liverpool School of Tropical Medicine which visited the Gambia in the summer and autumn of 1901 an important discovery was made with regard to the animal parasite trypanosoma It was then discovered that the presence of this parasite in the blood is closely connected with disease in Europeans which had not previously been recognised It is very similar to the blood parasite which is the cause of the disease among cattle and horses in Africa, India, and other tropical countries, known as the tsetse fly disease. In the case of animals it has been proved that this disease is communicated through the agency of biting insects, such as the tsetse fly. The trypanosoma parasite was discovered in the blood of a native child. Since the return of the expedition the subject has been investigated at the laboratory of the Liverpool Tropical School and the committee of the school has resolved to despatch a fresh expedition to the Gambia and to Senegambia to follow up the investigation. The new expedition will start next month and will consist of Dr. J. E. Dutton, the Walter Myers Fellow in the Liverpool School of Tropical Medicine, and Dr. J. L. Todd of McGill University, Montreal, who has been working for some time in connexion with the Liverpool school. Its principal object will be to investigate the conditions under which the disease occurs in both Europeans and natives and its distribution, and also to ascertain how it is conveyed from man to man, whether by a biting insect or by other means. Sir Alfred L. Jones, K.C.M.G., the chairman of the school, will kindly provide for the passages of the members of the expedition.

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[1] Le Médecin dans la Société Contemporaine (Paris, Masson)
[2] Le Figaro, June 13th

THE ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

THE committee of management of the Anatomical Society of Great Britain and Ireland has decided to hold the summer meeting at St. Bartholomew's Hospital Medical School, London, E.C., on Thursday and Friday, July 3rd and 4th, commencing each day at 3 P.M., under the presidency of Mr. C. B. Lockwood. The annual dinner of the society is arranged for Thursday, July 3rd, at the Café Royal, Regent-street, W., to commence at 7.30 P.M. Communications should be addressed to the honorary secretary, Dr. Peter Thompson, Middlesex Hospital, W.

THE VALUE OF BENEDIKT'S SYNDROME IN THE LOCALISATION OF LESIONS OF THE BRAIN.

SINCE Professor Benedikt of Vienna drew attention in 1889 to a group of symptoms, subsequently known as "Benedikt's syndrome," which occurred in lesions of the upper half of the cerebral peduncle, little has been recorded of this condition. Charcot, however, reported two cases in 1890 in which this group of symptoms was present and where the post-mortem findings confirmed the localisation of the lesion diagnosed during life. The symptoms which constitute Benedikt's syndrome are briefly a partial paralysis of the ocular muscles of one eye and a paresis of the opposite side of the body. In an article in the *Revue Neurologique* of May 15th last Dr. Leon d'Astros and Dr. E. Hawthorn have published a case illustrating the symptoms and diagnostic value of Benedikt's syndrome very clearly. The case was that of a child, aged 21 months, who was admitted to hospital in November, 1901, with oculo-motor paralysis of the right eye and paresis with involuntary movements of the left upper and lower limbs. The right eye remained closed sometimes for hours and could not at any time be fully opened. There were divergent strabismus and mydriasis of the pupil. There was also some spasmodic contracture of the left hand, including the thumb and fingers. The fore-arm remained in a state of semiflexion and pronation. The most salient feature, however, consisted of oscillations and rhythmic movements of the forearm which varied in amplitude and rapidity, occurring when the patient was awake and ceasing during sleep. The triceps tendon reflex was almost absent. The left leg lay extended and immobile with the toes semi-flexed but the foot showed rhythmic movements of extension of flexion. There was no Babinski symptom. The knee-jerks were exaggerated on both sides. Some degree of left-sided facial paralysis was present. The patient was anæmic and emaciated on admission and gradually grew worse and died on the nineteenth day. The necropsy showed a tuberculous tumour in the upper half of the cerebral peduncle, situated mainly to the right of the middle line. It was embedded in nerve-tissue and came nowhere into contact with the pia mater. Inferiorly it reached to within two millimetres of the upper border of the pons, and superiorly it extended to the ependyma of the third ventricle and involved the substantia nigra and subthalamic tissues. It measured 17 millimetres vertically and 16 millimetres transversely. Dorsally it reached as far as the iter and implicated the oculo-motor nucleus but spared the corpora quadrigemina. The clinical symptoms during life were so characteristic that diagnosis was made of a tumour in the above situation which the necropsy confirmed. A tumour in such a situation is beyond the reach of surgical operation, but the writers have shown that Benedikt's syndrome has a distinct diagnostic value.

THE PREVALENCE OF SMALL-POX.

THE figures showing the number of patients admitted to the hospitals of the Metropolitan Asylums Board for the past week are as follows:—On Saturday, June 14th, there were 18 fresh cases; on Sunday, the 15th, there were seven fresh cases; on Monday, the 16th, there were 12 fresh cases; on Tuesday, the 17th, there were 20 fresh cases; and on Wednesday, the 18th, there were eight fresh cases. In the county of Essex for the week ending June 14th there were notified 22 fresh cases, while throughout Scotland from June 1st to June 15th there were notified 41 fresh cases.

THE BREAD-SUPPLY OF JOHANNESBURG.

IN May last the chairman and members of the Public Health Committee of Johannesburg instructed Dr. C. Porter, the medical officer of health of that town, to inquire and to report in regard to the bread-supply and bakeries of Johannesburg. The report cannot be considered satisfactory; 85·7 per cent. of the bread sold was found to be appreciably under weight. It was also found to be deficient in quality; over 65 per cent. of the samples contained alum, many had an excess of acid, and others were sour and badly baked. The bakehouses generally were in fairly good structural condition and pretty well kept, but the ventilation of many was not worthy of praise and it was suggested that an improvement could be made by the adoption of louvred roof ventilators. The shallow-well water-supply of certain bakehouses was stated to be dangerous and a possible source of typhoid fever, and a recommendation was therefore made that every bakehouse should be supplied with water from the main or from an artesian well. In those houses where this plan could not at once be adopted Dr. Porter proposed that the water from the wells should be boiled and allowed to cool before being used for making dough. The attention of each baker in Johannesburg was ordered to be called to the results of this examination and the secretary of the water company was also communicated with. Now that peace is assured in South Africa the civil authorities will be able to supervise more closely the food- and water-supply, and doubtless the unsatisfactory state of affairs which existed in Johannesburg previously to May will speedily be remedied.

THE ANATOMY OF ANKYLOSTOMA DUODENALE.

IN the *Records of the Egyptian Government School of Medicine*, published in 1901 under the authority of the Egyptian Ministry of Public Instruction, Dr. A. Looss, professor of helminthology in the school, contributes an elaborate article on an important department of his special subject. This monograph, which fills 115 pages and is illustrated by 13 large plates containing 172 figures, is headed, "The Sclerostomidæ of Horses and Donkeys in Egypt." Its chief medical interest lies in the opening portion which is devoted to some questions connected with ankylostoma duodenale, a familiar designation which Dr. Looss says is no longer retained in modern zoological nomenclature but is replaced by the name "uncinaria duodenalis." It is generally conceded by those who are familiar with ankylostomiasis that the parasites in addition to sucking blood exercise a poisonous influence on the organism of the patient. It is also well known that the body of the parasite, and especially its anterior region, is provided with numerous large glands, distinguished as the head glands, neck glands, and œsophageal glands. Dr. Looss gives reasons for supposing that if the impairment of health which accompanies ankylostomiasis is really due to a substance secreted by the parasite this substance is probably derived from the head glands. In continuation of the research Dr. Looss turned his attention to sclerostoma, a parasite closely allied to ankylostoma and found in Egypt in immense numbers in the bodies of the equidæ. In examining the parasites he had much trouble from the tendency of their bodies to contract and to become wrinkled when they were removed from their natural habitat, but he overcame this difficulty by immersing them in alcohol of about 70 per cent. strength heated to 80° C.; they were then cleared in glycerine and mounted unstained in glycerine-gelatin.

THE ARMY MEDICAL ARRANGEMENTS FOR THE CORONATION.

The army medical arrangements in the metropolis in connexion with the processions on June 26th and June 27th have been made public and appear to be of a most detailed and comprehensive character. Stretcher squads will be stationed immediately behind the line of troops on either side of the route; 18 ambulance and six dressing stations will be established at convenient spots; and 10 field hospitals will be located at such varying points around the centre as Kensington Gardens, Hyde Park, St. James's Park, Battersea Park, Regent's Park, Lambeth Palace, Surrey Sessions House, Tower Ditch, King's College, and Hounslow Heath. The following seven general hospitals, the first four of which are actually on Friday's route, have engaged to reserve a certain number of beds for casualties of a severe nature occurring among the troops: St. Thomas's Hospital, St. George's Hospital, Charing Cross Hospital, Westminster Hospital, St. Bartholomew's Hospital, Guy's Hospital, and King's College Hospital. Special arrangements have been made for the Colonial and Indian contingents present in London for the ceremonies of the coronation. At Alexandra Palace temporary "non-dieted" hospitals have been established to meet the wants of over 3000 officers and men, while serious cases can be drafted to St. Thomas's Home (officers), Rochester-row Station Hospital (non-commissioned Europeans), and Herbert Hospital (non-commissioned natives). Field hospitals of 50 beds will be established in the Home Park, Hampton Court, and on Hounslow Heath; a detention hospital of 14 beds will be opened at Fulham Palace for the mounted troops of the Indian contingent; and a method is to be devised for the separate treatment of infectious diseases. The medical officers in charge of the various camps have been warned as to the need of the utmost vigilance against small-pox.

THE DISTRIBUTION OF PLAGUE.

The weekly return of the Director-General of the Sanitary Department of Egypt shows that for the week ending June 8th there were four new cases of plague admitted, of which one occurred in a European. There were two deaths, 14 recoveries, and 16 cases remained under treatment.

THE UNRESTRICTED SALE OF POISONS.

It is, of course, difficult to suggest a satisfactory system of control by which all poisons or poisonous preparations can be sold. Tobacco, paint, and alcohol are poisons, but there is practically no limit to their sale. Whilst admitting, however, the danger to the community which the unrestricted sale of poisonous compounds intended exclusively for agricultural purposes would possibly involve it is pretty evident that the provisions of the Pharmacy Act were never intended to apply to such preparations. The sale, for instance, of a weed-killer or insecticide does not surely require the offices of a particularly well-educated or qualified person, such as is the chemist and druggist. The chemist and druggist is required to possess an accurate knowledge of poisons for obvious reasons, chief amongst which is that he dispenses them for internal administration. Elsewhere we record a case in which a seed and artificial manure merchant was summoned for selling a poisonous vegetable alkaloid known as nicotine without having his name and address on the bottle, and for selling the poison to an unknown person, and for failing to make an entry of the sale in a book kept for the purpose, contrary to the provisions of the Pharmacy Act, 1868. The preparation was sold as a "vaporiser fumigator" which is used for the destruction of greenhouse pests. Evidence was given to the effect that the compound contained over 20 per cent. of nicotine, two ounces containing as much as 186 grains of the alkaloid—a quantity, it was stated, sufficient to prove fatal to at least 300 persons. The case was considered proved and the defendant was fined £2 on each of the three summonses, including costs. Consent, however, was given to state a special case for the Court of Appeal. Instances of this sort are multiplying and it is to be hoped that the Privy Council Poisons Committee may find that they will be able to control the sale of poisons in some way which, while duly protecting the public, will not threaten to extinguish an undoubtedly important trade. We learn that the report of this committee is not expected until the end of the autumn. Their decision will have an important bearing upon the case which we have just discussed.

THE SMOKE NUISANCE IN NEW YORK.

A very instructive incident is reported in our columns this week by our New York correspondent in regard to the smoke nuisance which has recently arisen in that city. As is well known, the fuel used for heating purposes in New York, as in most continental cities, is anthracite. As a consequence the atmosphere of these cities is never blackened with smoke, for anthracite is a smokeless fuel. Owing, however, to the high price of hard coal in New York city, as a result of the general strike amongst the anthracite colliers cheaper and smoky coal has suddenly come into vogue. This change of fuel soon had its bad effect upon the atmosphere of the city and to some extent the inhabitants have been experiencing a condition of things similar to that frequently met with in London, where the householders are allowed to pollute the air with comparative impunity. In New York city it is a civil offence for a householder to allow smoke other than white, or cinders, dust, gas, or any offensive odour to come from his chimney. We fear that it would be impossible to impose such a restriction as that regarding the use of anthracite or smokeless coal in London. But what an excellent result would accrue could it be done. There is little doubt that the householders of the metropolis tarnish the atmosphere of London to an infinitely greater degree than does the manufacturer. There is no reason, however, why pressure should not be kept to bear upon the latter offender. It is quite easy to prevent smoke-production in a large furnace even when soft bituminous coal is used, whereby not only is a nuisance effectually checked but an important economy of fuel obtained, as we have repeatedly pointed out. In New York notice is to be sent to all persons guilty of the offence to discontinue the use of soft coal within five days and in aggravated cases within 24 hours. If the notice is not complied with prosecution is to be immediately instituted and in case of the smoke blowing into neighbouring windows the offenders will be brought to book on a criminal charge. It is a thousand pities that the use of anthracite or smokeless coal cannot be compelled in the private dwelling-houses of London and of this country. But London and smoke are accepted by a great many as synonymous terms and not a few on grounds of sentiment would object to having this acceptation disturbed.

A WORK OF REFERENCE ON THE PUBLIC HEALTH ACTS.

LEGISLATION affecting the very wide subject of sanitary affairs has been so abundant during recent years as to render a precise acquaintance with all the Acts relating at the present time to public health somewhat laborious to acquire. The recent issue from the press of "Lumley's Public Health" in two volumes will therefore be welcomed.[1] The fifth edition was published early in 1896 and since that date many important amendments and additions have been made to the statutes concerning public health administration. In this connexion may be mentioned the amendment of the Local Government Act in May, 1896; the amendment in the Public Health Act in August of the same year as regards diseases on incoming ships and as to ports; the compulsory notification of infectious diseases in June, 1899; and the important amendments in the Housing of the Working Classes Act, 1890, in August, 1900. Furthermore, new Acts have come into operation—namely, the Locomotives Act, 1898; the Electric Lighting Clauses Act, 1899; the Sale of Food and Drugs Act, 1899; and the Factory and Workshop Act, 1901. The work, again, is invaluable in presenting typical cases that have been decided in quite recent times upon points arising under the old as well as under the new statutes. The index is very thoroughly done and altogether the two volumes are of the utmost value in facilitating the task of reference and in placing before those who consult the sections the requirements, meaning, and acceptation of the laws relating to public health.

THE Honourable Stephen Coleridge brought an action in the King's Bench Division before Mr Justice Grantham on Wednesday last to recover damages from the Rev David Macdonald for alleged libels published in the *Derby Express* and the *Derby Daily Telegraph*. Mr. Macdonald admitted the publication of the letters complained of, which contained, among other things, the phrase that "lovers of animals and lovers of truth will have nothing to do with his (Mr. Coleridge's) society." The jury stopped the case, being unanimously unable to see anything libellous in Mr. Macdonald's letters, a view with which the judge agreed.

THE annual provincial meeting of the Incorporated Society of Medical Officers of Health will be held on Saturday, June 28th, in the Council Chamber, Southend-on-Sea, at 12 noon. An address will be given by Dr. J. T. C. Nash on Matters of Public Health Interest in Southend.

LITERARY INTELLIGENCE.—A German translation of Dr. Charlton Bastian's "Treatise on Aphasia and other Speech Defects," by Dr. Moritz Urstein of Berlin, has just been issued by W. Engelmann of Leipsic.

THE METROPOLITAN WATER-SUPPLY: THE LONDON WATER BILL.

LORD BALFOUR of BURLEIGH presided over the meeting the Joint Committee which was held on June 10th. Th numbers and composition of the proposed Water Board we considered. The representation of authorities on the boa as proposed in the Government measure is given in th third schedule of the Bill. In this schedule it was provide that the London County Council should have 10 representativ and the county councils of Essex, Kent, Middlesex, Surre Hertfordshire, the Conservators of the river Thames, and th Lee Conservancy Board one member each. The councils the cities of London and Westminster and the metropolit borough councils of Islington, Kensington, Lambeth, S Pancras, and Stepney were to have two representatives eac and the other metropolitan boroughs one member each. the county of Essex the borough of West Ham was to have tw representatives, and each of four large urban districts o member each. In Kent two urban districts were to have o member each; in Middlesex four and in Surrey two lar districts were to have one member each.

The time of the Committee was chiefly occupied in hearin evidence and arguments on a proposal of the London County Council, the object of which briefly was to diminish the number of representatives allotted to other authorities and to increase the number allotted to itself, so that it might control the whole business.

The first proposal of the London County Council was that the number of representatives on the Water Board should be reduced to 29.

SIR B. T. LEECH, an alderman of Manchester and deputy chairman of the Water Committee of that city, said that the water-supply of Manchester was managed by a committee of 18 members and that he was convinced that a board of 69 members was too large; he also gave it as his opinion that the London County Council should have the control of the water-supply.

MR. W. ANDERSON, treasurer of the Edinburgh Water Trust, said that the number of the Edinburgh trustees was 25 and he thought that a managing body should not be too numerous.

One of the deputy town clerks of Glasgow gave evidence to the effect that the city of Glasgow comprised an area of $12\frac{1}{2}$ square miles; the total area of the water supply was 87 square miles, and the boroughs outside Glasgow had no representation on the committee. The Government Bill, he thought, would constitute an unwieldy body (It may be worth while to note, without going into detail in the matter, that the events which led to the possession of their water-supply by the city of Glasgow have no counterpart in the history of the present London water-supply. And this fact must be well known to those responsible for the "case" presented by the London County Council.)

MR. BRYAN, engineer to the East London Waterworks Company, gave it as his opinion that every municipality ought to be represented on the Water Board. Members of the municipal councils had given valuable assistance to the East London Company in times of drought. He thought, having regard to the amount of administrative work which the water-supply necessarily entailed that the number of members provided for in the Government Bill was not excessive because the details of the work of management would have to be delegated to committees.

On behalf of the Local Government Board MR. FITZGERALD, K.C., said that the Mayors of Stepney, of Holborn, of Kensington, and of Hammersmith wished to have an opportunity of stating their views in favour of the Bill as drawn, but he did not think it necessary to call them as witnesses. The Bill was also supported by counsel who represented respectively the city of Westminster, the council of the urban district of East Ham, the county councils of Middlesex, of Hertfordshire, and of Essex, and the urban districts of Hornsey and of Wimbledon.

On behalf of the London County Council MR. BALFOUR BROWNE, K.C., suggested that the amendment proposed by that body would lead to the constitution of a Water Board like that proposed by Lord James of Hereford (Metropolitan Counties Water Board Bill, March, 1898).

Of the two amendments introduced by the London County Council the first, which proposed that 29 instead of 67 epresentatives should sit on the Water Board, provided at the members elected should be allocated as follows: ondon County Council, 16; the City of London, the orough of West Ham and the county councils of Essex and f Middlesex, two each; the county councils of Kent, of urrey, and of Hertfordshire, the Conservators of the Thames, nd the Lee Conservancy Board, one each. The second mendment, introduced in case the first was not adopted nd which *made provision for the election of 33 representatives*, proposed that they should be allotted somewhat ifferently. Two additional members each were to be given the county councils of Kent, of Middlesex, and of Surrey, nd two less to the County Council of London.

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[1] The Public Health Acts, annotated with appendices, first edition, by W. G. Lumley, LL.M., Q.C., and Edmund Lumley, B.A., sixth edition, by Alexander Macmorran, M.A., and S. G. Lushington, M.A., B.C.L. London Shaw and Sons. 1902. Two volumes, pp 1710. Price £3 12*s*. 6*d*. and £2 19*s*. 3*d* respectively.

Mr. **WEDDERBURN**, K.C., on behalf of the Kent County ouncil, supported the Government Bill.

Mr. **BLENNERHASSETT**, K.C., on behalf of the City of estminster, protested against the attempt which had been ade to deprive that city and the metropolitan boroughs of he representatives which had been allotted to them.

Mr. FITZGERALD, on behalf of the Local Government oard, insisted that it was impossible to force five or six ounties into a board dominated by the London County ouncil.

The Committee decided unanimously to reject the proposal reduce the number of members on the board to 29, and ey further decided on an equality of votes not to reduce e number to 33. An amendment proposed by a member the Committee to increase the number of representatives the *London County Council from* 10 *to* 16 *was lost* by 7 tes to 3. The Committee likewise declined to advise any crease *to the number (two) of representatives allotted to* e City of Westminster.

At the sitting of the Joint Committee which was held on une 11th Lord **BALFOUR** of **BURLEIGH** again presided.

Mr. BAGGALLAY, K.C., on behalf of the Conservators of e river Thames, asked that the number of members ssigned to the board should be increased to three and that should not be prescribed that distinctive representation ould be given to the upper part of the river.

Sir F. **DIXON HARTLAND**, chairman of the Thames Conservancy Board, said that there was no antagonism between e interests of the lower and upper parts of the river and at the board, as a whole, was strongly of opinion that e value of the additional representation which it claimed ould in great measure be lost should specialised representation be made in the way suggested.

The Committee amended the schedule by adding two presentatives to the Thames Conservators but with the roviso that one shall represent the upper districts of the ver. The schedule was further amended by the addition one member to the urban district of Tottenham and one the urban district of Hornsey. In consequence of these dditional members the total number of the members of the ater Board was increased from 67 to 71.

Lord **BALFOUR** of **BURLEIGH** announced that the schedule amended would stand as part of the Bill and that a pecial report would be made by the Committee as to the ode of procedure by which its decision had been made.

The Committee *having settled the schedule returned to* onsider Clause 11 of the Bill. This clause deals with the ay in which the expenses of the Board are to be met and he manner in which the necessary money is to be raised in ase the water rents are insufficient for the required purpose. t was proposed by the London County Council that in order provide for such a deficiency a rate should be levied in ondon and in such of the extra-metropolitan urban and ral districts as are within the limits of the water-supply. his amendment was lost on "an equality of votes."

The Local Government Board, in order to conform with the ishes of the Corporation of the City of Westminster, proosed a provision to the effect that no reduction in the water ents at present in force should be made if such a reduction ould, or would be likely to, cause a deficiency in the water und.

The Committee *accepted* this amendment.

DONATIONS AND BEQUESTS.—The treasurers of he Middlesex Hospital have received from Mr. Timothy Bean further sum of one thousand guineas for the purpose of ndowing another bed in the cancer wing, to be known as the "Rebecca Bean" bed; also a further grant of *£500 from* the rustees of the Smith's (Kensington Estate) Charity to the eneral fund.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following is a record of some of the principal amounts that have been received in aid of the Fund up to the time of going to press on Thursday. The total sum then amounted *to £20,000.* At the corresponding period last year the total was £25,000; but this included a donation of £10,000 from Mr. George Herring, who has not yet, of course, been able to add his generous offer of 5*s.* in the £1 on all amounts collected in the various churches and chapels. The sum collected to date is, therefore, most encouraging.

	£	*s.*	*d.*
St. Paul's Cathedral ...	1600	0	0
St. Michael's, Chester-square	1382	0	0
Mr. Charles Morrison	1000	0	0
St. Paul's, Onslow-square	491	0	0
St. Mary's, Bryanston-square	333	0	0
St. Nicholas, Chislehurst	286	0	0
Theistic Church, Swallow-street	318	0	0
Delta (24th donation)	200	0	0
Union Chapel, Islington	193	0	0
Holy Trinity, Sydenham	155	0	0
Finchley Parish Church	148	0	0
St. James's, Kidbrook	128	0	0
St. James's, Piccadilly	127	0	0
Brixton Congregational Church	126	0	0
St. John's Presbyterian Church, Forest-hill	117	0	0
St. Barnabas, Kensington	115	0	0
Greek Church ...	111	0	0
Church of the Annunciation, Chislehurst	108	0	0
St. James's, Clapham Park	107	0	0
Messrs. Chinnery Bros.	106	0	0
Mr. J. S. Gilliat	105	0	0
St. Paul's Presbyterian Church, Westbourne-grove	105	0	0
Mr. A. G. Phillips	100	0	0
Mr. William Herring	100	0	0
St. John's Presbyterian Church, Kensington	100	0	0
Mr. F. G. Debenham	100	0	0
St. George's, Bickley	93	0	0
King's Weigh House Church, Duke-street	90	0	0
St. Augustine's, Highbury	89	0	0
St. Mary's, Shortlands	89	0	0
Victoria-park Christian Evidence Association	87	0	0
St. George's, Beckenham	86	0	0
St. Mary's, Boltons	82	0	0
Bromley Parish Church, Kent	72	0	0
St. Andrew's, Leytonstone	71	0	0
St. Saviour's, Paddington	70	0	0
St. James's, Hatcham	67	0	0
Christ Church, Brondesbury	66	0	0
Highgate Presbyterian Church	66	0	0
Catholic Church, Farm-street	65	0	0
St. Margaret's, Lothbury	65	0	0
St. Augustine's, Queen's Gate	64	0	0
St. George's, Perry Hill	64	0	0
St. Luke's Wandsworth Common	64	0	0
Orange street Congregational Church	62	0	0
Christ Church, Highbury	61	0	0
St. Mary's, Plaistow, Kent	59	0	0
St. Gabriel's, Warwick-square	58	0	0
St. Matthew's, Brixton	57	0	0
St. Paul's, Forest hill	56	0	0
St. John's, Bromley, Kent	56	0	0
Crouch Hill Presbyterian Church	56	0	0
Dulwich College Chapel	55	0	0
St. Saviour's, Brixton-hill	55	0	0
St. Matthew's, Ealing Common	54	0	0
St. Anne's, Wandsworth	54	0	0
St. Peter's, Ealing	53	0	0
Messrs. Longmans and Co.	52	10	0
Mr. A. Dunkels	52	10	0
Mr. A. G. Sandeman	50	0	0
Mr. Rudolf Wiesmann	50	0	0
Earl of Cranbrook	50	0	0
Crayford Parish Church	50	0	0
Mrs. Wells	50	0	0
Lord Rathmore	50	0	0
Walthamstow Parish Church	50	0	0
West Wickham Parish Church	50	0	0
St. Mary Magdalene's, Enfield	49	0	0
Effra road Unitarian Church	47	0	0
Merton Parish Church	47	0	0
Emmanuel Church, West Hampstead	46	0	0
Christ Church, Newgate-street	45	0	0
St. Mary the Virgin, Putney	45	0	0
Lingfield Parish Church	44	0	0
St. John's, Redhill	44	0	0
Lewisham High Road Congregational Church	43	0	0
Ferme Park Baptist, Hornsey	43	0	0
Trinity Presbyterian, Notting hill	43	0	0
Mr. and Mrs. C. E. Layton	42	0	0
Vintners' Company	42	0	0
St. Mary's Old Church, Stoke Newington	42	0	0
Archway road Wesleyan	41	0	0
St. Luke's, Battersea	40	0	0
All Saints', Upper Norwood	39	0	0
Guards' Chapel, Chelsea	37	0	0
Wesleyan, Wandsworth Circuit	37	0	0
Blackheath Wesleyan Church	37	0	0
St. John's, Sidcup	33	0	0

ANNUAL DINNER OF THE INDIAN MEDICAL SERVICE.

THE annual dinner of the Indian Medical Service was held at the Café Monico, Piccadilly-circus, London, on Thursday, June 12th, Dr. W. S. PLAYFAIR occupying the chair.

After the usual loyal toasts had been felicitously proposed by the CHAIRMAN and heartily received "The Sister Services" was proposed by Surgeon-General A. C. C. DE RENZY, C.B., and responded to by Surgeon-General W. TAYLOR, C.B., Director-General of the Army Medical Service

Surgeon-General Sir JOSEPH FAYRER, Bart., K.C.S.I., F.R.S., in submitting "The Guests" briefly alluded to the great services rendered by the President of the Royal College of Physicians, Sir William Church, to medicine in general and more particularly to his work as a member of the Royal Commission appointed to inquire into the charges made against the medical services in the recent war in South Africa; he then read the concluding words of the report of the Royal Commission with which our readers are familiar but as they will bear repeating we reproduce them. "But in concluding our report we desire to say that in our judgment, reviewing the campaign as a whole, it has not been one where it can properly be said that the medical and hospital arrangements have broken down. There has been nothing in the nature of a scandal with regard to the care of the sick and wounded; no general or widespread neglect of patients or indifference to their suffering. And all witnesses of experience in other wars are practically unanimous in the view that, taking it all in all, in no campaign have the sick and wounded been so well looked after as they have in this" In proceeding to congratulate Surgeon-General Taylor, the Director-General of the Royal Army Medical Corps, on his appointment to that high office "we wish," Sir J. Fayrer said, "to express our satisfaction that the choice of Government should have fallen on one so well fitted to perform its duties. It is now charged with greater powers and higher responsibilities, with higher rank, more fitting remuneration, and a place more befitting its importance in the councils of the War Office, and one in which, if the spirit as well as the letter of the new rules be observed, the opportunities of doing good will be infinitely enhanced. We anticipate with much confidence the best results from Surgeon-General Taylor's appointment and we offer him our best wishes with our hearty congratulations." Sir J. Fayrer also bore testimony to the scientific work and personal worth of Sir T. Lauder Brunton and Dr. W. H. Allchin and to the aid that was always given to the medical services by the editors of the medical journals.

Sir WILLIAM CHURCH replied and in concluding his speech remarked that he was perfectly certain that every one of the Royal Commissioners who signed the report most earnestly meant every word that he said

"The Indian Medical Service" was given by the CHAIRMAN who said that he had not the slightest doubt that many present were saying, "Who on earth is this man and by what possible right does he represent the Indian Medical Service?" To such he might say that he thoroughly agreed with them and nothing but the kind insistence of their committee could have persuaded him to fill a position for which he felt that he had no qualification. Just 42 years had elapsed since he, a young and obscure assistant-surgeon, had to leave India from ill-health after only three years' service, with something like despair in his heart at having to abandon what he had mapped out for himself as the career of his life. Luckily, like others similarly situated, he had his profession to fall back on. He was told that the best opening then was in "obstetric medicine." The difficulty was that he practically did not know what "obstetric medicine" was. He adopted the plan taken by the literary hack who had to write an article on "Chinese Metaphysics," who read up "China" and then read up "Metaphysics" and combined his information. So he read up "Obstetrics" and then read up "Medicine" and combined this information and on that combined information he had managed to subsist ever since. One qualification for his position to-night he possessed in a degree excelled by no man, that was a profound regard for the grand old service represented to-night, which had been in the past the finest public medical service which ever existed and which he did not doubt would continue to be so in the future. After further remarks the Chairman dwelt on the great loss the service had experienced in the death of its director-general—Surgeon-General Harvey—who was in the chair last year. After dwelling on his career he expressed the conviction that his memory would always be held dear by the service over which he presided.

The health of "The Chairman" was proposed by Deputy Surgeon-General H. CAYLEY, C.M.G., and Dr. PLAYFAIR replied.

A very pleasant evening concluded with an expression of thanks to Colonel P. J. Freyer for the successful results of his labours as honorary secretary of the dinner.

The following is a list of the officers and guests present:—

Surgeon-Generals: W. W. Beatson, A. C. De Renzy, C.B., Sir Joseph Fayrer, Bart., K.C.S.I., F.R.S., W. R. Hooper, C.S.I., W. R. Rice, C.S.I., C. Sibthorpe, C.B., and P. W. Sutherland. *Colonels:* W. E. Cates, H. Cayley, C.M.G., D. E. Hughes, B Williamson, and W. A. S. Wynne. *Lieutenant-Colonels:* M. L. Bartholomeusz, A. Crombie, P. J. Freyer, G. H. D. Gimlette, P. de H. Haig, H. N. V. Harington, G. F. A. Harris, D. F. Keegan, W. A. Lee, I. B. Lyon, C.I.E., D. P. MacDonald, R. Macrae, J. Parker, J. Reid, T. G. Skardon, W. H. Thornhill, J. F. Tuohy, and A. H. Williams *Majors:* A. W. Alcock, E. H. Brown, W. S. Caldwell, G. Giffard, P. C. H. Strickland, and J. L. T. Jones. *Captains:* H. M. Earle, F. A. L. Hammond, S. A. Harriss, W. D. Hayward, J. G. Hulbert, E. C. McLeod, C. Milne, A. E. Hayward Pinch, and G. Tate.

Guests: Sir William Church, Bart., President of the Royal College of Physicians of London; Sir T. Lauder Brunton; Surgeon-General W. Taylor, C.B., Director-General A.M.S.; Dr. W. H. Allchin, President of the Medical Society; Dr. Dawson Williams; and Mr. Thomas Wakley, jun.

ANNUAL DINNER OF THE ROYAL ARMY MEDICAL CORPS.

THIS dinner was held on Monday, June 16th, in the Whitehall Rooms of the Hôtel Métropole, London. At the conclusion of the dinner Surgeon-General W. TAYLOR, C.B., Director-General, who occupied the chair, proposed the toast of "The King," remarking that they were all glad to think that the indisposition from which His Majesty was suffering was not of a serious nature. He then proposed the health of "The Queen, the Prince and the Princess of Wales, and the rest of the Royal Family." Her Majesty was, he said, more closely connected with them than had any sovereign been in days gone by, seeing that she had graciously consented to act as president of their nursing board. These were the only toasts on the programme but Surgeon-General Taylor, rising again, said he thought it right to ask them to drink the health of one who as honorary secretary of the annual dinners on many previous occasions had done much to add to their comfort—he alluded to Lieutenant-Colonel J. Hector, to whom he was sure they would admit that they were all deeply indebted. This toast was received with much applause and musical honours and Lieutenant Colonel HECTOR briefly responded. We must not omit to mention that in the reception-room, where the company gathered previously to the dinner, there was exhibited a portrait in oils of the late Director-General, Surgeon General J. Jameson, C.B. This portrait was a replica of the one by Mr. W. R. Symons which is now being exhibited at the Royal Academy and is to be presented to Surgeon-General Jameson by his brother officers. The dinner was very well attended and a most agreeable evening was spent, much credit being due to the officer who has so worthily succeeded Lieutenant-Colonel Hector in the discharge of the duties of honorary secretary—Lieutenant-Colonel E M. Wilson, C.M.G, D.S.O. The following is a list of those present:—

Honorary Members.—Mr. A. D. Fripp, C.B., C.V.O., Dr. J. Galloway, and Dr. E. C. Perry.

Members.—*Surgeon-Generals:* A. F. Bradshaw, C.B., Sir J. H. K. Innes, K.C.B., K.H.S., A. H. Keogh, C.B., T. Maunsell, C.B., H. S. Muir, C.B., A. F. Preston, K.H.P., J. B. C. Reade, C.B., K.H.S., P. B. Smith, W. Taylor, C.B., K.H.P., and J. Warren. *Deputy-Surgeon-Generals:* O. Codrington and J. H. Jeffcoat.

evidence of the third case having partaken of that milk." Dr. Ballard makes the following interesting observation :—

"*What is to be gathered from coincidences?*—In an inquiry into an epidemic such as this, where the cases of the disease are distributed about a district having certain common features, there are four sources which are ordinarily looked to as those whence the contagium of the disease is most likely to have proceeded and by the medium of which it may have been distributed, viz. : (1) a common source of water-supply, such as some particular well or stream or the mains of a system of public supply, in which case infection of the water, either at its source or in its progress for distribution, may result in the distribution with it of an infective material; (2) a common system of drainage, in which case a sewer becoming infected may be the means of distributing, through the medium of the sewer air, infective matter to the houses in relation with such sewer; (3) where there is no common water-supply and no common system of drainage to account for a wide distribution of fever, the cause of the spread may be found in the progressive infection of independent privies, &c., and by soakage from them into independent wells or other supplies of drinking-water; or (4) the cause of the spread may be found in the distribution over the district of some particular article of food, such as milk, which has become infected."

Dr. Ballard then shows that the first three sources were not operating in this case, but that the fourth was, almost all the families infected being supplied with milk from a farm known as the Brick-kiln farm, and he comes to the following conclusion : "The facts which I have detailed can leave, I think, no doubt upon the mind that the use of milk distributed from Brick-kiln farm was in some way directly associated, as cause with effect, with the distribution of *enteric fever through the Ascot and Sunninghill districts* during the long period of four and a half years.[2] It is no valid objection to this inference to say that many families to which this milk was distributed have hitherto escaped invasion, and that a few families which used milk from other sources suffered similarly from fever. The obvious reply to the first of these objections is that in no milk epidemic hitherto investigated *has more than a fraction (although* usually a large fraction) of the families using the infected milk been invaded; and to the second objection that the operation of one predominating cause of an epidemic of fever by no means precludes the operation of other causes concurrently existent." After describing the premises he adds: "The above account of the condition in which I found the farm and dairy premises, and of the slovenly arrangements under which the business was conducted, indicates more than one way in which the milk might have become befouled. It is obvious that the cans in which the milk was sent out were liable every day or any day to befoulment even during the process of cleansing. The water used for rinsing the cans was a dangerous water to use for the reasons just assigned, being doubly liable to befoulment—namely, first, from the soakage of foul matters into the well from privies and the manure heap, and, secondly, from the absorption of the foul emanations from the drains which communicated with the pump case. After rinsing they were again liable to befoulment from drain emanations rising through the sink pipe over which they were sometimes inverted to drain. And, finally, the milk itself might at any time have become befouled by standing in the room into which the sink pipe opened. In addition to all which the brush used in cleansing the cans and the rags used for the same purpose, or for plugging the pump spouts, might, from their constant vicinity to the sink pipe, have become fouled by the drain emanations and thus have become a medium by which those filthy emanations might have been conveyed to cans. With respect to the open cistern within the pump case I may point out that its circumstances were similar *in all essential points* to those of the water cisterns in many London houses, where the waste-pipe opening above into the space between the water and the cistern cover is continued without any break or intervening trap into the house drain, and is liable to carry up sewer-air into that interval, whence it may be absorbed by the water. There is abundant evidence to show that enteric fever has, in London, been frequently caused by the use of *cistern water stored under such conditions*. I have specially mentioned the circumstances under which the water used may have introduced a filth pollution into the milk by merely rinsing the cans with it, because former experience of milk epidemics of fever have demonstrated that given an infected water the small quantity of such water which may hang about a milk-can after rinsing with it is amply sufficient to infect the milk subsequently put in. The infection of milk by an infected water by no means implies fraudulent dilution of the milk with that water, of which, moreover, there is no evidence in this instance. To all this I may add that there is an accidental way in which filth may gain access to milk, which must never be overlooked,—namely, from the hands of the milker." He then asks: "*Had the 'filth' that had access to the milk any opportunity of receiving specific infection?*—This is a further question some attempt to answer which will be expected by those who subscribe to the doctrine that (putting mere possibilities aside as not matters of scientific argument) enteric fever contagium as we now meet with it has an ancestry; and however long and widely and through whatever media it may have travelled about prior to finding a lodgment suitable for its development in a human system, that it or its ancestor at one time issued with excremental matter from some individual affected with the disease. It is a doctrine which I myself provisionally accept as most in accord with my own experience and also, so far as I have been able to judge, with that of the most competent and, let me add, most patient observers. With such as dissent from it I can agree in admitting that there is very much in the natural history of contagium in general, and of enteric fever contagium in particular, wrapt in an obscurity yet unpenetrated; but I am hopeful enough to look forward to the time when the advance of scientific inquiry will render that clear which is now dark."

Lastly, he made investigations on this important point and came to the conclusion "that there were various opportunities for the 'filth' thus introduced into the milk to become specifically infected with the infective matter of enteric fever." It is interesting to note that in the specification of works to be done at this dairy a brick dipstone trap (now quite obsolete) is specified and a sketch of it is given.

An outbreak at St. Albans *in 1884, investigated first by Dr.* O. E. Saunders, the medical officer of health, and afterwards by Mr Shirley Murphy for the Local Government Board.—This was a simultaneous outbreak of typhoid fever in St. Albans and in London among the consumers of milk coming from a farm near the former city. Although the disease was undoubtedly traced to the milk, which must have been contaminated, there was an absence of evidence that the milk at the farm had become infected in any of the commonly believed ways, but there was "some reason for believing that the milk from this farm, which had in the summer of 1883 given rise to a serious outbreak of enteric fever in St. Pancras, had retained, although to a slight degree, power of infecting its customers in the interval between the two outbreaks." The great interest and importance of this conclusion are obvious.

Dr. Airy reported in 1885 that there was a severe outbreak of typhoid fever at Lower Sherringham (Norfolk) under circumstances pointing to contamination of milk-supply, but that the origin of the infection was uncertain.

Mr. Harvey reported in 1888 that epidemic typhoid fever at Swanage (Dorset) was "associated at its commencement with the use of milk from a dairy situated on the *polluted brook and without water-supply on the premises*."

In 1886 Dr. J. Ashburton Thompson, then an inspector under the Board of Health of New South Wales, presented a report on an outbreak of typhoid fever in the municipal district of Leichhardt, which he had traced to polluted milk and in which he draws the following conclusion as to the cause of the outbreak "All possible causes have now in turn been examined. It has been shown that its attack and decline were alike *sudden; that it occurred at a time when* the district affected by it was practically free from fever; and that it was almost entirely confined to customers of a particular dairy, cases of fever among others than customers being very few, and two having had ample opportunity at least of sharing the milk. It has been shown further that those customers lived under general conditions which were equally shared by all the inhabitants of the district, their number being *615 and against very nearly 10,000* who were not customers. It has been shown, therefore, that the condition common to the persons attacked must have been one to which the persons who escaped were not subject; and that the only condition answering to this requirement is the

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[2] The low fatality which has attended the epidemic corresponds also with experience as to other epidemics of enteric fever due to milk, only two persons out of the 69 died.

Brigade-Surgeons: C. Mackinnon and T. W. Wright. *Colonels:* W. L. Gubbins, G. D. N. Leake, T. Ligertwood, W. T. Martin, J. Maturin, J. Macnamara, R. H. Quill, F. B. Scott, C.M.G., and W. F. Stevenson, C.B. *Lieutenant-Colonels:* J. Anderson, C.I.E., W. Babtie, V.C., C.M.G., H. L. Battersby, J. F. Beattie, U. J. Bourke, A. L. Browne, D. Bruce, S. H. Carter, Sir J. R. A. Clark, Bart., T. M. Corker, A. B. Cottell, J. J. Crean, A. M. Davies, J. R. Dodd, W. G. Don, P. M. Ellis, E. H. Fenn, C.I.E., M. M. Gallwey, F. A. Harris, H. G. Hathaway, L. Haywood, J. Hector, F. H. Hensman, C.M.G., R. D. Hodson, F. Howard, H. W. Hubbard, H. E. R. James, R. Jennings, J. W. Jerome, W. Johnston, W. Keir, H. O. Kirkpatrick, J. Macartney, J. W. Morgan, J. E. Nicholson, E. North, H. J. O'Brien, W. W. Pope, S. K. Ray, J. H. Reynolds, V.C., W. F. Rutledge, W. Temple, V.C., F. H. Treherne, G. T. Trewman, P. B. Tuthill, E. O. Wight, and E. M. Wilson, C.M.G., D.S.O. *Majors:* H. A. Cummins, C.M.G., A. Dodd, W. L. Gray, F. J. Greig, J. Hickman, T. McCulloch, W. G. Macpherson, A. H. Morgan, D.S.O., J. C. Morgan, J. D. T. Reckitt, B. H. Scott, B. M. Skinner, G. J. A. Tuke, L. Way, and M. T. Yarr. *Surgeon-Majors:* C. R. Kilkelly, C.M.G., and Allan Perry. *Captains:* C. W. Duggan, R. S. H. Fuhr, D.S.O., A. F. Heaton, E. T. Inkson, V.C., A. Pearse, C. T. Samman, and E. McK. Williams. *Lieutenants:* T. Biggam, L. Cotterill, B. A. Craig, H. E. M. Douglas, V.C., D.S.O., T. B. Unwin, and J. H. R. Winder.

Guests.—Surgeon General W. R. Hooper, C.S.I., Indian Medical Service, Mr. Vesey Holt, Mr. Thomas Wakley, jun., and Dr. Dawson Williams.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary meeting of the Council was held on June 12th, Mr. HENRY G. HOWSE, the President, being in the chair.

It was resolved to lend to the University of London specimens from the museum during the year 1902, subject to the University agreeing to pay any expenses connected with the removal of the specimens from one institution to the other and any damage that might be occasioned to the specimens.

The Council elected the following examiners:—

Elementary Biology.—Herbert Willoughby Lyle, Peter Chalmers Mitchell, Frederick Gymer Parsons, and Walter G. Ridewood.

Anatomy (under the Conjoint Examining Board).—Christopher Addison, Arthur Keith, Arthur Thomson, and Holburt Jacob Waring.

Physiology (under the Conjoint Examining Board).—Thomas Gregor Brodie, George Alfred Buckmaster, and William Henry Thompson.

Anatomy (for the Fellowship).—James Ernest Lane, Berkeley G. A. Moynihan, Frederick Gymer Parsons, and Alfred Harry Young.

Physiology (for the Fellowship).—De Burgh Birch, Leonard Erskine Hill, Edward Waymouth Reid, and Ernest Henry Starling.

Midwifery (under the Conjoint Examining Board).—George Francis Blacker, William Radford Dakin, William Duncan, and James Henry Targett.

For the Diploma in Public Health.—Part 1.—Alexander Grant Russell Foulerton. *Part 2.*—Sydney Arthur Monckton Copeman.

A letter was read from Mr. Morton Smale resigning his seat on the Board of Examiners in Dental Surgery. Mr. Morton Smale's resignation was accepted and the Council expressed their appreciation of his services during the time he was on the Board, and the PRESIDENT stated that the vacancy so occasioned would be filled up at the ordinary meeting of the Council following the quarterly meeting in July.

A letter was read from Mr. A. Hopewell Smith, honorary secretary of the Odontological Society of Great Britain, reporting that at the last meeting of the Council of the society a vote of thanks was accorded to the Council of the College for storing the museum specimens of the society during the removal of the institution from Leicester-square to Hanover-square.

A letter was read from Mr. Thomas Bryant reporting the proceedings of the General Medical Council at the late session. The best thanks of the Council were given to Mr. Bryant for his services as the representative of the College in the General Medical Council.

In response to a request from the President of the Royal College of Physicians of London the Council nominated the President, Mr. H. G. Howse, as a member of a committee to be appointed for the purpose of preparing a revised edition of the "Nomenclature of Diseases."

July 8th was appointed as the day for receiving a deputation from the Association of Licentiates of the Royal College of Physicians of London and Members of the Royal College of Surgeons of England with a petition to the Council. The petition asks that the Royal Colleges will assist the petitioners in obtaining the privilege of offering themselves as candidates for the final examination for a degree in medicine at a British university or in some other way removing the disability under which they labour of being unable to style themselves "Doctor."

It was resolved to ask the Royal College of Physicians of London to appoint a committee to act in conjunction with a committee of the Council in order to decide whether or not any practicable scheme can be devised for entering into combination with the University of London for the adoption of a system of common examination for the M.B. degree of the University and the diplomas of Licentiate of the Royal College of Physicians of London and of Member of the Royal College of Surgeons of England.

THE REORGANISATION OF THE BRITISH MEDICAL ASSOCIATION.

An extraordinary general meeting of the members of the British Medical Association was held at Exeter Hall on June 18th, at which 124 were present. By three votes in excess of the necessary three-quarters majority the new regulations for the Association were adopted. A further extraordinary general meeting, however, will have to be held on July 9th to confirm what has been done.

The chairman of the meeting was Dr. G. B. FERGUSON of Cheltenham, the President of the Association, who pointed out that the scheme of reorganisation of the Association had been discussed for two years. Many meetings had been held to consider it and at least £1000 of the money of the Association had been expended upon it. In his opinion there was nothing particularly revolutionary in the scheme, though the Council would no longer be able to disregard the findings of annual representative meetings.

Mr. EDMUND OWEN, in the course of his remarks, said that the feeling of dissatisfaction with the Association as previously constituted was very widely spread in the ranks of the profession. It had been said that the scheme of reorganisation of the Association was intended to revolutionise the condition of affairs. The word "revolution" meant an entire change in the government and that was exactly what was intended to be effected in the Association. They must accept the scheme as it stood because it was like a stone arch—if one of the stones was pulled out the whole would give way.

Mr. ANDREW CLARK believed that the scheme would revolutionise the Association in a way that everyone would wish. It certainly could not be called a hole-and-corner scheme and it could not be said to be either hurried or ill-drawn. It could be accurately described as a give-and-take arrangement between the reformers and those who were opposed to change. Much objection had been raised to the plan of cumulative voting, but if it was found that that did not work it could be altered in three months' time.

Dr. J. BRASSEY BRIERLEY, who experienced a mixed reception, criticised the scheme from a financial point of view and said that the annual meetings of the branches were mere picnics. The proposed representative meetings were altogether out of touch with modern thought. Dr. Brierley concluded by saying that the scheme had been passed at the Cheltenham meeting, but there was such a charming atmosphere of hospitality there that the members would have passed anything; he believed they would even have stood on their heads if told to do so.

Mr. GARRETT HORDER thought that the Association would be carried on better if the council were to make more business-like arrangements for the annual meeting. The proposed scheme was a leap in the dark and he was afraid that it would a very fatal leap.

Dr. J. WARD COUSINS emphasised the point that the 124 members at the meeting were acting for nearly 19,000 gentlemen. He thought that the scheme would dislocate the vital centre of the Association and that the spirit of trade-unionism pervading the scheme was unworthy of a liberal profession.

Dr. A. COX of Gateshead and Mr. J. S. WHITAKER made speeches which were well received in favour of adopting the proposed scheme.

After Mr. Whitaker's remarks the meeting wished to proceed at once to voting; Dr. FERGUSON, however, persuaded them first to hear a few words from Dr. LORIMER HART who promised to be brief. There was some confusion in regard to the result of the voting until a poll was demanded, and the exact figures of 28 against the scheme and 96 for the scheme definitely cleared up the question whether the necessary three-quarters majority of those voting had been secured.

THE SECOND ANNUAL CONVERSAZIONE OF THE ROYAL SOCIETY.

Contrary to expectation raised by coming coronation festivities and the presence of many august visitors in London the second annual conversazione of the Royal Society, held at Burlington House on June 18th, was decidedly dull from the point of view of exhibits. The company, however, was perhaps the most brilliant ever gathered together in the Royal Society's rooms. Quite two-thirds of the exhibits had been previously shown on "black night," as the first conversazione is called from the fact that only gentlemen are present, while at the second demonstration the Fellows are invited to bring ladies.

We need, therefore, not repeat a description of the experiments that were shown on the first occasion, although in some instances these were amplified. Mr. Mackenzie Davidson, for example, in addition to the stereoscopic x-ray transparencies and negatives, exhibited also a remarkable x-ray photograph of a bullet fired from a revolver. The photograph showed the nozzle of a revolver and the track of the bullet in its flight when fired from it. The picture is the result of an exposure not exceeding $\frac{1}{1000}$th part of a second in duration. Professor Ramsay still chose krypton as a pretty subject for exhibit. This time he produced a beautiful miniature aurora borealis. The spectrum of the aurora has been shown to contain lines due to the presence of krypton and the great majority of the lines are coincident with those of the krypton spark spectrum. The discharge can be deflected by a magnet sending out streamers in the lines of magnetic force and thus resembling the phenomena of the aurora. His colleague in research, Dr. Morris W. Travers, exhibited a compact apparatus for liquefying hydrogen. Temperatures comparatively near the absolute zero are attained by its means. The West Indian Volcanoes Committee of the Royal Society exhibited some interesting specimens of photographs illustrating the fall of volcanic dust at Barbados on May 7th and 8th, 1902, and Mr. Henry Crookes exhibited similar specimens. It is estimated that from 2,000,000 to 3,000,000 tons of this dust fell in seven or eight hours. The dust consists chiefly of the silicates of iron, lime, aluminium, and magnesium. Mr. E. J. Bles showed some living tadpoles of the Cape clawed frog which are of considerable interest from the fact that their remarkable transparency allows the course of the nerves, blood-vessels, muscles, and so on. of the head to be easily studied in the living animal. Close by was a series of specimens illustrating the life-history of the organism which is the cause of the tsetse-fly disease, shown by Mr. H. G. Plimmer; and the same gentleman, with Colonel Bruce, exhibited a specimen of apiosoma bigeminum, the parasite found in the blood of cattle stricken with Texas fever.

The demonstrations given by means of the electric lantern in the meeting room attracted considerable interest, the series of slides illustrating M. Santos Dumont's trip in his balloon and the accident to it at Monte Carlo, perhaps, claiming the closest attention. The slides were prepared from negatives taken by Mr. Buchanan in the steam launch belonging to the Prince of Monaco which was always under steam when M. Dumont made his flying excursions over the Bay of Monaco. This boat was instrumental in rescuing the aeronaut and in recovering and landing the material of the balloon after the accident. The collapse of the balloon was not complete until the shore had been reached and it was towed through the air the whole way.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8555 births and 4271 deaths were registered during the week ending June 14th. The annual rate of mortality in these towns, which had been 16·7, 16·5, and 16·0 per 1000 in the three preceding weeks, further declined last week to 15·0 per 1000. In London the death-rate was 14·1 per 1000, while it averaged 15·4 in the 75 other large towns. The lowest death-rates in these towns were 6·6 in Coventry, 8·1 in Grimsby, 8·2 in Smethwick, 8·3 in Hornsey, 9·0 in Willesden, 10·2 in Wallasey, and 10·3 in Walthamstow; the highest rates were 20·3 in Salford, 20·8 in Gateshead, 21·4 in West Bromwich, 21·7 in South Shields, 22·0 in Tynemouth, 23·5 in Middlesbrough, and 25·4 in Wigan. The 4271 deaths in these towns last week included 496 which were referred to the principal zymotic diseases, against 531, 505, and 555 in the three preceding weeks; of these 496 deaths 127 resulted from measles, 115 from whooping-cough, 63 from diphtheria, 61 from diarrhœa, 55 from scarlet fever, 45 from small-pox, and 30 from "fever" (principally enteric). No death from any of these diseases was registered last week in Walthamstow, Hastings, Devonport, Burton-on-Trent, Wolverhampton, or Merthyr Tydfil; while the highest zymotic death-rates were recorded in Tottenham, East Ham, Wigan, Burnley, Barrow-in-Furness, South Shields, and Rhondda. The greatest proportional mortality from measles occurred in Derby, Oldham, Barrow-in-Furness, and Rhondda; from scarlet fever in Birmingham, West Bromwich, Bolton, and Burnley; from diphtheria in East Ham, Hanley, and Stockport; from whooping-cough in Norwich, Birkenhead, Wigan, Barrow-in-Furness, and South Shields; from "fever" in East Ham; and from diarrhœa in Burnley and Swansea. Of the fatal cases of small-pox registered last week, 29 belonged to London, nine to Tottenham, two to West Ham, and one each to Hornsey, East Ham, Leyton, Birmingham, and Swansea. The Metropolitan Asylums hospitals contained 1035 small-pox patients at the end of last week, against numbers decreasing from 1515 to 1162 at the end of the seven preceding weeks; 157 new cases were admitted during the week, against 307, 251, and 188 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2236, 2266, and 2314 on the three preceding Saturdays, had further risen to 2347 on Saturday, June 14th; 282 new cases were admitted during the week, against 280, 319, and 310 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 237, 261, and 200 in the three preceding weeks, further declined last week to 167, and were 30 below the corrected average. The causes of 65, or 1·5 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Nottingham, Manchester, Salford, Leeds, Newcastle, and in 47 other smaller towns; the largest proportions of uncertified deaths were registered in Ipswich, Liverpool, St. Helens, Blackburn, Preston, Halifax, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·3, 19·3, and 19·3 per 1000 in the three preceding weeks, further declined to 19·0 per 1000 during the week ending June 14th, but showed an excess of 4·0 per 1000 over the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·9 in Leith and 14·1 in Perth to 20·3 in Glasgow and 20·5 in Dundee. The 614 deaths in these towns included 21 which were referred to whooping-cough, 18 to measles, 18 to diarrhœa, four to scarlet fever, four to "fever," and three to diphtheria. In all 68 deaths resulted from these principal zymotic diseases last week, against 55, 57, and 61 in the three preceding weeks. These 68 deaths were equal to an annual rate of 2·1 per 1000, which was 0·4 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 22 and 15 in the two preceding weeks, rose again last week to 21, of which 13 occurred in Glasgow, four in Edinburgh, two in Dundee, and two in Paisley. The deaths from measles, which had been 13 and 22 in the two preceding weeks, declined again to 18 last week, and included 10 in Glasgow and three in Edinburgh. The fatal cases of diarrhœa, which had been 14, 15, and 16 in the three preceding weeks, further increased last week to 18, of which nine were registered in Glasgow and six in Dundee. The deaths from scarlet fever, which had been six, one, and three in the three preceding weeks, rose again to four last week and included two in Glasgow. The fatal cases of "fever," which had been two in each of the two preceding weeks, increased last week to four, of which two were recorded in Glasgow. The three deaths from diphtheria corresponded with the number in the preceding week and included two in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 156, 129, and 116 in the three preceding weeks, rose again last week to 129, and exceeded by 28 the number in the corresponding period of last year. The causes of 27, or more than 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·3 and 19·8 per 1000 in the two preceding weeks, further declined to 19·7 per 1000 during the week ending June 14th. During the past four weeks the death-rate has averaged 20·2 per 1000, the rates during the same period being 15·5 in London and 19·0 in Edinburgh. The 143 deaths of persons belonging to Dublin registered during the week under notice showed a slight decline from the number in the preceding week and included 10 which were referred to the principal zymotic diseases, against eight and six in the two preceding weeks; of these, four resulted from measles, three from whooping-cough, and one each from diphtheria, from "fever," and from diarrhœa. These 10 deaths were equal to an annual rate of 1·4 per 1000, the zymotic death-rates during the same period being 1·7 in London and 1·5 in Edinburgh. The fatal cases of measles, which had been two and three in the two preceding weeks, further rose last week to four; and the deaths from whooping-cough increased to three, having been one in each of the two preceding weeks. The 143 deaths in Dublin last week included 28 of children under one year of age and 32 of persons aged upwards of 60 years; the deaths of infants showed a decline, while those of elderly persons were considerably in excess of the number recorded in the preceding week. Six inquest cases and nine deaths from violence were registered; and 53, or more than a third, of the deaths occurred in public institutions. The causes of nine, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned qualified candidates for the Naval Medical Service have been appointed Surgeons in His Majesty's Fleet:—Charles Arthur Gayer Phipps, William Rhodes Harrison, Charles Kendal Bushe, Reginald Lewis Jones, Walter Goldsworthy Edwards, Frank Elliott Bolton, Robert Humphries Atkins, Stanley Samuel Howard Shannon, James Arthur Thompson, Vaughan Bateson, and Charles Joseph O'Connell.

The following appointments are notified:—Deputy Inspector-General R. Bentham to Plymouth Hospital. Fleet Surgeon W. M. Lory to the *Vernon* for the *Devastation*. Staff Surgeons: F. W. Parker to the *Wildfire* for the *Immortalité*; G. Howlett to the *Excellent* for the *Hero*; H. R. Osborne to the *Cambridge* for the *Conqueror*; H. J. Hadden to the *Excellent* for the *Narcissus*; and B. C. E. F. Gunn to the *Wildfire* for the *Edinburgh*. Surgeons: C. R. Steward to the *Australia* for the *Spanker*; G. Taylor to the *Pembroke* for the *Sheldrake*; A. Woollcombe to the *Vivid* for the *Sharpshooter*; W. P. Walker to the *Melampus* for the *Skipjack*; W. E. Ruttledge to the *Anson* for the *Speedwell*; E. F. Ellis to the *Duke of Wellington* for the *Seagull*; A. S. G. Bell to the *Pomone*, additional and on recommissioning; D. V. Lowndes to the *Hannibal*; and T. Marles-Thomas to the *Australia*.

ROYAL ARMY MEDICAL CORPS.

Colonel John Maturin is placed on retired pay. Dated June 16th, 1902.

The undermentioned Lieutenant-Colonels to be Colonels on augmentation (dated April 1st, 1902):—Blennerhassett M. Blennerhassett, C.M.G., and William B. Slaughter.

Lieutenant-Colonel S. Townsend is transferred to the charge of the Station Hospital at Secunderabad. Lieutenant-Colonel P. M. Ellis acts as Principal Medical Officer, Eastern District, *pro. tem.*

IMPERIAL YEOMANRY.

Surgeon-Lieutenant W. W. Nuttall, Leicestershire (Prince Albert's Own), resigns his commission and receives a new commission, subject to the provisions of the Militia and Yeomanry Act, 1901, retaining his present rank and seniority.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel J. J. Saville, having resigned his Volunteer appointment, ceases to belong to the Army Medical Reserve of Officers.

ROYAL ARMY MEDICAL CORPS (MILITIA).

The undermentioned to be Lieutenants: Charles Roger Tichborne, Richard Le Geyt Worsley, and James Collins Furness.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Devonshire: Surgeon-Captain J. W. Hodgson to be Surgeon-Major.

VOLUNTEER INFANTRY BRIGADE BEARER COMPANIES.

Gloucester and Somerset: Surgeon-Captain A. W. Dalby, from 3rd Volunteer Battalion (Somersetshire Light Infantry), to be Surgeon-Captain, and to command under paragraph 55A Volunteer Regulations. Harwich: Surgeon-Captain S. S. Hoyland, from the 1st Volunteer Battalion the Suffolk Regiment, to be Surgeon-Major, and to command under paragraph 55A Volunteer Regulations. Home Counties: Surgeon-Lieutenant C. J. Deyns to be Surgeon-Captain. Seaforth and Cameron: Surgeon-Captain J. Macdonald, from 1st Volunteer Battalion the Queen's Own Cameron Highlanders, to be Surgeon-Captain, and to command under paragraph 55A Volunteer Regulations.

NOTES FROM SOUTH AFRICA.

Lieutenant C. E. Fleming, R.A.M.C., and Civil Surgeon Symes are on passage home from South Africa.

Civil Surgeons Acland and Townsend have been discharged from hospital to duty.

MENTIONED IN DESPATCHES.

A despatch dated March 1st from Lord Roberts in continuation of a despatch dated Sept. 4th, 1901, is published in the *London Gazette* of June 17th and contains, among others, the following names. The "mentions" bear date Nov. 29th, 1900.—

Lieutenant-Colonel R. V. Kelly, New South Wales Army Medical Corps; Surgeon Lieutenant-Colonel E. Fiset, Medical Officer Royal Canadian Regiment; Surgeon-Major F. J. Ingolby, West Australian Medical Staff; Captain D. D. Shanahan, R.A.M.C.; Quartermaster and Honorary Lieutenant A. Freshwater, R.A.M.C. (*since deceased*); Quartermaster and Honorary Lieutenant H. S. Brook, R.A.M.C., and Quartermaster and Honorary Lieutenant G. F. Short, R.A.M.C.

Civil: Lady Henry Bentinck, Portland Hospital; Lady Furley, Red Cross Depôt, Cape Town; Mr. G. Bonham-Carter, Assistant Commissioner, Red Cross Society; Mr. Donald James Mackintosh, Scottish Red Cross Society; Mr. J. G. Hamilton, Imperial Yeomanry Hospital; Dr. J. Purves Stewart, civil surgeon, Imperial Yeomanry Hospital; Mr. H. Tener Galbraith, civil surgeon, Dundee, Natal; Mrs. Theodosia Bagot, Portland Hospital; Mrs. P. H. Johnston, president, Army Hospital Aid Society, Natal; Mrs. Redpath, colonial nurse, Buluwayo, Mrs. Melina Rorke, colonial nurse, Buluwayo; Miss Frances Amelia Lowrie, matron, Bourke Hospital, Pretoria, and Miss Ada Whiteman, matron, College Hospital, Maritzburg, and Leper Hospital, near Pretoria.

Scottish National Hospital: Surgeon-Captain R. Stirling, 4th Volunteer Battalion the Black Watch (Royal Highlanders); Dr. J. M. Cowan, civil surgeon; Dr. J. Aitken, civil surgeon, nursing sister Miss Margaret Butler Alexander, Queen Alexandra's Imperial Military Nursing Service Reserve; Nursing Sister Miss Annie Henderson, Queen Alexandra's Imperial Military Nursing Service Reserve; and Nursing Sister Miss Mary Ann Forbes, Queen Alexandra's Imperial Military Nursing Service Reserve.

Hospital Ship *Maine*: Major J. Meek, R.A.M.C., G. E. Dodge, civil surgeon; Mr. T. W. Hastings, civil surgeon; Mrs. George Cornwallis-West, Miss Eleanor Charlotte Warrender; Staff-sergeant (now Sergeant-Major) S. J. How, R.A.M.C.; Mr. J. J. Reilly, male nurse; and Mr. W. B. Ruth, male nurse.

Hospital Ship *Princess of Wales:* Major A. H. Morgan, D.S.O., A.M.S. (retired); Captain A. Pearse, R.A.M.C.; Superintendent Miss Clara Mavesyn Chadwick, Queen Alexandra's Imperial Military Nursing Service; Nursing Sister Miss Helen Hogarth, Queen Alexandra's Imperial Military Nursing Service Reserve; Staff-Sergeant W. Higgins, R.A.M.C.; and Lance-Sergeant J. Brown, R.A.M.C.

In a despatch from Lord Kitchener, dated Pretoria, April 8th, 1902, the name of Lieutenant-Colonel J. D. Edge, R.A.M.C., is mentioned.

THE LATE WAR IN SOUTH AFRICA.

Peace has come and has been practically sealed and ratified by the gathering together and the laying down of arms on the part of the various Boer forces lately opposed to us in the field. The news of the surrender of some 17,000 of our late enemy, and still more perhaps of the promising conditions under which this has taken place, has been everywhere received as glad tidings of great joy. If in the past history of the world the saying was ever true that the unexpected is that which happens it has been emphatically so in the case of the late war. Turn which way we will we are met with facts at variance with almost all that was confidently expected or predicted as at any rate most probable. It is impossible even for the most thoughtless to avoid all reflection on the events that have occurred within the past three years. To begin with, the British Government did not expect war and the Kruger ultimatum making it inevitable found this country unprepared for war, whereas the Boers were prepared; and now that peace has come all that was prognosticated about what would be the spirit and conduct of our late enemy has turned out to be as ill-founded as it could well be. The Boers manifest no signs of that depression and humiliation which are supposed to characterise a defeated army. Looking back, as they may well do with great pride, to the part they have played throughout the campaign they now apparently recognise and accept the inevitable and manfully as well as loyally take their place among the subjects of King Edward VII. There are no signs of that bitter and inextinguishable hate and racial animosity which were prophesied would be the case; and the Boer officers and soldiers have been everywhere received with every mark of sympathetic respect, good feeling, and comradeship by the soldiers of the British army. Every Tommy Atkins is now a strong pro-Boer. The war has taught us lessons that were sorely needed, it has been the graveyard of several military reputations, it has revolutionised many of our ideas and military systems, it has enlarged our views and experience of army medical administration, surgery, and medicine, and it has led to a scheme of reform in our army and naval medical services the full effects of which have yet to appear. That our army system generally will be tried and reformed by the results of the experience gained in the late war can scarcely be doubted.

SOUTH AFRICAN CASUALTIES.

We desire to direct the attention of those of our readers who have not yet seen it to an interesting article from "An Actuarial Correspondent" in the *Times* of June 16th on this subject. The article should be referred to and read *in extenso* by those interested in the casualty statistics of the late war. Tables are given of the death-rates per 1000 among officers who have been killed or died from wounds and from disease respectively during the first, second, and third years of the war, and for non-commissioned officers and men for the same years, also calculated at rates of 1000 per annum, of those killed or died from wounds and deaths from disease. From these tables it would appear that, while the men have suffered much less in battle than the officers they have been more subject to disease. The disease-rates of both officers and men are, however, stated to be remarkably low, especially when it is remembered that the ordinary rate of mortality of British troops on foreign service is 15 per 1000 per annum. Comparing one period with another the improvement during the last eight months in South Africa was, moreover, most marked, few more officers and men having, it is stated, died from disease than would have died if no war had been going on. With the exception of the first year's fighting, when the losses both from battle and from disease were very heavy, the casualties in the late war compare favourably with those of most recent campaigns—the Franco-Prussian and American civil wars for example.

BOER AND BRITISH.

Amid the many manifestations of the present mutual good feeling existing between the late belligerents in South Africa which have shown themselves since peace has been declared we may call attention to one of a pathetic nature that occurred recently at Standerton. A Boer officer of the Standerton Commando named Swarts who had died from enteric fever was buried with military honours. The coffin was covered with the Union Jack and carried to the graveside on a gun-carriage. Colonel Batson, the commandant, all the officers of the garrison, and all the garrison followed the *cortège.* General Britz also attended.

DEATHS IN THE SERVICES.

Inspector-General of Hospitals and Fleets William Henry Sloggett, R.N. (retired), at Paignton, Devonshire, on June 10th, in his eighty-second year. He entered the Royal Navy in 1842 and retired with the rank of inspector-general in 1875. The funeral, which took place on June 13th at Paignton, was very largely attended. The deceased gentleman since his retirement had resided at Paignton, where he was highly esteemed.

THE ROYAL ARMY MEDICAL CORPS AND THE CORONATION.

Six officers and 200 non-commissioned officers and men of the Royal Army Medical Corps with 24 horses will take part in the Coronation procession of June 26th and 27th.

It will be seen by a reference to our Parliamentary Intelligence that as there are instances on record of the award of medals to the masters of transport and hospital ships, the War Office is considering whether these precedents should be followed, and, if so, to what extent in the case of masters, officers, and crews of transport and hospital ships employed during the war in South Africa.

Correspondence.

"Audi alteram partem."

THE RELATION OF MENTAL SYMPTOMS TO BODILY DISEASE.

To the Editors of THE LANCET.

SIRS,—There is much in Dr. Nathan Raw's excellent article on "The Relation of Mental Symptoms to Bodily Disease"[1] which provokes comment—mostly laudatory, sometimes critical; but from comment of either kind I could have refrained, had he not in his closing paragraphs violently assaulted one of my most cherished fads. He says of persons suffering from delirium tremens that they are "the most dangerous lunatics for the time and yet they cannot be certified as legally insane." If the Lunacy Act, 1890, were so drawn that the most dangerous lunatics could not be legally certified as insane, it would be a greater legislative failure than even the last Workmen's Compensation Act. But I venture to assert without the slightest hesitation that it is not so drawn. The certifier must state that the patient is a lunatic, an idiot, or a person of unsound mind, and a proper person to be taken charge of and detained under care and treatment. The words of the Act make no reference to the cause of the malady or to its probable duration, and whether the insanity is due to excessive drinking or to other cause, whether it is likely to be temporary or permanent, are not matters which the certifier need take into consideration in order to satisfy the law. They may or may not make a great difference as to the wisdom and policy of certifying the patient, but to the legality of the certificate, if the symptoms are sufficient to warrant the certificate being made, they make no difference whatever. For my own part I should have no hesitation in certifying a patient with delirium tremens if he were sufficiently insane to be certified, and such patients are admitted into lunatic asylums every week without the legality of their certifications being questioned. In one case in which the legality was questioned, the judge explicitly ruled that the causation of the insanity had nothing to do with the matter—that if a man was insane from drink he was as rightly certifiable as if he were insane from any other cause.

Dr. Raw is exercised as to whether it is necessary for a man "to bear the stigma of having been certified as a lunatic when he was simply suffering from temporary mental aberration the result of bodily disease. There can be no question whatever that an asylum of some sort is the best place for the patient, but he need not be certified as insane, at any rate until it is seen whether the insanity is likely to be permanent or not.' Dr Raw is not alive to the practical difficulties of dealing with insane persons without certification. The law which would render an insane person liable to be sent to, and detained in, an asylum, deprived of the control of his person and of the management of his property without certification, would lay the same liability upon a sane person, and without certification every safeguard of the sacred liberty of the subject would be utterly swept away I am unable to appreciate the distinction drawn by Dr. Raw between insanity on the one hand and "temporary mental aberration the result of bodily disease" on the other It is but rarely that we can be quite sure that mental aberration will be of short duration, and even if we could usually do so, and even if we could agree upon the precise duration which is to be termed temporary, there remains the fact, or what I believe to be the fact, that, whether "temporary' or permanent, every manifestation of insanity is the result of bodily disease. With Dr. Raw's conviction that a large number of people are certified as lunatics who are simply suffering from insanity the result of, or associated with, some form of bodily disorder or of poisoning I should be in complete accordance, but when he contends that such persons are not really insane I should join issue with him, for I should contend that the "large number' includes every insane person who is certified as such. In short, I deny altogether the existence of Dr Raw's distinction between mental aberration and insanity All that I recognise is a difference in degree. Every case of mental aberration or insanity is, in my view, the result of, or associated with some form of bodily disorder or of poisoning, and I protest with all the vehemence of which I am capable against the view that insanity is a thing apart, a specific entity, having no community of nature with trifling and temporary "aberrations of mind.' This view is a lingering remnant of the belief in the demoniacal possession of the insane and is the most serious obstacle to the right understanding of insanity That it should be held by a man of Dr Raw's ability and eminence goes far to excuse the otherwise unpardonable length of this communication.

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[1] THE LANCET, June 14th, 1902, p. 1681.

I am Sirs, yours faithfully,

Catford S.E. June 16th 1902. CHARLES MERCIER.

OBSERVATIONS ON DIET

To the Editors of THE LANCET

SIRS,—Probably Dr Harry Campbell's shoulders are sufficiently broad to withstand the onslaught which Dr F W Forbes Ross has thought proper to direct against him in THE LANCET of June 14th 1902, p. 1724 on the subject of his "highly theoretic and erudite contribution" with reference to the feeding of old people. Nevertheless, as one whose practical experience bears out and confirms Dr Campbell's views I may be permitted to enter the lists and shiver a lance in the cause of ' physiological feeding for the aged"—an expression which, I gather from Dr Ross's letter, is the same thing as the metabolism of starvation.

I find myself in complete accord with Dr Ross's observation that ' it is quite time we as a profession began to revise our practice and preconceived notions in certain directions where diet is concerned" as also with his clinical experiences, but I take exception to the deductions and generalisations which he draws from the latter It is in the highest degree improbable that a man living on "the fat of the land or even on a "generous, good full diet" (*vide* Dr Ross's dietetic canons) with lung kidney and heart perhaps as the sequelæ of this mass stimulation would derive any immediate benefit from an ill-considered restriction of diet indeed, deprived of the mass stimuli to which his metabolism (*pace* Dr Ross) has been educated and accustomed I should expect the rapid dissolution which Dr Ross so pathetically deplores But what is this, after all other than the phenomena which appear in the alcoholic or morphomaniac when his particular variety of poison stimulus is reduced to a physiological and pharmacopœial dose! I imagine it would not be seriously contended that a full generous exhibition of either alcohol or morphia would be productive of longevity because when deprived of them suddenly their victims ' sink rapidly to dissolution." *Mutatis mutandis*, the argument is, I trust, a sufficient reply to Dr Ross's *verb sap* I am, Sirs yours faithfully,

London June 13th 1902. ERIC PRITCHARD

To the Editors of THE LANCET

SIRS,—I have had very considerable experience in dieting the aged during the last 20 years My experience gained is quite the opposite from Dr F W Forbes Ross's views, expressed in THE LANCET of June 14th, and is more in accord with those of Dr Harry Campbell if I read correctly what he intends to convey to the reader by the term "spare diet. The aged do not require quantity but quality in their foodstuffs and a full diet is generally harmful to the majority of aged patients. I always prescribe a diet rich in nutrient substance easy of digestion and assimilation, but spare in quantity The organs of aged people are more or less worn out, and this refers more particularly to the digestive organs so that if you tax them with foods which require much digestion and contain a large quantity of waste material fermentation is sure to set in—the very bugbear of old age—which produces most dangerous and unpleasant symptoms.

How many aged gentlemen who dine well but not wisely at their clubs have gone home and died suddenly after a full meal and how many suffer from most painful gouty affections from living on a full diet. Of course, there are many exceptions My old friend Dr Pickett's father who died at the age of 95 years, always used to eat a hearty meal of bread cheese, and ale before going to bed. My great-grandmother, who lived to 93 years of age, had three full meals a day We are generally called to diet the feeble and weak, who, I am afraid form the majority, not the minority, of the aged The less chance of auto-toxin there is by there being little waste material in the diet the greater will be the success of our treatment. I am, Sirs, yours faithfully,

THOMAS DUTTON

Manchester-square W June 14th, 1902.

SORE-THROAT AS A PREMONITORY SYMPTOM OF ACUTE RHEUMATISM

To the Editors of THE LANCET

SIRS,—The association of sore-throat with rheumatism is well known to the profession, but I desire to draw attention to a certain condition of the throat which in not a few cases signals the onset of the graver malady

I have had under my care two cases which serve the purpose of illustrating my meaning 1. I was called to attend a married man, aged 34 years, who complained of sore-throat and a marked feeling of general illness. On examination I found the throat red and relaxed but altogether clear of any ulceration or deposit—what might be quite properly and fully described as a catarrhal throat, no swelling of glands or pain about the neck and only little difficulty in swallowing, temperature slightly raised, barely 100° F, a deposit of lithates in the urine which was otherwise normal but no pain or discomfort whatever about the body or limbs. So far the case appeared simple enough with this exception—the man seemed to be ill out of all proportion to anything I could discover The usual treatment was adopted and at the end of five days the patient was to all intents and purposes restored to his usual health and extremely anxious to return to work. I advised him strongly to the contrary, in fact, to remain at home another week as I was not certain of his complete recovery However he persisted and went, with the result that in four days time he was back in bed with a sharp attack of rheumatic fever 2. This case was very much on all fours with the one described except that the patient's throat was slightly worse and that at the end of 10 days he complained of a fixed pain in one heel which was undoubtedly rheumatic. He decided to follow the course I suggested however and remained at home making a good recovery and resuming work at the end of three weeks well and strong and none the worse for his attack.

These two cases which I have described and some few others of a like nature which have come under my notice show at least the possibility of rheumatic fever supervening the condition of the throat being its initial manifestation. The fact that there is no pain or swelling of joints at the onset should not mislead us, for in neither of the cases cited did the patients suffer any pain whatever for the first few days; indeed, one actually went to work, the subsequent pain not yet in evidence. All such cases as I have described should be viewed with suspicion, the patient carefully watched and ordered rest and warmth for at least one week, and a further period of seven days in the house with appropriate medicinal treatment, until he is *quite* restored to health and we have no cause for further anxiety. In this way I am sure we might often ward off an attack of acute rheumatism with much subsequent advantage to our patients if with little credit to ourselves.

I am, Sirs, yours faithfully,
D. F. WHITELEY.

Fulham, S.W.

VARICOSE VEINS.

To the Editors of THE LANCET.

SIRS,—I read with interest Mr. Pearce Gould's lecture on Varicose Veins in THE LANCET of March 1st, p. 576, and your comment thereupon in your issue of March 22nd, p. 833, and I expected some critical correspondence to follow. As there has been none as yet perhaps you will admit a few unavoidably belated observations from me.

Mr. Gould says that "two views of the nature of varicose veins are commonly held to-day. One regards them as the result of the yielding of the veins to an increased intravenous pressure due to an obstruction to the flow of blood up to and through the heart. ...... According to the other view, varicose veins are to be regarded rather as venous outgrowths, a superabundant development of venous tissue—venous angeioma." He rejects the former and adopts the latter. But I would venture to suggest that another factor exists which he has overlooked, one so obvious that I have always thought it sufficient, though often combined with pressure, to account for the existence of varicose veins in nearly every case. I mean relaxation of the muscular coats of the veins and hence diminished resistance. Normally the veins are kept duly contracted by the tone of the muscular fibres that the walls possess. But under certain conditions of debility, and in some individuals much more than in others, these fibres become relaxed and the vessels dilated and weak. The chief of these predisposing conditions is temperature; trouble and distress from varicose veins is mainly a seasonal affection, occurring in hot weather. Just as attacks of certain diseases occur punctually and periodically in some patients at certain seasons year after year, so have I been accustomed to find suffering from distended varicose veins on the advent of the hot weather of summer. If one only looks at the back of one's own hand from time to time the conspicuous difference in the size of the veins according to the external temperature will be conspicuous; the veins may be small and almost invisible on a cold day, but large, full, and distended on a hot one. And this applies to all the superficial veins of the body; the deeper ones are better protected and supported. Thus the pressure of blood from gravitation in the lower limbs increases the distension, causing in time permanent dilatation and incompetence of the valves, and then the morbid structural changes of varix result. Is not this a true and sufficient cause? Heat and cold have this effect more or less on the muscular tissue of all superficial blood-vessels, arteries as well as veins. When the wind was in the east Mr. Jarndyce (if I recollect "Bleak House" aright) used to retire to his growlery, owing to the mental depression and irritability due to increased arterial tension brought about by exposure to cold. Some persons are made for warmth, others require a cool atmosphere. Varix is almost always aggravated in the summer. In that season of 1898 in London I saw a woman with extreme varicosity of the veins of both legs who was also advanced in pregnancy. One day a vein burst in each leg simultaneously. Pregnancy certainly has a considerable effect in inducing or increasing the condition. Ovarian and uterine tumours are less potent because their growth is so much slower. Thus I maintain that over-distension of a certain set of relaxed veins by a column of blood is the chief cause; obstruction is a secondary one. Symptoms of pure obstruction are absent because venous circulation is still carried on, especially through the deep veins. Mr. Gould, like others, has met with the disease much more frequently in men than in women, probably because men's occupations compel them to stand about more than women, and on this account men are more liable to become incapacitated and seek relief.

If the angeioma theory favoured by Mr. Gould were the correct one, why is it that varicose veins are always met with in the dependent parts of the body? Why, for instance, do they never occur in the neck or arms? The presence of adventitious muscular tissue in the varicose dilatations is no doubt due to a process of compensatory hypertrophy. The reappearance of veins near the scar after excision of a portion of a vein is doubtless due to the enlargement and growth of small pre-existent veins to take the place of that which has been removed, just as arterial branches enlarge after ligature of a trunk. Therefore the advantages of a surgical operation may be only temporary. The reason why varix does not ensue upon ordinary venous obstruction from cardiac disease is, I believe, that the veins have not become relaxed and thus the pressure falls upon the terminal veins and capillaries, causing œdema.

I am not aware that I am putting forward anything particularly novel in offering the above remarks—in fact I believe that the ideas are old-fashioned and common. They seem, however, to present a satisfactory and intelligible explanation of the condition and thus there seems no need to fly to a more mysterious theory. Mr. Gould will, I know, welcome any honest criticism.

I am, Sirs, yours faithfully,
F. LUCAS BENHAM, M.D., M.R.C.P. Lond.

Exeter, South Australia, May 9th, 1902.

NUTMEG POISONING.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 12th, p. 1034, Mr. R. A. Pitter relates a case of nutmeg poisoning and asks for information as to other cases. Some years ago I was called to see a woman who had taken the whole of a ground nutmeg mixed with gin. The symptoms were exactly the same as those described by Mr. Pitter and the woman nearly died. The dose was taken to procure abortion; whether it had that effect I did not learn. The friends volunteered the remark that the woman had taken the nutmeg in spite of the fact that a neighbour had nearly died from the same cause shortly before. At the time I asked a good many friends, medical and lay, if they knew anything of the poisonous properties of nutmeg in large doses. None of them did except one old lady from the north of England, who stated that she and people in her part knew them well. Squire states that nutmeg in large doses is a narcotic poison.

I am, Sirs, yours faithfully,
Geelong, Victoria, May 13th, 1902. S. MABERLY SMITH.

CHLOROFORM FATALITIES.

To the Editors of THE LANCET.

SIRS,—It seems to me that M. Huchard's statement—as reported by your Paris Correspondent (*vide* THE LANCET, June 7th, p. 1649)—that among 100 deaths under chloroform not more than 10 are concomitant with organic heart disease, ought not to be allowed to pass unchallenged. The St. Bartholomew's Hospital statistical records for the 26 years 1875–1900 contain references to 31 fatalities of this kind, of which some particulars are given as to 30. In 26 of these cases death appeared to have resulted from cardiac failure and from respiratory failure in four. Of the former group of cases it is stated that the heart *presented signs* of extensive organic disease in nine instances (hypertrophy and dilatation, often with valvular disease, in six, fatty degeneration in three). In only six instances was the heart found to be normal. In 12 cases the condition of the heart is not stated (no post-mortem examination). Thus of 15 cases in which the condition of the heart was actually noted post mortem, in nine this organ was extensively diseased. Hence it may be concluded that morbus cordis adds greatly to the risks of chloroformisation. In five of the foregoing cases the cardiac disease was complicated by extensive pulmonary disease and nine of the patients were in an exceedingly debilitated condition. Most of these fatalities occur during the early stage of chloroformisation while anæsthesia is incomplete (in 11 cases before the operation had been commenced).

I am, Sirs, yours faithfully,
Clifton, Bristol, June 17th, 1902. W. ROGER WILLIAMS.

THE ANNUAL TEMPERANCE BREAKFAST AND THE BRITISH MEDICAL ASSOCIATION

To the Editors of THE LANCET

SIRS,—I shall feel obliged by your kindly allowing me to announce through your columns that the annual breakfast to those members of the British Medical Association who will kindly apply for cards will be given by the National Temperance League on Thursday morning of conference week as usual. I am, Sirs, yours faithfully,

J T RAE, Secretary

Paternoster House, London E C June 17th, 1902.

TEMPORARY REMINISCENCE OF A LONG-FORGOTTEN LANGUAGE DURING THE DELIRIUM OF BRONCHO-PNEUMONIA.

To the Editors of THE LANCET

SIRS,—With reference to Dr C. A. Mercier's remarks on Dr H. Freeborn's case of temporary reminiscence of a long forgotten language during the delirium of broncho-pneumonia in THE LANCET of June 14th, p. 1685 I should like to say that personally I do not believe in Coleridge's tale of the illiterate maid servant who talked Greek and Hebrew in her delirium. Indeed, I thought that the tale was known to have been a fabrication. Dr Leonard Hill in his "Manual of Physiology," p. 379 states that the whole story was a mischievous invention of Coleridge's.—I am, Sirs, yours faithfully,

GEORGE PERNET

Upper Gloucester-place, N W , June 28th 1902

WHAT IS SCROFULA?

To the Editors of THE LANCET

SIRS,—Owing to pressure of work I have been unable to reply before this to the letter of Dr J Tatham in THE LANCET of May 31st, p. 1560 I am afraid that I can hardly regard his arguments on the retention of the word "scrofula" as convincing. In reply he quotes a paragraph from a System of Medicine which in substance says that "scrofula" may or may not be due to the tubercle bacillus. This is certainly very informing , but against his quotation I may draw attention to the following, taken from the latest edition of Quain's Dictionary "Scrofula (*scrofa*, a sow), a term applied to a supposed hereditary tendency to slowly progressive chronic inflammations and caseation, especially of lymphatic glands. The large majority of such cases are now known to be instances of chronic local tuberculosis, *and the term is rapidly falling into disuse*" The italics are mine. This, I venture to suggest, is precisely what is happening—the up-to-date teachers in the medical schools are so instructing medical students that in another generation or so the word "scrofula" will be forgotten. Again, Dr Tatham alleges as another reason for his retention of the term that "scrofula,' as a term, "as distinct from tuberculosis, is in common use by medical men, not a few of whom (including certain physicians and surgeons of eminence) still believe the conditions which these terms imply to be distinct." I cannot help thinking that it would be just as wise to argue that the word "tubercular," expressive of lesions caused by the tubercle bacillus, should be retained because certain physicians and surgeons of eminence and other similar practitioners who know more about "scrofula" than 99 per cent. of the profession use it instead of the universally adopted term "tuberculous." It is noticeable, however, that Dr Tatham has expunged the word "tubercular" from the list of diseases due to tuberculosis. Lastly, I come to the argument which is, perhaps, the most extraordinary of all Dr Tatham thinks that because "scrofula" has figured in the reports of the Registrar-General from their commencement therefore the term should still be retained "lest the comparability of figures in a series of years should be impaired"—that is to say, by affording the opportunity of filling in death certificates with the term "scrofula" he will enable a few members of the profession to satisfy their pathological consciences and thus imperil the accuracy of his reports However, even in the present state of our knowledge it does not require a prophet to forecast what the record for deaths from "scrofula" will ultimately become. Presumably in 10 years' time we shall have some enterprising journalist, on the prowl for new "copy," contributing a paper to a magazine with the comforting title of "The remarkable decline in the mortality from 'scrofula' based upon the statistics of the Registrar-General." I am, Sirs, yours faithfully,

June 17th, 1902. PES.

THE OPEN-AIR TREATMENT OF PULMONARY PHTHISIS.

To the Editors of THE LANCET

SIRS,—The following testimony to the good effect of open air and mountain air in phthisis quoted from the late Geo F Buxton's "Adventures in Mexico and the Rocky Mountains" (Murray, 1849, p. 288), may interest some of your readers —

"My two companions had left the United States the preceding year, having been recommended to try the effect of change of climate on a severe pulmonary disease under which both laboured. Indeed, they were both apparently in a rapid consumption and their medical advisers had given up any hope of seeing them restored to health. They had remained in the mountains during one of the severest winters ever known, had lived upon game, and frequently suffered the privations attendant upon a mountain life, and now were returning perfectly restored and in robust health and spirits. It is an extraordinary fact that the air of the mountains has a wonderfully restorative effect upon constitutions enfeebled by pulmonary disease, and of my own knowledge I could mention a hundred instances where persons whose cases have been pronounced by eminent practitioners as perfectly hopeless have been restored to comparatively sound health by a sojourn in the pure and bracing air of the Rocky Mountains, and are now alive to testify to the effects of the invigorating climate. The elevation above the level of the sea of the plains at the foot of the mountain is about four thousand feet, while the mountain valley of the Bayou Salado must reach an elevation of at least eight or nine thousand and Pike's Peak has been estimated to exceed twelve thousand." I am, Sirs, yours faithfully,

June 16th 1902. F L B

NOTES FROM INDIA

(FROM OUR SPECIAL CORRESPONDENT.)

The Decline of the Plague Epidemic —The All India Victoria Memorial.—Results of the Census.—A Case of Medico-Legal Interest —Legislation against Indians in Natal.

THE plague epidemic is rapidly declining throughout India. For the past week there have been 5493 deaths reported as against 7008 for the previous seven days. The Punjab, which is chiefly affected, reports 4234 deaths, being a decline of 1219.

The All India Victoria Memorial Fund has now reached the large amount of Rs. 4 500,000, equivalent to about £300,000

The census tables show a great variation in population in certain districts. While there has been an increase of over 335,000 people in Sind there has been a decline of over 650 000 in Bombay Bengal, Madras Burmah, and the Punjab make up for the 10,000 000 increase in the British provinces Aden has been practically stationary It is in the Native States that the effects of famine and immigration are most apparent. Rajputana has lost 2,250 000 of its inhabitants, the Central India Agency over 1 500 000 and the Bombay native states over 1,000,000. Baroda, Gwalior, and Hyderabad have all lost considerably An explanation is wanted for the much larger decreases in native territory

A case of considerable interest from a medico-legal point of view is reported by the chemical examiner to the Bengal Government A murder was committed at the Bengal Club in Calcutta and examination of the blood-stains on the garments of the murderer showed that the blood contained filariæ. This established a connexion between the murderer and his victim and it indicated, moreover, that the murder had been committed at night.

The proposed legislation against British Indians in Natal seems oppressive Every male will be liable to pay a tax on reaching the age of 16 years, even though he was born in the colony, and every female at the age of 13 years. This will bear very hardly upon the heads of families, because children can with difficulty pay £3 a year.

May 31st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Ventilation of Public Buildings.

THE ventilation of our public buildings is often notoriously bad, but people are so accustomed to it that they take it as being in accordance with natural law. Manchester is probably no worse than other towns, for the proper supply of fresh air to, and the removal of foul air from, buildings of all kinds are problems not solved by our architects and engineers. If anyone wishes for an object-lesson let him go to the gallery of the Free Trade Hall when one of the Hallé concerts is half over. The city coroner thinks the Minshull-street coroner's court supplies a good illustration and it has, indeed, long been the subject of much complaint. He referred to the matter when holding an inquest last week and expressed the hope that now that a city architect was appointed he "would direct his attention to the ventilation of public buildings, a matter which had been much neglected." He thought that where juries had to sit for a long time they had a right to demand that they should have fresh air. Mr. D. Walmsley, inspector of factories, who was in court, said that "he had never experienced a worse condition of ventilation than he had done that day," and that if the court were a factory "somebody would be convicted for overcrowding." When used for public purposes public buildings are for the time being almost always overcrowded and the difficulty is to provide sufficient interchange of air in a bearable fashion to meet this abnormal state of things. The problem is difficult, but the evil is great and the remedy for it is deserving the best efforts of the most able.

Heywood and Sanitation.

At the meeting of the Heywood Town Council on June 12th several matters of interest were brought forward. The chairman referred to the annual report of the medical officer of health and drew attention to the fact that of 70 children who had died from diarrhœa 50 were "bottle-fed." The ignorance, want of correct ideas as to cleanliness, and very often the apathy and indifference, of those who have charge of the children whose mothers are many of them working in the mills are sufficient to account for much of our infant mortality. Little can be hoped for the present generation from the teaching in our elementary schools, but the kindly educational influence of ladies of tact, sympathy, and good sense, as shown by the successful working of the Manchester Ladies Health Society, may do much to bring about a reduction of the high infant death-rate and the brightening of the homes of the working class. It cannot but be thought that some of the energy and restlessness which sends young ladies to flood the ranks of the nurses might with advantage be directed to the mitigation of the conditions so fatal to the infants of our town populations. But perhaps the uniform would be missed. Heywood is also engaged in several public schemes for which the Local Government Board has sanctioned the borrowing of £28,292—£4538 for a refuse destructor and the remainder for sewerage works. The health committee has taken action with the view of putting a stop to the practice by some of the butchers of "blowing" their meat, each butcher having been served with a notice.

Coöperative Convalescent Home.

The local coöperative societies propose to establish a convalescent home for their members at Norbreck on the Lancashire coast, two miles north of Blackpool. It is to accommodate 120 persons with space for future extension and is estimated to cost at least £25,000. This movement seems to be general among the coöperative societies, for the northern section now has a home of its own at Gilsland in Cumberland, while the midland and southern sections are discussing the question of making similar provision for the benefit of their members.

Drunkenness among Women.

It is sometimes made an occasion of reproach that the clergy do not make as much use of their position and opportunities to help forward sanitary work as they might do—that they are so much engrossed with their spiritual work that they are heedless of the body which the spirit inhabits. This may sometimes be so, but the Bishop of Manchester, in a recent visitation address to the Bolton Rural Deanery, did not lay himself open to this charge. He introduced a discussion as to whether there was sufficient authority in Bolton to prevent overcrowding, as to whether they were trying to make the drains good, to abolish back-to-back houses, and to put the courts into a thoroughly sanitary condition. He drew attention to the fact, revealed by returns which he had received, that while intemperance among men was diminishing it was unhappily increasing among women. "If that should go on," he said, and quite truly, "it was the death knell of our race." He spoke strongly on the subject. "They must make an end of this hideous thing. It was a matter of life and death for them." If necessary he would make it penal to supply a woman either in a public-house or shop "with the means of brutalising herself." No surer means of lowering our position in the scale of nations both physically and morally could be devised than by increasing the temptations and fostering the taste for drink among our women of all classes, and, though the bishop did not mention it, the grocers' licences minister to both and might well be repealed.

Struggle with a Madman.

Dr. W. A. Smith of Darwen had an unpleasant experience on Sunday evening. A man went into his surgery and seized Dr. Smith by the throat, when a violent struggle occurred and fortunately the man was overpowered. The police were sent for and he was taken to the police-station and committed to the Blackburn Workhouse Infirmary for 14 days for medical examination. It was fortunate for the doctor that he was able to treat his patient successfully.

June 17th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Important Movement in Northumberland and Durham.

IN order to raise the general and financial status of the medical profession in the counties of Northumberland and Durham two associations—viz., the Northumberland and Newcastle Medical Association and the County of Durham Medical Union—were formed some time ago. The former association has now a membership of close on 200, while the latter has almost 250 members. With a view to strengthen the two associations against possible offenders it was agreed that the presidents of both should approach the consultants of the district to ascertain whether they would be prepared to refuse to meet those practitioners whom the councils should judge to be offenders against the objects of the associations. For this purpose a meeting of the consultants was held on June 11th in the library of the Royal Infirmary, Newcastle, Dr. E. Jepson, President of the County of Durham Medical Union, being in the chair. Dr. Jepson having explained the object of the meeting Dr. G. H. Hume pointed out that the councils of the associations were asking the consultants to assist in the punishment of these offenders without the consultants having any voice in the judgment of the cases against them. That, Dr. Hume said, was a position which the consultants would not accept, but he thought that if a small committee were appointed, on which the consultants had proper representation, to inquire into and to adjudicate on all such cases a solution of the difficulty might be arrived at. After some discussion, during which several consultants spoke in eulogistic terms of the proposal, it was finally agreed, subject to the approval of the two associations, and on the motion of Dr. Hume, seconded by Mr. J. Rutherford Morison :—

> That a committee be formed to investigate and decide upon cases of alleged unprofessional conduct which shall be referred to such committee by the council of either association.

Mr. Rutherford Morison then proposed and Dr. A. M. Martin seconded :—

> That the committee for the investigation of cases of alleged unprofessional conduct shall consist of the presidents of the two associations, two consultants (to be appointed by the consultants of the district), and two members from each of the associations.

These two motions were passed unanimously and have since been adopted by the joint council of the two associations. Dr. J. H. Hunter of South Shields and Dr. R. S.

Hubbersty of Sunderland were nominated as the representatives of the County of Durham Medical Union; Dr. W. L. Ruxton of Newcastle and Dr. W. S. Campbell of Whitley, Northumberland, were nominated as the representatives of the Northumberland and Newcastle Medical Association; the consultants have not yet nominated their representatives. On account of the formation of this "judicial committee" the councils of the two associations will in future act as grand juries to select the more serious cases for investigation and judgment by the "judicial committee"

June 17th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Infirmary.

ONE of the rules regulating the admission of in-patients to the Cardiff Infirmary provides that such persons only shall be admitted as are unable to pay for medical attendance and support during their illness, though cases of accident or emergency may be admitted without any regard to the circumstances of the patient. As there appears to have been some abuse of this rule the secretary of the infirmary has sent a circular letter to the medical practitioners of Cardiff pointing out that there are in the town several private hospitals in which patients who ought not to be admitted to a charitable institution can be treated. With regard to the treatment of out-patients a rule of the institution establishes a wage-limit for applicants of 18*s.* per week for single men or women, 23*s.* per week for a man and wife, and 2*s.* per week for each child. Any person found upon investigation to be earning more than these sums may be refused attention or may be referred to the provident dispensary

Small-pox.

The outbreak of small-pox at Swansea shows signs of declining. Until June 14th, when two patients were removed to the hospital, there had been no case reported for nearly a fortnight. Since the beginning of the epidemic in December there have been 71 cases and 14 deaths have occurred. One case at Chester and two at Ystalyfera have been traced to infection in Swansea. In a recent report the medical officer of health (Mr. Ebenezer Davies) states that no death had occurred at the small-pox hospital after successful revaccination. During the month of May 135 contacts were kept under observation and 85 were revaccinated.—A man was fined £10 on June 12th at the Swansea police-court for obstructing the execution of a magistrate's order requiring his child, who was suffering from small-pox, to be removed to the small-pox hospital. The facts of the case have already been alluded to in THE LANCET[1] It was contended by the defendant that the children, for there were two who were ill, were perfectly isolated and could not be a danger to other persons in the house notwithstanding the fact that there were subsequently attacked with the disease the maid-servant, the children's mother, their aunt, and a child living next door.—A Greek sailor was removed to the Barry Small-pox Hospital on June 14th from a ship which had arrived from Sligo three days previously.—The two small-pox patients have been discharged from the Aberdare Hospital and the town is now free from the disease.

The Workmen's Compensation Act.

An important decision was given in the Court of Appeal on June 11th, when the Master of the Rolls upheld the judgment of the Aberdare county-court judge who had made an award in favour of a collier under the Workmen's Compensation Act, 1897, under the following circumstances. In the course of his work some coal trucks slipped back upon the collier and though he worked for a few days it was subsequently found that he was ruptured, but when being operated upon at the hospital a hernia of old standing was discovered and the colliery company from whom compensation was claimed contended that but for the prior lesion there would have been no further injury. A contrary opinion, as already indicated, was held by the local judge and by the Master of the Rolls.

Vaccination Questions.

The anxiety which is being displayed by boards of guardians in various parts of England and Wales to limit the services of the public vaccinator to the poorer classes will in some quarters be used as an argument in favour of transferring the administration of the Vaccination Acts from the Poor-law authority to the sanitary authority. In a recent report upon the subject the medical officer of health of Cardiff (Dr. Edward Walford) says that he has every reason to believe that the Cardiff board of guardians carries out the Vaccination Acts in a conscientious manner, but he is of opinion that the reasons which in 1840 decided Parliament to place the administration of the Acts in the hands of the boards of guardians no longer exist, for the matters connected with the prevention of disease are now under the jurisdiction of another and distinct authority which does not, however, control the most important measure connected with the prevention of small-pox. Dr. Walford states that at the time of the Gloucester epidemic he endeavoured unsuccessfully to prevail upon the Cardiff board to appoint temporarily additional vaccination officers with a view to discovering evasions of the Vaccination Acts and to induce adults to be revaccinated, and he was obliged, therefore, to instruct the sanitary inspectors to make special inquiries as to the condition of vaccination at houses visited by them and to forward the results of their inquiries to the vaccination officers.

The Destruction of Rats on Board Ship.

A demonstration was lately given at Cardiff of the Clayton apparatus for destroying rats on board ship and for disinfecting purposes. Sulphur dioxide gas (SO_2) and, it is claimed, also a small quantity of the higher oxide (SO_3) were forced into the bottom of a vessel's hold which had a capacity of 200,000 cubic feet; the foul air displaced by the gas was exhausted through a pipe communicating with the hold almost flush with the deck and conveyed to a furnace having a temperature of about 600° F. Rats in cages at the bottom of the hold died almost immediately after exposure to the gas and others placed about six feet below the level of the deck were found dead within three hours of exposure. To test the germicidal action Dr. W. G. Savage of the Cardiff and County Public Health Laboratory placed in the hold liquid cultures, soaked in strips of fabric, of the bacteria of plague, cholera, typhoid fever, and anthrax, and of staphylococcus pyogenes aureus. Three separate pieces of fabric were used for each variety of micro organism and subsequent investigation showed that all the plague, cholera, and typhoid fever bacilli were killed, but that none of the anthrax cultures were affected and one of the staphylococci cultures remained alive. These results are similar to those arrived at by Klein, Houston, and Gordon in the *London County Council* experiments.

The Covering of Meat during Transit

Among the by-laws made by the Glamorganshire County Council for "the good rule and government" of the county is one which requires that meat shall be well-covered over when being conveyed from one part of the county to another. On June 9th a man was fined 5*s.* at the Ton police-court for contravening this by-law which the stipendiary magistrate stated ought to be strictly enforced.

Death of Mr. Henry Marcus Kemmis, L.R.C.P. Irel., M.R.C.S. Eng., J.P.

Through the death from pneumonia on June 12th of Mr. Henry Marcus Kemmis the medical profession in Bridgwater has lost one of its oldest and most respected members. Mr. Kemmis had practised in Bridgwater for a quarter of a century and at the time of his death was one of the honorary surgeons to the *Bridgwater* Infirmary and medical officer to the workhouse. He was on the commission of the peace for the borough and was an enthusiastic volunteer, holding the rank of brigade-surgeon-lieutenant-colonel in the Severn Volunteer Infantry Brigade.

The Okehampton (Devon) Board of Guardians and Revaccination.

At the meeting of the Okehampton board of guardians held on June 7th the clerk read the list of those persons in the union who had been revaccinated at the expense of the ratepayers. A gentleman sent a cheque for 7*s.* 6*d.* to the guardians, being the fee for revaccination. He stated in his letter "that he was quite unaware by being revaccinated he had gone on the rates." One of the guardians said that he considered that a fuss was being made about nothing, as the Local Government Board Order distinctly stated that persons could be revaccinated at the public expense. After some discussion upon the fees for revaccination it was decided to inform the public vaccinators that they should ask persons applying for revaccination whether they wished it performed at the public expense or otherwise.

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[1] THE LANCET, May 24th, 1902, p. 1501

Vaccination in the West of England.

At the meeting of the Helston board of guardians held on June 9th the finance committee recommended that all the old vaccination stations should be made stations for revaccination purposes, also that revaccination should be carried out only on receipt of seven days' notice from the clerk that the guardians considered it expedient, and that a fee of *3s. 6d.* should be paid for all cases of revaccination at all stations. The guardians decided to adopt the recommendations.

Oysters and Enteric Fever.

At the last meeting of the East Kerrier (Cornwall) District Council a letter was read from the Local Government Board stating that "the Board were informed that the liability of the oyster-beds in the Penryn river to contamination by sewage is well known to the local sanitary authorities in whose jurisdiction the river is situated, but the Board do not understand those authorities have taken any united action in dealing with the sewage discharged in the river and it does not appear that they have brought pressure to bear on the local oyster merchants to remove their 'market layings' to some locality free from danger. Consequently the Local Government Board will bring the whole of the matter specially to the notice of the Royal Commission on Sewage Disposal." The members of the council decided to take no action.

The Bristol General Hospital.

A fête and gymkhana, which was unfortunately held in unfavourable weather, took place at the Zoological Gardens, Clifton, on June 12th, 13th, 14th, and 16th, in aid of the funds of the Bristol General Hospital.—Lady Smyth of Ashton Court has given £1500 to the Bristol General Hospital, to be devoted to the endowment of a bed in memory of her late husband, Sir Greville Smyth.

June 16th.

IRELAND.

(From our own Correspondents.)

The late Dr. Barry of Limerick.

An action for £5000 damages in compensation for the death of the late Dr. Robert Barry of Limerick was recently brought by his widow and, after being tried before the Lord Chief Justice of Ireland and a special jury of the city of Dublin, resulted on June 16th in a verdict for the plaintiff for £3000. Dr. Barry, who died as alleged from an injury caused by the carelessness of one of the servants of Messrs. Spaight and Co., was a graduate and M.D. of the Royal University of Ireland and a Fellow of the Royal College of Surgeons in Ireland. He was well known and much respected in the city of Limerick.

Death of Mr. James Picken, L.R.C.P. & S. Edin.

I regret to announce the death of Mr. James Picken at his residence, Hazelbank, Randalstown, co. Antrim, which occurred on June 9th. For many years Mr. Picken had been dispensary medical officer of the Toomebridge district, but owing to delicate health he retired a few years ago from practice. A faithful physician, extremely kind to the poor, Mr. Picken secured the confidence of all those who found it necessary to have his professional advice. He leaves a widow and three sons to mourn his death.

Tyrone and Fermanagh Asylum.

At the monthly meeting of the committee of management of this asylum held on June 12th Dr. P. O'Doherty (Dublin) was appointed assistant medical officer at a salary of £125 per annum, with the usual allowances.

The Antrim Infirmary, Lisburn.

Dr. W. Calwell (Belfast) has been appointed consulting physician and Dr. Cecil E. Shaw (Belfast) consulting ophthalmic surgeon to the County Antrim Infirmary, Lisburn.

Ulster Medical Society.

The annual meeting of the members of the Ulster Medical Society was held in the Belfast Museum on the evening of June 12th when, after the reports of the treasurer, librarian, pathological secretaries, and council had been received, the members proceeded to consider the rules of the society which had been revised by a special committee in consequence of the gift of a new medical institute by the president, Professor W. Whitla. These rules, with a few verbal alterations, were passed and the donor of the new institute, Professor Whitla, read the trust deed and nominated seven trustees, all members of the society, in whom the property of the institute is to be vested and who will be *ex-officio* members of the council. The following office-bearers were then elected by the members themselves for the session 1902–1903:—President: Dr. John Campbell. Vice-Presidents: Dr. S. Agnew (Lurgan) and Dr. J. J. Austin. Secretary: Dr. Thomas Houston. Treasurer: Dr. W. B. McQuitty. Pathological Secretary: Professor J. L. Smith. Librarian: Dr. R. R. L. Leathem. Council: Dr. J. S. Morrow, Professor J. W. Byers, Dr. A. Gardner Robb, Dr. J. Colville, Dr. W. D. Donnan (Holywood), and Dr. J. B. Moore.

The Royal Commission on Irish University Education.

The Royal Commission on Irish University Education sat in Dublin during last week and heard evidence from numerous witnesses and amongst these were the Provost of Trinity College, Dublin. It is rumoured now that it is found impossible to leave Trinity College outside the purview of the Commission. At a meeting of the Royal University Graduates' Association held in Belfast on June 10th very strong resolutions were passed in reference to the treatment meted out to Mr. F. H. O'Donnell, M.A., by the Commission. It is stated that when he appeared to give evidence on May 22nd, in reply to a tardy request by the Commission, no attempt was made to elicit evidence by any of the Commissioners, notwithstanding that his book on the "Ruin of Irish Education" had been received by the Commission and that he had furnished a summary of the evidence he intended to give. The council of the Graduates' Association says that it is forced to the conclusion that there was some extraordinary influence hostile to a full hearing of the facts and to their official record in the blue-book. It is said now that no final report will be ready before October.

Small-pox in Belfast.

Both amusement and indignation are felt in Belfast at the publication of a very exaggerated and alarming report in the London *Daily Mail* of June 14th, headed "Small-pox panic," "Extraordinary terror and boycott at Belfast." The facts about the small-pox outbreak are these. The first case occurred in Belfast Gaol on March 13th and was the case of a man who brought the disease from Glasgow; the next was the case of a woman who contracted the disease in Liverpool from where she returned to Belfast. Both these patients were placed in the Union Hospital, Belfast, and within the hospital surroundings itself 17 cases have since developed, and within the last 10 days there has been no fresh case in the hospital. The inmates of the workhouse have been revaccinated and the most vigorous measures have been taken in the way of disinfection and observation. While this has been going on in the workhouse only four cases of small-pox (two of these were in a street adjacent to the workhouse) have arisen in the city of Belfast, the population of which is 350,000. These figures show that the report about a small-pox epidemic in Belfast has been greatly magnified. The statements in the *Daily Mail* are not only grossly exaggerated but they are positively harmful, as if not contradicted they will lead to a boycott of tourist traffic this season in Belfast and the north of Ireland.

The late Dr. William Thomson of Anahilt.

An appeal has been drawn up and circulated on behalf of the widow and family of the late Dr. Thomson of Anahilt, co. Down, who have found themselves deprived of their only means of support. Owing to his district being a poor one Dr. Thomson was unable to make any provision for his family. Dr. J. G. Jefferson, Lisburn, is treasurer of the fund.

Unveiling of a Mural Tablet erected in Memory of the late Professor Stephen O'Sullivan at the Cork North Infirmary.

The unveiling of a mural tablet erected to the memory of the late Professor O'Sullivan by the staff of the Cork North Infirmary took place in presence of a number of distinguished citizens in the main hall of the Infirmary. Mr. D. D. Donovan, senior physician, in a very interesting speech, mentioned that Professor O'Sullivan had been 40 years connected with the hospital. He referred to Professor O'Sullivan's distinguished career as a surgeon and the unselfish manner in which he consumption of milk supplied from the Helsarmel dairy to the former." At the dairy the well water was shown to be practically sewage and it was highly offensive at the time of calling—in fact, the sewage of a number of houses and the drainage water of a cemetery soaked into it, and Dr. Ashburton Thompson was able, moreover, to show that it was specifically infected from the excreta of a recent case of typhoid fever in the neighbourhood.

Dr. Page reported in 1888 that an outbreak of typhoid fever at Spennymoor (Durham) was associated in time with prevalence of fever at a farmhouse whence milk was distributed to a considerable number of the persons attacked. Dr. Bruce Low reported on an outbreak at Shildon and East Thickley (Durham) in 1893. There were scattered imported cases during May, June, and July, followed by a considerable outburst of the disease in August and September, the number of cases gradually diminishing in October and November. "The earlier cases were mild, anomalous, and irregular, the later cases typical and severe. Many cases admittedly escaped disinfection and established foci of infection." A large share in the diffusion of the disease was attributed to a particular milk service. "In the milk-seller's house there occurred three or four unnotified cases believed to have been enteric fever. The dairy where the milk was stored communicated directly with the sewer, without a bend or trap, by means of a four-inch pipe in the sink stone. History of flooding of milkman's cellar by sewage on two occasions in July after heavy rainfall. The public water-supply had nothing to do with the outbreak."

In 1895 Dr. Bruce Low reported on a sudden outburst of typhoid fever in August in the town of Helmsley, North Riding (Staffs.), confined to the customers of a particular milk-seller, a member of whose family recovering from this fever came on a visit to his house from July 11th to August 24th. The outbreak suddenly terminated in September on the stoppage of the sale of the polluted milk.

At the International Medical Congress of 1881 Mr. Ernest Hart read a paper on the Influence of Milk in Spreading Zymotic Disease in which he placed on record 73 outbreaks of disease as having been traced to the agency of milk, and of these no less than 50 were outbreaks of typhoid fever; and in 1897 he published another report on the same subject in the *British Medical Journal*, giving short accounts of 95 more outbreaks (occurring between 1882 and 1896), of which 48 were those of typhoid fever, making together 98 outbreaks of typhoid fever traced to the agency of milk by the end of the year 1896.

Dr. D. S. Davies, medical officer of health of the city of Bristol, read an important paper before the Epidemiological Society in March, 1898, on an Outbreak of Milk-borne Enteric Fever in Clifton. In this outbreak the cases varied from the mildest, which would not otherwise have been recognised as typhoid fever cases at all, to the severest type of the disease, mild and severe cases being found in the same houses. The outbreak, as is so often the case with those due to milk, showed an excess of attacks among children under 15 years of age. There were 244 cases in all, of which 230 "were shown to have obtained either regular or occasional supplies from one or other of the three infected rounds." Of the remaining 14 cases four were accounted for in other ways. The connexion of the fever with certain milk-supplies may be considered to have been established without a doubt.

In 1899 Dr. W. W. E Fletcher reported on an outbreak at Coleford (Gloucestershire), which place was almost free from typhoid fever from 1895 to 1898, when an outbreak occurred which he found to have been "intimately connected with one particular milk-supply."

In May, 1900, Dr. Fletcher reported to the Local Government Board on an outbreak of typhoid fever in the Urban District of Coleford and in the Rural District of West Dean (Gloucestershire). Dr. P. Buchanan, the local medical officer of health, had already ascertained that "although the drainage and sewerage of the towns are highly unsatisfactory and the polluted state of the water-courses dangerous to health, the outbreak was caused by contaminated milk; there was some difficulty in ascertaining how the milk had become contaminated. It appears most probable to have been either by washing the milk cans with polluted water from a well or by the fact that one of the workers in the dairy suffered from a mild attack of typhoid fever and that the milk he distributed somehow became infected from him."

In the twenty-sixth report of the State Board of Health of Massachusetts for 1894 Dr. William T. Sedgwick reports on an outbreak at Marlborough as follows: "While a very brief investigation had established the fact that the epidemic could not possibly be attributed to the public system of water-supply or sewerage the true source of the outbreak still remained to be found and I next turned to the milk-supply as a possible vehicle of the disease. But it soon became plain that many different milkmen were involved and that therefore ordinary milk could not have been the common carrier of the infection. Closer inquiry, however, finally disclosed the fact that very nearly in the middle of the infected district was a 'creamery' which, although private, served in a manner as a milk-centre for the whole city. This creamery bought milk from 28 different farms which constituted its regular supply. It also bought from time to time from the various independent milk-pedlers whatever milk they had left over and wished to sell after their daily rounds. On the other hand, the creamery sold to the various milk-pedlers whenever their own supplies 'ran short' and in these ways served, as it were, as a kind of 'clearing-house' for the milk-supply of Marlborough. My suspicions at once rested, largely because of its central location among the cases, on the creamery and very soon after upon this special skimmed-milk service. I therefore made in the next place a house-to-house investigation which established beyond all possible doubt the fact that there was a common bond existing between most of the cases. It had not escaped observation that the disease was confined to those of slender means or in poor circumstances, and closer investigation showed that some who had attempted to economise in their milk-supply by using skimmed milk had suffered most severely." He ultimately satisfied himself that this skimmed milk was the cause of the epidemic and concludes his report with the following observations: "As far as I know the present is the first case on record in America in which an epidemic of typhoid fever has been apparently due to the use of infected skimmed milk; but it is easy to believe that many obscure outbreaks of this disease may have come from a similar source. With the multiplication of creameries to which milk (or cream) is brought from numerous and various farms the possibility must be kept in mind of contamination of the whole product by one infected contributory portion; and inasmuch as skimmed or 'separated' milk, on account of its cheapness and freshness, is now much used not only for cooking but also for drinking, this product, as well as the 'whole' milk, must henceforth be regarded as a possible vehicle of infectious disease."

Dr. Pistor of Berlin has kindly forwarded me copies of papers from which I extract the following:—

I. Dr. Ricken of Malmedy (Rhine Province), writing on Typhoid Fever and Dairies, cites several instances of outbreaks traced to polluted milk; thus at a place called Reuland a general distributing dairy for skim-milk was established in 1897, and an outbreak soon occurred producing 73 cases in 36 houses, with 10 deaths; of these 22 houses were supplied by the dairy; moreover, all the families of the employés of the dairy, except one, suffered from the disease and in each village where an employé lived it was in that family that the disease first broke out. At Büllingen a dairy was opened in April, 1899, and an outbreak soon occurred and was traced to the dairy having been supplied from four houses where there had been cases of typhoid fever shortly before. The results are stated as follows:—(*a*) Of 316 houses of customers of the dairy 48 were attacked, or 15·2 per cent. (*b*) Of 210 houses not served by the dairy 20 were attacked, or 9·5 per cent., while in one of the villages (Wirtzfeld) of 34 houses of customers of the dairy 10 were attacked, or 29 5 per cent., and of 50 houses not served by the dairy eight were attacked, or 16 per cent. Moreover, of the 116 cases in this village no less than 35 were children under 15 years of age. At Nidrum, in the district of Malmedy, an outbreak among the soldiers of the camp of Eisenborn which recently took place was traced to the use of infected milk, supposed to have been sterilised but evidently not efficiently so. The way in which the milk became infected was not traced but typhoid has been endemic in the district for some years. At Auro (district of Prüm in the Eiffel) in 1898 a widespread outbreak was attributed to skim-milk distributed from the dairy there, because all the cases occurred in houses supplied by that dairy. In 1899 another outbreak occurred at Bleialf in the district of Prüm and was traced to another dairy (Zeitschrift für Medizinalbeamte, Heft ii., 1901).

II. Dr. Schlegtendal of Aix-la-Chapelle has collected accounts of outbreaks traced to polluted milk-supplies in Strasburg, the Canton Lucerne, Connecticut, Montclair had often devoted many hours daily to the services of the hospital where his great experience was always at the disposal of his colleagues. Professor C. Y. Pearson in a few words endorsed all that had been so well said by Mr Donovan. The Rev. Mr. Wilson, one of the governors of the hospital, also bore testimony to the invaluable services rendered to the hospital by the late Professor O'Sullivan and eulogised Professor O'Sullivan's unvarying kindness to the poor. The City High Sheriff (Mr. Augustine Roche) then unveiled the tablet and Dr. J. Cotter, honorary secretary to the staff, read the inscription. The High Sheriff stated that it was a melancholy pleasure to him to take part in that ceremonial as he was well aware of Professor O'Sullivan's merits as a surgeon, and he personally knew that Professor O'Sullivan's great ability and experience were always available for the poor amongst whom he had laboured so long and so well. On the conclusion of the High Sheriff's sympathetic speech the proceedings terminated.

June 18th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Affairs at the Faculty of Medicine.

CERTAIN grave incidents occurring at the Faculty of Medicine have been much discussed since June 7th. Dr. Pupin, the secretary, who has held that post for 20 years, has been suspended, together with the cashier, M. Imoville, who has had charge of the accounts for 25 years. Of course, there was much talk about embezzlement, malversation, and the like, but the facts of the case as obtained from information received at the Faculty are as follows. For many years M. Imoville had been weak enough to make his subordinates advances on the security of their salaries. He was the more easily able to do this from the fact that certain of the professors who were often away or who were in no way pressed for money, used frequently to let their salaries remain unclaimed for some time. But the unhappy cashier fell a victim to his wish to be obliging. Many to whom he had advanced money forgot to pay him and some left the place altogether while still owing him the money advanced. Matters went from bad to worse and so last year, finding himself altogether cornered, he went to the secretary, whose goodness and readiness to serve anyone are proverbial in the Faculty and who is adored by all his staff. To him M. Imoville told the whole story, whereupon Dr. Pupin made the mistake of not immediately communicating with the dean, thus endeavouring to save the unhappy M. Imoville by giving him time to make good the deficit bit by bit. This, however, was but lost labour, for when M. Debove became aware of the deficit and wished to know the exact state of affairs the cat was soon out of the bag. M. Debove at once communicated with the Minister concerned and the cashier and the secretary, his responsible chief, were at once suspended. A searching inquiry is being held and M. Griset, chief clerk of the Education Department, has been appointed secretary of the Faculty in the room of Dr Pupin.

The Hospitals Nursing Staff.

M. Mourier, the director of the Assistance Publique, has recently laid before the Municipal Council a scheme dealing with the hospitals which it is proposed to pull down and to rebuild,[1] together with certain proposals concerning the nursing staff. It is certain that the position of the staff of the Paris hospitals (other than the medical staff) is deplorable. The nurses have to work for 14 or 15 hours a day and then have a short rest in a badly appointed dormitory. This state of matters, of course, reacts most injuriously on the patients. M. Mourier proposes to substitute female nurses in place of male nurses and he also wishes to divide the non-medical staff into two categories, the first to comprise the nurses proper and the second the staff of cooks, laundry-workers, and the like. This innovation will excite great interest, for it is evident that persons who are compelled to turn suddenly from cooking, scrubbing, and washing to the more delicate work of the care of sick cannot of necessity do their work in accordance with the notions of modern asepticism. All the medical staff will, of course, welcome the proposed change. As to the question of the supply of nurses it is proposed to substitute one training-school for those at present existing at the Salpêtrière, Bicêtre, the Pitié, and Lariboisière hospitals. At this school would-be nurses will be trained for two years before serving as nurses in a hospital. A committee nominated by the Assistance Publique is examining into this scheme which, it is estimated, will cost some 200,000 francs annually. This seems a large sum but it must be remembered that there are 5465 members of the honorary medical staff to be dealt with.

Alopecia of Dental Origin.

At the meeting of the Society of Dermatology and syphilography held on June 5th M Jacquet showed a patient who had been attacked by alopecia areata after having suffered from bilateral facial neuralgia. M. Jacquet had treated the alopecia without success and eventually discovered that his patient had three carious molars. A dentist was called in and he extracted two teeth and filled a third. Three days later the neuralgia which had lasted for one year had quite disappeared. 12 days later the patches of alopecia which were perfectly bare were covered with hair. M. Galippe, without wishing to criticise the theory proposed by M. Jacquet as to the dental origin of alopecia, reminded the meeting that so far no dentist appeared to have been struck by the coincidence of alopecia with dental lesions. For his own part he had never seen a case. M. Du Castel related the case of a lady who had consulted him about two patches of alopecia on the nape of her neck. A short time previous to their appearance she had had a tooth filled and the dentist had omitted to place a clean napkin under her head. She considered that she had caught the infection from the head rest. Now was this a case of contagion or was the alopecia the consequence of the dental operation? M. Brocq related a case in support of M Jacquet's contention. It was that of a little girl who had come under his care some two months ago for alopecia. During the first three weeks of her treatment nothing was done to her mouth and the patches of alopecia markedly increased. Now, however, her teeth were being carefully attended to, and while no new patches had developed the original patches had lessened in size.

June 16th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

A Medical Council for Canada.

DR. T. G RODDICK'S Bill has received the sanction of both Houses of the Canadian Parliament. When the Bill was before the Senate an important amendment was proposed and carried which provides that no province should be represented in the council either by elected or appointed members until after the said Act had been adopted by the legislature of the province and had thereby accepted the registration under this board with the provincial board in lieu of the registration with the provincial board. Provision was also made for provinces withdrawing from the council. An additional clause was appended which provided that the Act should not interfere as conveying any power to open medical schools or give medical education. These arrangements were subsequently concurred in by the House of Commons. Dr Roddick well deserves the thanks of the Canadian profession for having carried this Bill through Parliament single-handed.

Montreal Foundling Hospital.

According to the annual report of the medical superintendent of the Montreal Foundling Hospital, 32 infants were in the institution on May 15th, 1901. During the past official year 159 were admitted, making a total of 191 for the year, an increase of 22 over the figures of the preceding year. The deaths numbered 112. The treasurer reported that the total receipts for the year amounted to $6503, and the expenditure to $4799.

Medical Item from Labrador.

Dr Wilfred Grenfell, the English physician who is devoting his life to the amelioration of the fishermen of Labrador, writes to a friend in Montreal stating that at the present time there is great destitution prevalent among the inhabitants. The work of this medical missionary ranges from treating a compound fracture to making a pair of boots from the skin of a freshly killed seal. In summer Dr. Grenfell makes his trips along the coast in the hospital ship *Strathcona*, while in winter time his tours are made on dog sleighs. He has recently established at St. Anthony on the north French shore the third hospital since he began work in that land several years ago.

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[1] THE LANCET, May 10th, 1902, p. 1363.

Montreal Dispensary.

The fifty-second annual meeting of the Montreal Dispensary was held in that city recently and the secretary's report for the committee of management shows that during the past official year the applicants for treatment numbered 16,675, as follows: Roman Catholics, 11,643; Protestants, 4004; other creeds, mostly Jewish, 1028. Medically classified they were as follows: medical and surgical, 8505; eye and ear, 2069; women's diseases, 1725; nose and throat, 912; skin diseases, 1983; children, 1327; and dentistry, 154. The report stated that while 75 per cent. of the poor who received the benefits of the dispensary were Roman Catholics comparatively few of that creed subscribed to the institution.

Interesting Medico-legal Case.

A medico-legal case of some interest to the profession in the province of Ontario has recently been before the courts at St. Thomas. The action was brought by Mrs. Duncombe, widow of the late Mr. Truman W. Duncombe, L.R.C.P. Edin., against the Mutual Life Insurance Company of New York, who had refused payment of a $5000 policy on the ground of "fraud." Mr. Duncombe was a well-known practitioner of Western Ontario, a gentleman 40 years of age, and a medical examiner for the defendant company. He already held several policies in the company when he made the application on July 11th, 1901, for an additional $5000 policy. He filled in his own medical examination paper and got a brother practitioner to sign it who had examined and passed him previously for another company. After some hesitation the company accepted this policy although the examination had not been made by one of their own examiners. On Oct. 2nd in the same year Mr. Duncombe died suddenly and although the company paid all his other claims they refused to pay this one for the reason above mentioned; hence the action. The case hinged on the point whether Mr. Duncombe knew at the time that he wrote out his own examination paper that he was not in good health. It was clearly shown that he had not been examined by his brother practitioner on the date set forth in the examination form. No necropsy had been held after death, but the embalmer had noticed a swelling to the left side of the lower part of the sternum. He had drawn off one and three quarter pints of dark red blood which was clear and which clotted in the bottle. Under these circumstances the medical experts considered that death most probably had been due to rupture of a thoracic aneurysm and that the condition must have been present before Mr. Duncombe had made application for the insurance. The case was dismissed with costs.

The Public Health of Montreal.

The report of the Hygienic Committee of Montreal, for 1900, which has just been issued, deals with some interesting matters. As regards vaccination it shows that there were 6990 vaccinations performed during 1900, 48 only of which were reported as having been done by family physicians. The others were the work of three public vaccinators and of that number 30 per cent. were primary vaccinations. During the year there were 2802 cases of contagious diseases, as follows: diphtheria, 523; scarlet fever, 1107; typhoid fever, 647; and small-pox, 24. The births for the year were as follows: males, 4986; and females, 4906. 2240 marriages were solemnised. Of the 5287 deaths among the French Canadians in the city 3299 were those of children under five years of age; amongst the other Catholics 444 of the deaths were those of children under five years of age. Amongst the Protestants 307 deaths of children under five years of age took place. 55·95 per cent. of the total mortality in the city took place among children under five years of age, and 44 05 per cent. among children above five years of age.

Montreal Physicians Honoured.

A short time ago a complimentary banquet was given by the medical profession in Montreal to three of the oldest and most distinguished physicians of that city—namely, Dr Rottot, dean of Laval Medical College; Dr D. C. McCallum, emeritus professor in the Faculty of Medicine at McGill University; and Sir William Hingston, professor of clinical surgery at Laval. The occasion was the celebration of their golden jubilee in the ranks of medicine. Dr Rottot was admitted in 1847 a graduate of the old Montreal College of Medicine which later became the Victoria and now is the Medical Faculty of Laval; Dr. McCallum was graduated from McGill University in 1850 and for many years held the Chair of Obstetrics; and Sir William Hingston was a graduate in 1851 and has devoted himself almost entirely to surgery of late years. He has been mayor of Montreal and is a member of the Canadian Senate. Over 150 physicians of the city attended the banquet to do honour to these gentlemen.

University Intelligence.

Dr. Bovey, dean of the Faculty of Applied Science at McGill University, has been made a Fellow of the Royal Society of Great Britain. Dr. Bovey came to McGill University in 1872 as professor of civil engineering and applied mechanics. In the following year a department of applied science was instituted of which Dr. Bovey became dean. He has been dean ever since that time and under his able management the faculty has increased by leaps and bounds until to-day few science faculties in the world surpass it.—Dr. James Stewart of Montreal has been elected President of the Association of American Physicians at the annual meeting held recently at Philadelphia. Dr. Stewart is professor of medicine and of clinical medicine at McGill University. He is also physician to the Royal Victoria Hospital, Montreal.—Dr. G. P. Girdwood has tendered his resignation of the chair of Chemistry in the Faculty of Medicine at McGill University. This has been accepted and Dr. Girdwood has been appointed emeritus professor in the Faculty of Medicine. He was appointed professor of practical chemistry at McGill University in 1872 and of chemistry in 1879. He was one of the original Fellows of the Royal Society of Canada.—Dr. Wyatt Johnston has been appointed professor of hygiene in the Medical Faculty of McGill University in succession to Dr. Craik who has resigned.—Sir James Grant, M.D., Ottawa, has been elected President of the Royal Society of Canada. The annual meeting of the society was held recently at Toronto University.

Toronto, June 3rd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Cholera in Manila.

THE outbreak of cholera in Manila which commenced in the middle of March still continues, although there are signs that the epidemic is on the wane. The fatalities from the disease have been nearly wholly confined to the native population; a few Europeans, however, have been stricken and have succumbed. The origin of the outbreak is attributed by the United States chief quarantine officer of the Philippines, Passed-Assistant-Surgeon J. C. Perry, to vegetables brought from Canton. Cholera is said to have existed in Canton for some time before its presence was reported and during this period the Canton vegetables were allowed to be landed in Manila. Manila is the greatest vegetable market of the Orient, as nothing of that character is produced in the Philippines. All such supplies have to be imported and all green vegetables, such as cabbage, celery, lettuce, and cauliflower, have come from the Canton districts. As soon as cholera was diagnosed with certainty the Board of Health of Manila took steps to combat the disease and to curtail its spread. Large detention camps and an elaborate system of inspection were rigidly carried out. Cases of cholera were sent to cholera hospitals' and all contacts and suspects were immediately removed to the detention camps, the infected house being at once disinfected, closed, and placed under guard. A cordon was immediately thrown round the city, ferry-boats and passenger trams were stopped, and all passengers going to the neighbouring provinces, either by rail or small boat, were required to secure a permit from the board of health. All the drinking-water from whatever source was strictly supervised and all green vegetables in the city and markets that were considered as liable to convey the disease were bought and destroyed. The city was also quarantined against the provinces.

New York Board of Health and Soft Coal.

The general strike in the anthracite coal regions has resulted in an extreme scarcity and consequent high price of hard coal in New York city. Many of the large business houses, hotels, and apartment houses of New York for the sake of economy have been burning for the past week bituminous coal which has had an unpleasant effect on the atmosphere. Dr Lederle, the present head of the New York Health Department, has taken cognisance of the matter and has sent out a large number of inspectors to locate the establishments whence the soft-coal smoke proceeds. Section 134 of the Sanitary Code makes it a civil offence for a householder to allow smoke other than white or cinders, dust, gas, or any offensive odour to come from his chimney "Notice will be sent to all persons guilty of the offence to discontinue the use of soft coal within five days and in aggravated cases within 24 hours If the notices are not heeded they will be prosecuted under the afore-mentioned section of the code on a civil charge and in case of the smoke blowing into neighbouring windows the offenders will be held on a criminal charge."

Retirement of Surgeon General Sternberg

Surgeon-General Sternberg will shortly be retired for age from the command of the medical department of the United States Army It is proposed that Dr Sternberg shall be retired with the rank and pay of major general. A Bill to that effect has been favourably reported to the United States Senate by the Committee on Military Affairs. The *American Journal of Military Surgery*, referring to General Sternberg's retirement, says, "The practical and potentially entire extirpation of yellow fever is but one of many scientific and humanitarian acts, rendered possible by his devotion to duty in its broadest and highest sense. With executive capacity of the soundest type, his administration of the enormous business affairs of his office has been characterised by exceptional sagacity and skill, while the military phases of his command have continued to progress with cumulative advantage to the service. General Sternberg's incumbency of the surgeon generalcy, indeed, has been continuously marked by lofty aims and results so beneficial to the army and to the country that his promotion to the grade of major-general prior to his retirement for age would be but a slight recognition of his worth."

Suicide in Chicago

Chicago has always borne a somewhat evil reputation as a city given over to a wearing, rushing, nerve-straining existence and consequently its inhabitants have been esteemed a short-lived race. It now appears that such is not the case, and the bulletin of the Chicago Health Department for the week ending May 24th shows that, on the contrary, Chicago is an exceptionally healthy city and that with the exception of a remarkable tendency to suicide exhibited by its population the metropolis of the West compares favourably in the matter of health with any city of the United States. Deaths by violence have greatly decreased and there has been a decrease of 6 7 in cases of homicide and manslaughter Railway and street-car accidents have also considerably diminished in number The sole blot on this fair picture is the increasing frequency of suicides in Chicago. From 1880–90 inclusive there were 1272 suicides out of 7898 cases of death by violence and there have been 166 cases of suicide since Jan. 1st of this year, an increase of 10 per cent. over the number for the corresponding period of 1901. The Health Department of Chicago some time ago attributed this suicidal tendency to influenza and in the bulletin referred to reiterates the belief in the following words "The relation, as cause and effect, of influenza and suicide is clearly demonstrated by a further study of the figures The fourth great epidemic of influenza in this country began in December, 1889, since which time Chicago has never been entirely free from its infection" Influenza has a peculiarly potent effect upon the nervous system and undoubtedly predisposes its subjects to various forms of brain affections from melancholia to suicidal impulse. It has often been remarked before that influenza is frequently followed by almost uncontrollable suicidal tendencies, and the Chicago Health Department is probably right in ascribing to this cause the increase of suicide in that city

American Congress on Tuberculosis.

This congress opened at the Hotel Majestic, New York City, on June 2nd and lasted for three days. The most important papers, probably, were those read by Dr H. Edwin Lewis, secretary to the committee, and by Dr Adami, professor of pathology in McGill University, Montreal, on the Intercommunicability of Human and Bovine Tuberculosis and the Menace to the Public Health of Impure Milk. Dr Lewis protested against the extreme importance attributed to bacilli in the causation of consumption and argued that efforts are too much directed towards the extinction of the micro-organisms and too little attention is paid to the patient. He then went on to give his views as to the relation of metabolism to human susceptibility Dr Adami in reference to the danger arising from the consumption of impure milk by children, said "As a point upon which we are in absolute agreement it may be set down that under ordinary conditions tuberculosis of domestic animals does not develop by reason of infection from human beings suffering from the disease. The infection is from animal to animal.

Is the existence of tuberculosis among livestock a menace to the farming industry in this country? Undoubtedly it is, and that not so much because here in America the herds are already very extensively affected as because of its great tendency to spread. It cannot be too strongly emphasised in connexion with impure milk that our danger lies in its liability to set up gastro-enteritis in those drinking it, or, in plainer words, acute digestive disturbances, especially in young children I do not know if you appreciate the terrible mortality—one far exceeding that from tuberculosis however produced—which there is among children from six months to one year, a mortality which can only be put down to the consumption of milk which is crowded with acid producing putrefactive germs"

June 9th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT)

The Plague

THE bubonic plague continues its course in Sydney and Brisbane at about the same rate. Every week several cases occur, last week, for instance, in Sydney seven cases were reported, one patient died and four were discharged from hospital, where 32 remain. In Brisbane three or four cases occur weekly No cases have been reported from the other states. A curious development has taken place in Sydney where the animals at the Zoological Gardens have been severely attacked by plague, especially the kangaroos and wallabies, since April 3rd 19 animals and two birds have died. It is supposed that the disease spread to them by the medium of fleas from plague-infected rats. This is the first known infection of marsupials with bubonic plague. The gardens have been closed and all the premises in which the animals are housed have been cleansed and disinfected. One of the difficulties in dealing with the plague in Sydney is the existence of old sewers, laid down in early days, the plans of which have been lost. Most of them are in disuse but at low levels and consequently full of filth. All, moreover, act as nurseries for rats, and the Mayor of Sydney stated recently his opinion that the plague will never be stamped out till these old sewers are abolished. But, as is usually the case in 'board-ridden Sydney," there is conflict of opinion as to whether action should be taken by the city council, the Water and Sewerage Board, or the Public Works Department of the Government.

Friendly Societies and Medical Contracts.

A conference was recently held between delegates from the friendly societies in the western suburbs of Sydney and from the Western Suburbs Medical Association to consider a proposal to have one uniform medical contract in use in all lodges in the district A draft contract was submitted and discussed and a copy sent to each lodge for consideration of its members, after which a second conference will be held.

Hospital Affairs

The "imbroglio at the Women's Hospital," Melbourne, to quote the newspaper headings is slowly resolving itself The committee declined to re-instate the dismissed resident medical officers and called for applications. Only one was received, from Mrs. Martell, M B., a former resident, who was appointed Then another difficulty arose. Dr Muir, the resident medical officer in the infirmary department of the hospital, declined to relieve Dr Martell and to obey the rule of the hospital that only one of the responsible officers of the hospital shall be absent at a time, saying that it had never previously been enforced and was regarded as obsolete. It is understood that a compromise is being arranged but no applications have been sent in for the position of junior medical officer to the midwifery department.—At the Melbourne Hospital the accounts for the first quarter of the year show a deficiency of over £600 The committee states that if expense is to be further reduced it can only be done by closing some of the wards, although the accommodation is not at present nearly sufficient to meet the demands made on it. It is suggested that more should be contributed by the municipalities. Dr. J. W. Barrett has been appointed consulting oculist and Dr. W. K. Hughes consulting aurist to the hospital. Plans have been prepared for the new sanatorium for consumptives to be erected at Wentworth, New South Wales. The buildings provide for 20 patients in three pavilions and two night-room cottages. The sanatorium is to be completed in five months. 24 applications have been received for the position of resident medical officer, at a salary of £300 per annum, with board and residence; of these, none were from Australia, 15 were from Great Britain, four from Germany, four from the United States, and one from Fiji.

Nurses' Examinations.

A conference was recently held of representatives from the Melbourne Hospital, Alfred Hospital, Melbourne Children's Hospital, and Victorian Trained Nurses' Association to arrange for a uniform standard of instruction and examination for nurses and the appointment of a conjoint board of examiners in the final subject of nursing. The proposals were agreed to and it was decided that the committees of the three hospitals represented should nominate a member of the honorary medical staff and the Nurses' Association, two medical men to form the conjoint board. Dr. Thomas Cherry, lecturer on bacteriology at the Melbourne University, has been appointed bacteriologist and scientific daily expert to the Agricultural Department of Victoria. He is to receive a salary of £600 a year and travelling expenses. He will continue to control the bacteriological laboratory at the University, but a demonstrator and assistant lecturer will be appointed to assist in the university teaching.

Obituary.

Dr. William Snowball, who died on April 22nd, was the first in Victoria to make the study and treatment of children's disease a specialism. He had a marked personality and was a capable and exceedingly successful practitioner. He was born in Carlton, a suburb of Melbourne, where he passed the greater part of his life and was only 47 years of age at his death On leaving the Church of England Grammar School he entered the Medical School of the Melbourne University, where he passed his final examination for the M.B. degree before the statutory age of 21 years and had to wait some time before graduating in 1875 He subsequently visited Europe and studied more especially the diseases of children, and on his return he entered on that close association with the Melbourne Hospital for Sick Children which lasted till his death. When he was first appointed resident medical officer the hospital was a small affair conducted in a private house and the staff consisted of general practitioners. Very largely as the result of Dr. Snowball's indefatigable efforts the hospital extended its operations and the specialism became more and more defined. At the same time Dr. Snowball himself became the acknowledged authority on children's diseases in Australia and had an immense and lucrative practice. He was a man of great natural sympathy, tact, and intuition, that enabled him to manage his little patients with marked success. He was an omnivorous reader of all kinds of literature and very catholic in his tastes One of his greatest pleasures was to help his younger brethren in the profession, and during his whole career the Children's Hospital was always first in his thoughts, and his large private practice was never allowed to interfere with his attendance at the hospital.—The late Robert Denham Pinnock, M.D.Glasg., who died suddenly while on a shooting excursion, was for many years the leading medical practitioner in Ballarat. He was born near Melbourne in 1849, was educated in that city, but graduated as M D. at Glasgow. He settled in Ballarat on his return to Victoria and soon established a large and lucrative practice. He was for years on the honorary staff of the Ballarat Hospital and was a capable surgeon, though conducting a general practice. He took a prominent interest in public affairs, was a vice-president of the school of mines, and a member of the council of the art gallery. For many years he held a commission in the militia He was extremely popular both with the profession and the public and will be a great loss to Ballarat.—Dr. Sydney Henry Schrader of Waverley, New South Wales, died on March 26th after a protracted illness at the early age of 36 years. He was a native of New South Wales and the son of a medical man. He studied medicine in the University of California, U.S.A., where he took his M.D. degree in 1893. He commenced practice in Narrabri in partnership with Dr. Henry and seven years ago moved to Waverley where he had an extensive practice. He held the rank of captain in the Royal Army Medical Corps and was attached to the Engineers. He was also an enthusiastic supporter of the game of bowls. He left a widow but no children.

May 8th.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At examinations for medical and surgical degrees, Easter term, the following candidates were successful:—

SECOND EXAMINATION.

Part I., Pharmaceutical Chemistry.—H. E. T. Dawes, St. John's; G. B. Fleming, King's; H. A. Hancock, non-collegiate; V. C. Honeybourne and R. McC. Linnell, St. John's; C. H. Rippmann, B.A., King's; H. A. Smith, B.A., H. Selwyn; F. J. Thornton, Caius; and D. R. P. Walther, Pembroke.

THIRD EXAMINATION (NEW REGULATIONS).

Part I., Pharmacology and General Pathology.—H. C. Cameron, B.A, St. John's; H. M. Clarke, B.A., Clare; D. R. T. Clarkson, M.A., H. Selwyn; R. P. Cockin, B.A., Caius; H. Dodson, B.A., Downing; W. G. P. Ellis, M.A., Catharine; H. Falk, B.A., King's; H. J. Fardon, B A., Christ's; G. R. Footner, B.A., Pembroke; E. Gardner, B.A., Caius; C. B. Goulden, B.A., Non-Collegiate; F. W. Goyder, B.A, and J. R. C. Greenlees, B.A., St. John's; G. H. Harper-Smith, B.A., Caius; C. King, B.A., Trinity; G. H. K. Macalister, B.A., and O. V. Payne, B.A., St. John's; W. H. Robinson, B.A., Downing; C. T. Y. Robson, M.A., St. John's; E. W. Sheaf, B.A., Downing; and G. C. E. Simpson and G. A. Ticehurst, B.A., St. John's.

FREEMASONRY.—*Rahere Lodge, No 2546.*—The installation meeting of this Lodge was held in the Great Hall of St. Bartholomew's Hospital (kindly lent for the occasion by the treasurer and almoners) on June 10th. Mr. John C. Baker, M.B. Lond., and Mr. Wilfrid H. W. Attlee, M.B. Cantab., were initiated into Freemasonry and Bros. Cross, Griffith, and Drysdale were elected members of the Standing Committee. W. Bro. Phineas S. Abraham, M.D. Dub., the outgoing W.M., installed his successor, Bro. George H. R. Holden, M.D. Cantab., as W.M. for the ensuing year. W. Bro. Holden then invested as his officers: W. Bro. Ernest Clarke. F.R.C S. Eng., S.W; W. Bro. J. H. Gilbertson, P.P.G.D. Herts, J.W.; W. Bro. the Rev. Sir Borradaile Savory, Bart., P.G C., Chaplain; W. Bro. Clement Godson, P.G.D., M.D. Aberd., Treasurer; W. Bro D'Arcy Power, P.G.D., F.R.C.S, Eng, Secretary; Bro. H. J. Waring, F.R.C.S. Eng., S.D.; W. Bro. W. Haig Brodie, P.P.G.D. Surrey, M.D. Edin., J D.; W. Bro. F. Swinford Edwards, P.M., F.R.C.S. Eng., Director of Ceremonies; Bro. J. H. Drysdale, Assistant Director of Ceremonies; Bro. G. H. Robinson, Mus. Bac., Organist; Bro. H. W. C. Austen, M.D. Lond., I.G.; Bro. M. J. Anderson, Steward; and Bro. W. H. Cross, Bro. O. H. Cosens, Bro. M. L. Trechmann, F.R.C.S. Eng, and Bro. S. R. Scott, Assistant Stewards. The lodge passed a resolution approving of the formation of a Royal Arch Chapter of the Hospital Lodges to be affiliated to the Rahere Lodge and appointed W. Bros. Holden and D'Arcy Power to serve as representatives on a sub-committee to carry the proposal into effect. A Past-Master's jewel was unanimously awarded to W. Bro. Abraham for his services to the Lodge during his year of office and presented by W. Bro. Holden. W. Bro. Abraham, in reply, expressed his sincere thanks. The report of the audit committee was received and adopted. It showed that the financial position of the Lodge was satisfactory and that the sum given away in charity during the past year amounted to £60 18*s.* A grant of £5 was unanimously voted as a first instalment for the benefit of a brother in distress. The brethren subsequently proceeded to Frascati's Restaurant where the banquet was held. The attendance was a large one and a most enjoyable evening was spent, an excellent entertainment being provided by Bro. Walter Churcher, Bro. Astley Weaver, and others.

FEEBLE-MINDED CHILDREN AND THE LONDON SCHOOL BOARD.—At the weekly meeting of the London School Board on June 12th it was decided on the recommendation of the General Purposes Committee to appoint Mrs. F. M. D. Berry, M.D., B S. Lond., as assistant (lady) medical officer, under the direction of the medical officer, at a salary of £250 per annum. Dr. Berry will be employed in the work of the medical officer's department, but chiefly in connexion with the examination of children requiring special instruction—viz., feeble-minded, crippled, blind, or deaf—and to examine all female teachers and officers in the board's service and candidates for appointment by the board.

THE DANGERS OF NICOTINE PROSECUTION BY THE PHARMACEUTICAL SOCIETY.—At the Kingston-on Thames County Bench on June 12th Joseph Hutchinson, seed and artificial manure merchant, appeared to answer three summonses for selling a poisonous vegetable alkaloid known as nicotine without having his name and address on the bottle, for selling the poison to an unknown person, and for failing to make an entry of the sale in a book kept for the purpose, contrary to the provisions of the Pharmacy Act, 1868. Mr. Vaughan Williams, in opening the case, said that the poison the defendant was charged with selling was contained in a compound known as "The XL All Vaporiser Fumigator," used for the destruction of insects in greenhouses, which was made up of a number of various kinds of poisons, but a two-ounce bottle contained sufficient nicotine to poison hundreds of persons.—Harry Moon, clerk to the Registrar of the Pharmaceutical Society, stated that there was a label on the bottle containing the following 'Tobacco is generally considered to have somewhat poisonous properties, and the juice of tobacco which collects in the stem of a pipe is well known to be poisonous. This compound contains the concentrated nicotine of tobacco and should be kept in a safe place and out of the reach of children."—Mr. Dobbs, addressing the magistrates for the defence, urged that an article of this kind which was sold for trade and technical purposes had been held to be exempt from the provisions of the Pharmacy Act. If it were not so the businesses of many tradesmen would be ruined and it would be vesting a monopoly in poisons in the hands of chemists, a thing that the Legislature never contemplated.—The magistrates having conferred in private the chairman said they considered the case proved and the defendant would be fined £2 on each of the three summonses, including costs. The bench consented to state a special case for the Court of Appeal.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

The Midwives Bill.

THE Midwives Bill has now passed through all its stages in the House of Commons and will not be seen again there unless the House of Lords makes some alterations in it. In that event it will be for the House of Commons to signify its approval or disapproval of the changes. In the House of Lords the measure will still be regarded as a private Member's Bill, but there can be no difficulty in finding time for its discussion. It was formally introduced on Monday, June 16th and put down in the name of the Duke of Northumberland for second reading on Friday, June 20th.

The Sale of Butterine.

The Bill introduced by Mr. Hanbury with reference to the sale of butterine extends to this article the margarine clauses of the Sale of Food and Drugs Act of 1899 with certain exceptions. For instance, it does not propose that the restriction upon the amount of butter fat in margarine shall apply to butterine and it says that the wrapper containing the butterine shall have a label indicating that the butter has been adulterated or impoverished and approximately to what extent.

HOUSE OF COMMONS.

WEDNESDAY, JUNE 11TH.

Scotland and the Conscientious Objector.

Mr WEIR asked the Lord Advocate if the Secretary for Scotland would consider the expediency of introducing legislation such as would admit of the Conscience Clause in the Vaccination Act of 1898 being extended to Scotland.—The LORD ADVOCATE replied: The Secretary for Scotland sees no reason for introducing legislation of the kind suggested by the honourable Member and cannot undertake to do so.

Sanitary Accommodation in Factories and Workshops.

Mr TENNANT asked the Home Secretary whether he had yet issued an order setting forth a standard of sanitary accommodation in factories and workshops; and, if so, whether he could lay it upon the table of the House.—Mr RITCHIE said: The consideration of this matter has necessitated a great deal of inquiry, but the chief inspector has now submitted his proposals, and although one or two points still require consideration I hope to be able to publish the draft order shortly.

The Use of Alcohol in Manufactures.

During the committee stage a clause was inserted in the Finance Bill enabling the Commissioners of Inland Revenue to exempt from duty after consideration of the circumstances of each case pure alcohol used in manufactures. The clause was brought forward by Mr HALDANE who explained that owing to the duty manufacturers in this country were placed at a great disadvantage in their competition with foreign manufacturers. He instanced the case of manufacturers of explosives and of drugs and perfumery. Nearly all the chloral used in this country had, he said, to be made abroad, whilst the export duty of chloroform made the cost of landing it in Australia to the British manufacturer double the cost to the German manufacturer. In the same way on account of the duty on pure alcohol much valuable research work had to be done abroad. With the clause in operation all this trouble might be obviated.

THURSDAY, JUNE 12TH.

Fees for Vaccination Exemption Certificates.

Mr SPENCER asked the Attorney-General whether his attention had been called to the variety of practice as to the charging of fees for a certificate of exemption from compulsory vaccination and as to the doubts which exist as to the payment of such fees and whether he could suggest any method for abolishing such fees.—Mr RITCHIE replied to the question saying: It is true that the fees referred to vary in different places; but so also, and to a greater extent, do other fees similarly fixed by tables prepared by local authorities. When the tables are submitted for the approval of the Secretary of State every effort is made to secure uniformity, but his power does not extend to enforcing it. I am not aware of any doubt as to the power of the local authorities to fix such fees. But I may say that the Northamptonshire Standing Joint Committee have recently submitted to me a table from which it would appear that they do not desire that such fees should be charged within their jurisdiction. The matter is receiving consideration.

Scotch Parish Councils and their Medical Officers.

Mr WEIR asked the Lord Advocate if the Secretary for Scotland would consider the expediency of recommending parish councils throughout the Highland crofting counties, by means of circular or otherwise, to make arrangements such as would admit of parochial medical officers obtaining an annual holiday as in other parts of the United Kingdom.—The LORD ADVOCATE: I am informed that this subject was considered by the Local Government Board in 1900 and that their views are fully stated in their report for that year at page 25. The Board do not propose to do more than is there stated.

FRIDAY, JUNE 13TH.

Cremation Bill.

This Bill was considered on report and was afterwards read a third time. It has already passed through the House of Lords.

TUESDAY, JUNE 17TH.

London Water Bill.

Mr LONG, in reply to a question as to the further procedure on the London Water Bill, said that on the return of the measure from the Joint Committee it would be considered in Committee of the whole House and would subsequently be treated as a public Bill. He could not at present say when the Bill would be taken.

Proposed Medal for Hospital Ship Crews.

Mr FORSTER asked the Secretary of State for War whether a medal had ever been issued to commemorate any war or warlike operations and granted to the masters and officers of transports or hospital ships; and, if so, whether, in view of the great services rendered to the country by the masters, officers, and crews of the transports and hospital ships employed during the war in South Africa, it was intended to grant to them the South African medal.—Mr BRODRICK replied: There are precedents for the award of medals to the masters of transports and hospital ships in a few exceptional cases. The question as to whether these precedents should be followed to any and, if so, to what extent in the case of the masters, officers, and crews of transports and hospital ships employed during the war in South Africa is at present under consideration and I am not as yet in a position to make a statement on the subject.

Hours of Women in the Fruit Preserving Trade.

Mr TALBOT asked the Home Secretary whether he would reconsider the Order issued by his authority for fruit preserving under the Factory and Workshop Act, 1901, with a view of preventing the undue employment of adult women for excessive hours under Article 5 of the Order, and extending the exception given by Article 6 of the Order to young persons under 18 instead of only to those under 16 years of age.—Mr RITCHIE replied: I think the Draft Order goes as far as it is safe to go at present. After a year or two of experience of its working it may be possible to make a further advance but even if I were satisfied that the honourable Member's suggestions were practicable I should hesitate to adopt them now at the cost of delaying for 40 days the bringing into operation of the new Order.

WEDNESDAY, JUNE 18TH.

Prison Medical Officers and their Duties.

Mr CONDON asked the Chief Secretary to the Lord Lieutenant of Ireland whether Mr Corr now a prisoner in Clonmel Gaol, under the Criminal Law and Procedure (Ireland) Act, applied on May 10th to the medical officer of the gaol for an hour's additional exercise on the ground of ill health caused by continued confinement in his cell; whether the doctor replied that he was a bail prisoner and could leave when he liked and that if he were in another class it would be a different matter; whether the governor told the doctor that Mr Corr could not leave as he was undergoing another sentence running concurrently with the bail sentence; whether the doctor refused the application; whether Mr Corr is still in solitary confinement; and whether medical officers of prisons were entitled under the prison rules to differentiate in their treatment of prisoners whether bail or otherwise.—Mr WYNDHAM replied: The application made by the prisoner on the 17th (not the 10th) May was not made on the ground of ill health. He complained of the confinement but stated that he was in good health, a statement with which the medical officer concurred. The doctor observed that it would be desirable to give bail if he wanted greater freedom as, unless on medical grounds, he could not interfere with prison rules. The doctor has no recollection of making a reference to his being in another class. The reply to the third query is in the affirmative. In reply to the fourth query, the doctor did not recommend an extension of exercise inasmuch as he was unable to do so on medical grounds. The prisoner is in solitary confinement only in the sense that he occupies like all other prisoners a separate cell. He is exercised in association with other prisoners of his class in the open air for two hours daily. In reply to the concluding inquiry medical officers are not so authorised except on medical grounds.

THE MIDWIVES BILL.

THIRD READING DEBATE: FULL REPORT.

ON Friday, June 13th, two hours of the time of the House of Commons were devoted to a debate on the motion for the third reading of the Midwives Bill. Before the debate began the opening sentence of the first clause was amended so as to make it clear that the Act as a whole will come into operation on Jan. 1st, 1905, and the penalty provision on Jan. 1st, 1910.

Mr. GRIFFITH BOSCAWEN said that while he did not intend to oppose the third reading he thought the Bill was so exceptional in its character that he could not allow it to pass without a few words. The Bill was contrary to the whole course of legislation on these questions. For many years past Parliament had endeavoured to strengthen the law against what he might call quack or inferior practitioners. In the present state of the Medical Acts no medical practitioner could practise midwifery unless he had qualified, not only in that subject, but also in medicine and surgery. Now this Bill entirely reversed that policy. Instead of making the qualification more strict it made it far more easy. It enabled people to practise who were only qualified in midwifery and he was afraid that in many cases their qualification would not be very high He quite recognised that there were special reasons why this course should be adopted. In the first place, although the law laid down these high qualifications for medical men, the fact remained that in practice the great bulk of the poorer classes did not resort in ordinary cases of labour to the medical profession but to midwives. Many of these women were ignorant, untrained, unregistered, and unregulated, and had been the cause of much suffering and mortality which was preventable. He apprehended that the reason why the poorer classes did not avail themselves of the services of medical men was that they could not afford to pay the charges, but he must point out that unless the amendment inserted during the report stage had been inserted the Bill would have been perfectly useless, because the unqualified and untaught practitioner would have been allowed to continue her practice and, just as now, the poorer classes would have gone to her instead of to the qualified person. Had the Bill passed in its original form the unregistered woman would have been preferred to the registered woman because of the cheaper charge of the former and thus the evil complained of would have continued. He admitted this and it was because of the acceptance of the amendment that he had withdrawn his opposition to the Bill. There had been strong objections pressed against this provision to prevent after Jan. 1st, 1910, uncertified women practising habitually and for gain and he had heard sinister rumours that attempts might be made to remove it when the Bill reached another place. He knew that the Home Secretary spoke most strongly against it and that he felt most strongly against it and he told the House that for his part he could not accept the amendment He had thought a great deal about the speech of the Home Secretary and he failed to understand his objection The right hon. gentleman said that the amendment would prevent not merely the unregistered woman from nursing in a midwifery case but from watching the other children, cleaning the house, and performing other menial duties for a friend. He (Mr. Griffith Boscawen) could not see how that would follow. The words of the amendments were "habitually and for gain attend women in childbirth" What, therefore, was contemplated was the actual nursing and attending the women in the course of labour. If the words were not sufficiently clear they could be amended so that there should be no risk of interference with menial duties such as the Home Secretary had described.

Mr. JESSE COLLINGS Who is to pay?

Mr. GRIFFITH BOSCAWEN: The person who employs the woman must pay her.

Mr. JESSE COLLINGS: And he an agricultural labourer

Mr. GRIFFITH BOSCAWEN said that if the right hon. gentleman suggested that the agricultural labourer could not pay for this assistance the Bill was of no use He confessed that he should have liked to see the Central Midwives Board made a stronger body and he also thought that the local control ought to be stronger. He, however, did not oppose the Bill. At the same time it was a peculiar Bill and ought not to be taken as a precedent.

Mr. RENSHAW said that he could not agree with the views expressed by the hon. Member. His fear was that the amendment which had been introduced would cause great difficulty in many rural parts of the country. He believed there were many places where it would be perfectly impossible without great expense to bring a trained midwife to attend cases of labour. This ought to be considered, and he thought that if any words approaching those introduced in the Bill were to be maintained they ought to be modified in the direction of making it possible to put some charge upon a public rate so that hardship might not be involved. There was another point to which he wished to refer. The hon. Member for the Scotland Division of Liverpool (Mr. T P. O'Connor) had succeeded in getting on the Central Midwives Board a representative of the Royal British Nurses' Association. He congratulated him on his success and he wished to make an appeal for a representative of the Queen Victoria Jubilee Institute for Nurses. This institute was doing excellent work in every part of the country and he thought was entitled to a representative As the secretary informed him in a letter, the institute was engaged in supervising midwives all over the country and was constantly training them; it had on its roll at present between 400 and 500 midwives.

Mr. ERNEST FLOWER joined in this appeal.

Dr. THOMPSON said that there was no doubt whatever that the medical profession generally throughout the country was not at all satisfied with this Bill, but as medical men knew the great interest the hon. Member (Mr. Heywood Johnstone) had taken in the matter they had waived a great many of their objections, hoping that the discussion which had taken place might in the near future lead to an amending Bill. In Ireland they had almost as perfect a system of looking after lying-in women as was possible. They had well arranged dispensary districts and in each district a medical man with a midwife under him. The midwife could not act herself. The woman who was about to be confined got a line and went to the medical man and the latter sent a midwife to look after the patient. The medical man was in touch with the case and if the midwife saw anything wrong she sent for the medical man who came and did all he could for the patient He held that poor people had a right to this assistance. He was not quite sure that the Government were at all in favour of the very necess amendment which had been introduced during the report stage. E had heard the Under Secretary for Home Affairs say that it would be terrible thing to deprive poor people of the help of these handy wome in their time of trouble. Had the right hon. gentlemen ever heard antiseptic treatment? The very thing which they wished to gua these poor people from was dirt and he held that the very last thin that these handy women should do was to clean the house.

Mr. JESSE COLLINGS. But who is to pay for it?

Dr. THOMPSON said that if they established a proper system of di pensary districts as in Ireland there would be no trouble about t paying because the cost would be put upon the rates. He could testi to the danger that arose from the employment of these handy wom from their ignorance and carelessness and dirty habits. There we many defects in this Bill but still there were some good things in and he thought he might say this for the medical profession that th were not a money-grubbing profession. When they saw sufferi medical men never hesitated to relieve it, regardless of any consider tion of payment There was no profession which did more gratuito work. There was no medical man in the three kingdoms who wou not support him when he said that the amendment which had be introduced was absolutely necessary in the interests of the poor a his earnest hope was that the amendment would be retained.

Mr. PARKER SMITH said he did not think that the last speaker h said a word too much about the unselfish work of the medical pr fession. Everyone wished that poor women should in their time trouble get the very best skill, but how was it to be got? They h to look the facts in the face and they found that only a small propo tion of these women were able to afford the assistance of members the medical profession. Then it was admitted that an enormo amount of mischief was done by the ignorance and dirty habits of mi wives. This Bill was an endeavour to do as much as cou be done in the way of improving the state and the education midwives They must proceed gradually. He wished they could further than this Bill and he should be delighted if he thought it p sible to go further and insist upon higher qualifications, but he was opinion that any attempt to make the thing too stringent, to dema too elaborate qualifications, would simply be to make the thing impo sible and unworkable. He hoped that in the future they would be ab to make a further advance. In his opinion this Bill was a real st forward and would improve the quality of the ordinary midwife up a down the country. An hon. Member (Mr. Griffith Boscawen) had sa that the Bill was contrary to the tendency of the law. He should ha said that it was exactly in accordance with the law which w to restrict quacks and other unqualified professors of medicine. T law in other respects had not been to forbid unauthorised practi because it had been felt generally that that was perfectly impossibl It had been to register those who were qualified and to take every pr caution that those who were not qualified should not pretend that th were. The law could not stop them from practising altogether T law could not prevent him from taking advice from anyone in rega to his health or anything else, and from paying if he was so incline but the law could make sure that he did so knowing well that he w going to someone not recognised by the faculty. After this had be done everyone must be left to form his own judgment. He shou like to stop quacks very much but he was afraid that a Bill to th effect would not have very much chance of passing through th House He cordially supported the amendment which had been intr duced and he would be no party to any attempt to get it taken out the Bill in another place. He believed that during the interval seven years many of the women now in practice would be able acquire the knowledge and experience necessary for admission to t roll of midwives As a suggestion he thought provision might be ma for the admission to the roll of women of good character who we engaged in practice in 1910. What he thought about members of t medical profession was that sometimes they had been rather impra ticable in asking too much all at once and taking the line that becau they could not get all they wanted they would take nothing at all. the same time he believed that all through they had been actuated the highest motives

Sir WALTER FOSTER said that the present position was a somewh difficult one. They met a week ago with seven pages of amendments this Bill on the notice paper and with hardly any prospect apparent of the stage being completed at that sitting Then suddenly a almost unexpectedly they were all in harmony with referen to the Bill and the Bill passed rapidly through the report sta and was now before them for third reading. He hoped that t change made in the Bill would be maintained at all costs. La week they did not receive any explicit declaration from t Government of their adhesion to the new principle introduc into the Bill On the contrary, the Under Secretary for the Hom Department made a speech of considerable fervour defending t position of the unqualified practice of midwifery in rural district With that defence he had a considerable amount of sympathy. E thought, however, that the fears of the right hon. gentleman we exaggerated because under the Bill women in practice who were o good character would be able to go under the roll of midwives and so be able to carry on their calling without difficulty. The right hon. gentleman was very properly indignant with reference to the terms applied to some of these women. They had been called dirty but not in the ordinary sense. The term had been used in the purely scientific sense All that was wanted was that ignorant and untrained persons should not in the future be allowed to perform one of the most delicate and responsible functions which a woman could be called upon to perform for one of her sisters He wished to elicit from the right hon. gentleman a pledge that whatever changes might be made in the Bill at all events the words "habitually and for gain attend women in childbirth" should not be interfered with because the whole compromise, or so-called compromise, of last week hung upon the insertion of these words and the adoption of the date of Jan. 1st, 1910. They had given away a great deal by accepting this and he should be sorry if anything were done to interfere with the amendment. There was no thought of protecting the medical profession—he disavowed that entirely, but he did want that when the Bill became law care should be taken that at some day earlier than 1910, or even later, they should have security that every woman who performed these important functions was a properly instructed and informed person He could not say that he was satisfied with the constitution of the Central Midwives' Board. He did not think that the relation of county councils to the Bill was sufficiently defined and he did not think that the present form of it would work very freely. He should like to see the medical officer of health in every locality made more directly responsible for the supervision of these midwives. If they did something of that kind they should reinforce the very proper and just demand made generally that every county council should now have a medical officer of health. Altogether, he believed that this Bill was only part of a large measure of legislation which was needed by the country. He did not think that it was right to have been left in the hands of a private Member, and now that the Home Office had assumed to some extent some responsibility for the Bill he hoped that the Home Office would look after it very carefully and see it was not altered on the point he had named. In his view there was needed legislation for the exercise of supervision over all classes of nurses in the country.

Mr. BANBURY expressed general approval of the Bill.

Mr. T. P. O'CONNOR said that he entirely sympathised with the desire that the Jubilee Nurses should be represented at the Central Midwives Board, and in this connexion he pointed out that the Board was to a large extent a London Board, and he thought it would be well to have some representation on it of the provinces. He also suggested that the rules to be framed should be laid on the table of Parliament in order that, if necessary, Members should have an opportunity of discussing them. As to the compromise, he hoped that the Home Secretary would accept the verdict of this House. With regard to what the Home Secretary had said about himself, he would only ask the House to remember that when he voted against the proposal in the Grand Committee he was making the best battle he could to get some form of compromise. He admitted that difficulty might be encountered in the rural districts, but he would ask the House to bear in mind that they had begun a good work and he hoped they would continue it. He hoped that the promoters of the Bill would endeavour to assimilate the English to what prevailed in Ireland in this connexion. He thought it was somewhat discreditable to a rich country like England that it should lag behind Ireland.

Mr. COHEN accepted the Bill as a distinct advance.

Sir FRANCIS POWELL said that he had felt great regret that many of his medical friends had not regarded this legislation with more favour, but he was confident that when the Bill came into operation their views would undergo a change.

Mr. SCHWANN spoke in favour of the Bill.

Mr. JESSE COLLINGS said that he wished to reply to the appeal which had been made to the Government to pledge itself to take charge of the Bill in another place. It must be evident to the House that the Government could give no such pledge. From the beginning it had been perfectly understood that this Bill was not a Government Bill but was solutely in the hands of the House to deal with it as it thought best d that would be the position, he presumed, in another place. He ould vote for the third reading for two reasons. The Bill without e amendment which had been introduced was a thoroughly good Bill d a long step in the right direction—it prevented the term "midwife" ing used in a fictitious manner by those who were untrained and fit for the office. The second reason was that after the conciliatory d courteous manner in which the hon. Member (Mr. Heywood hnstone) had piloted the Bill through the House and the Grand mmittee it would be somewhat uncourteous to throw away his bours. The amendment which had been introduced would prevent y woman doctor from attending a childbirth.

Sir WALTER FOSTER: Women doctors practising in our large towns e all legally qualified for the practice of midwifery.

Mr. JESSE COLLINGS: But they would not be able to attend a child-rth unless they qualify under this Bill.

Sir WALTER FOSTER: They would be in exactly the same position as y medical man; they would be able to attend any case of midwifery.

Mr. JESSE COLLINGS said that in that case he did not know the meang of the words that no woman should attend a case of childbirth. It as a matter, however, that could be put right. He opposed the nendment because he believed it would inflict hardships upon the orer classes. He was glad to hear that the terms "Sairey Gamp" nd "dirty" and "ignorant" had been applied scientifically, but even applied he did not think that the terms should have been used. As class these women were honest and respectable people, and although ot trained scientifically they were trained by practice in the calling hey followed and at any rate they were an indispensable class. When he Irish dispensary system was recommended he would point out that his system should come first and the penalty afterwards. While proesting against this particular provision he offered no opposition to the hird reading of the Bill.

Mr. HEYWOOD JOHNSTONE said that he had no objection to the Queen ictoria Jubilee Institute for Nurses having a representative on the entral Midwives Board, all the more so because he believed that every urse trained under the rules of the institute was obliged to be a ualified and efficient midwife. He did not pretend that the ill was a perfect or final or complete settlement of what was n extremely difficult and important question. It might be, and e dared say it would be, but the beginning of that better state of hings which they were told prevailed in Ireland and which he hoped might in due course prevail in England when they had the experience and knowledge which would be gained by the Central Midwives Board created by the Bill. He had never regarded this as a final measure in any shape or form. He was only too glad to see the necessity for legislation recognised by the decision of the House. He had been invited to throw out some indication of what course might be pursued by the promoters of the Bill in regard to the amendment penalising unqualified practice in the other House. Bearing in mind that the insertion of these words was the result of a compromise he could only say for his part that he could neither directly nor indirectly in any way be a party to attempting to upset the compromise. He felt that in such a matter he ought not even to be approached on the subject either privately or publicly and he felt, too, that he ought to abstain from even an indication of his own opinion of what his own preference might be as to the retaining or the omitting of these words. There were grave and weighty arguments that might be used on both sides. On the one side it might be said, and truly said, that the penalising of unqualified practice was recommended by the Select Committee of 1893. It might be said also that it was urged with all the force of a strong medical opinion behind it, and he thought it might be said with even more force that it had often been said that much suffering and much mischief to the poor would still continue to result if they permitted people unqualified, ignorant, and untrained to carry on a practice so responsible and so full of possibilities and dangers. On the other hand, they had the strong argument that if not actually contrary it was certainly greatly in advance of the current of legislation dealing with these matters, that it was for the first time preventing persons from exercising a calling, which up to now from the days of the Pharaohs and even before had been a perfectly legitimate calling. They had also to bear in mind that it might be difficult or impossible to replace those who would be thrown out of practice. And there was besides the argument of the Under-Secretary that people of small means might be prevented from getting the assistance to which they had been accustomed. It had been suggested that this assistance might be provided out of the public funds. That was perhaps rather a delicate matter to touch upon, and he knew that many of those who belonged to the poorest class would shrink from availing themselves of public money; they had an honest and honourable feeling against it. He made these remarks with a view of pointing out to the House how many arguments might be fairly advanced upon both sides of this question, and he hoped that in doing so he had said nothing whatever to indicate any preference or judgment of his own on one side or the other. He was able to approach it from a perfectly impartial point of view because it had been his fate and duty to argue both sides of the question. The Bill left him with fragrant memories of zealous and kindly sympathy, of help tendered and given by many valued friends, by many unknown and he was afraid also unacknowledged, but not the less well-appreciated friends, and memories of useful criticism, of helpful suggestion, and of opposition in which if there was ever bitterness it had merged into respect, and respect had been succeeded by thorough goodwill and fellowship.

Mr. TOMLINSON, while speaking in favour of the Bill, hoped its provisions would be carefully scrutinised.

Lord HUGH CECIL suggested that the exact position of the Government with regard to the Bill should be explained.

Mr. JESSE COLLINGS said that he thought he had explained very clearly that this was not a Government Bill. From the beginning it had been regarded as a Bill fully in the possession of the House and one for which the Government was not responsible.

Lord HUGH CECIL: Then I understand that the Government does not consider itself to be in any degree bound by the compromise arrived at?

Mr. RITCHIE: I must make it quite clear. My position in regard to the matter is this. I prefer the Bill as it was originally but I very much prefer the Bill as it stands now to not having any Bill at all.

Sir WALTER FOSTER: The right hon. gentleman said that he would not oppose the Bill.

Mr. RITCHIE: I do not mean to oppose the Bill in any way, but when the hon. gentleman asked me that question I was speaking about the position of the Bill as it stood in the House and I said that I myself should not vote against the compromise. I certainly decline to be responsible for anything that the House of Lords may do. Over the House of Lords I have no control.

The Bill was then read a third time.

It now goes to the House of Lords.

BOOKS, ETC., RECEIVED.

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Transactions of the American Climatological Association for the Year 1901. Vol. xvii. Price not stated.

DEUTICKE, FRANZ, Leipzig and Vienna.

Des Kindes Ernährung, Ernährungsstörungen und Ernährungstherapie. Ein Handbuch für Aerzte von Prof. Ad. Czerny, Director, und Dr. A. Keller, Assistent, der Universitäts-Kinderklinik zu Breslau. Dritte und Vierte Abtheilungen. Price M4.50.

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GAULTIER, MAGNIER, ET CIE, 55, Quai des Grands-Augustins, 7, Bonaparte, Paris.

Introduction à l'Étude de la Figure Humaine. Par le Docteur Pa Richer, de l'Académie de Médecine. Price 10 francs.

GILL, GEORGE, AND SONS, Limited, Minerva House, Warwick-lane, E.

Hygiene: A Manual of Personal and Public Health. By Arthur Newsholme, M.D., F.R.C.P. Lond. New edition, 1902. Price 4s. 6d.

GILL, L. UPCOTT, Bazaar Buildings, Drury lane, W.C. (late of 170, Strand)

Practical Lip-reading for the Use of the Deaf. By E. P. Boultbee. Price not stated.

KIMPTON, HENRY, 13, Furnival street, Holborn, E.C.

Regional Anatomy of the Head and Neck. For Students and Practitioners of Dentistry. By William T. Eckley, M.D., Professor of Anatomy in Dental Department, University of Illinois; and Corinne Buford Eckley, M.D., Demonstrator of Anatomy in Dental Department, University of Illinois. Price 12s. 6d. net.

KING, P. S., AND SON, Orchard House, Westminster, S.W.

Sewage Works Analyses. By Gilbert J. Fowler, M.Sc. Vict., F.I.C., Superintendent and Chemist, Manchester Corporation Sewage Works. Price 6s. net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C.

Drink, Temperance, and Legislation. By Arthur Shadwell, M.A., M.D. Oxon. Price 5s. net.

MACMILLAN AND CO., LIMITED, London.

Mammalia. By Frank Evers Beddard, M.A. Oxon., F.R.S., Vice-Secretary and Prosector of the Zoological Society of London. Price 17s. net.

OLIVER AND BOYD, Edinburgh.

Manual of Bacteriological Technique and Special Bacteriology. By Thomas Bowhill, F.R.C.V.S., F.R.P.S., Civil Veterinary Surgeon attached Army Veterinary Department; late Special Lecturer on Bacteriology, Medical Department, and Professor of Bacteriology, Veterinary Department, University of California. Second edition, enlarged and thoroughly revised. Price 21s. net.

Pennsylvania Society for the Prevention of Tuberculosis, Philadelphia, U.S A.

Report for the Year ending March 1st, 1902. Price not stated.

Scientific Press, Limited, 28 and 29, Southampton-street, Strand, W.C.

The Human Body, its Personal Hygiene and Practical Physiology. By Buel P. Colton, author of "Practical Zoology," and Professor of Natural Science in the Illinois State Normal University. Price 5s.

Smith, Elder, and Co., 15, Waterloo-place, S.W.

Medical Lectures and Aphorisms. By Samuel Gee, M.D., Fellow of the Royal College of Physicians; Honorary Physician to H.R.H. the Prince of Wales, and Physician to St. Bartholomew's Hospital. Price 6s.

The Roll-call of Westminster Abbey. By Mrs. A. Murray Smith (E. T. Bradley), Author of "Annals of Westminster Abbey," "The Deanery Guide to Westminster Abbey," &c. Price 6s.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

Anderton, J. E., M.R.C.S., L R.C.P. Edin., has been re-appointed Medical Officer of Health to the New Mills Urban District Council.

Blacker, G F., M.D. Lond., F.R.C S. Eng., F.R.C.P. Lond., has been appointed one of the Examiners in Midwifery to the Examining Board of the Royal College of Physicians of London and Royal College of Surgeons of England.

Blamey, James, M.R.C.S, L.S.A, has been appointed District Medical Officer for Perranarworthal by the Falmouth Board of Guardians.

Brown, George P., M.B., B.S. Univ. N.Z., has been appointed Senior House Surgeon at Dunedin Hospital, New Zealand.

Duncan, S. V., M R.C.S, L.R C.P. Lond., has been appointed District Medical Officer and Public Vaccinator for the District of Kookynie, Western Australia.

Easterbrook, C. C., M.A., M.D., M.R.C.P. Edin., has been appointed Medical Superintendent to the Ayr District Asylum, vice C. H. Skae, M D., resigned.

Garbutt, Richard H O., L.R.C.P., L R.C.S. Edin., has been appointed Certifying Factory Surgeon for the Tow Law and Stanhope Urban Districts and the Weardale Rural District, county Durham.

Gurdon, E. J., L.R.C.P. Edin., M.R C.S, has been appointed Officer of Health at Nannine, Western Australia.

Hawes, I. H. S., M B., B Sc. Durh, has been appointed Assistant House Surgeon at the Radcliffe Infirmary, Oxford.

Ick, T. E., M.B. Melb., has been appointed Public Vaccinator for the District of Broad Arrow, Western Australia.

McNaughton, J. G., M.D., M R.C.P. Edin, has been appointed Pathologist to the Clinical Hospital, Manchester.

O'Brien, Daniel P., F.R.C S I., has been appointed Visiting Medical Officer to the Meteor Park Orphanage, Stanwell, Rockhampton, Queensland.

Scott, Sack Noy, M R.C.S., L.R C P. Lond., has been reappointed Medical Officer of Health to the Plympton Rural District Council.

Stowe, William Reginald, M.R.C S, L R C.P. Lond, has been appointed Public Vaccinator for the District of Palmerston North, New Zealand.

Thurstan, E. Paget, M.D. Cantab, has been appointed *pro tem.* Acting District Medical Officer at Katanning, Western Australia.

Todd, C. E, L R.C.P Lond., M.R C.S. has been appointed Hon. Assistant Surgeon at the Adelaide Hospital, South Australia.

Twining, Vincent Wing, M.B., C M. Aberd., has been appointed Honorary Physician in Charge of the x ray Department at the Kingsbridge (Devon) Cottage Hospital.

Wigham, William Harper, M B. Durh., M R.C S., has been re-appointed Medical Officer of Health by the South Molton (Devon) Town Council.

Wilkinson, G. T., L R.C.P. Edin., L R C S.I., has been appointed Medical Officer of Health to Selby District Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Applecross District of the Parish of Applecross, Ross shire.—Medical Officer and Vaccinator.—Salary £95, with house

Ashanti Goldfields Corporation.—Medical Officer. Salary £500 per annum.

Beverley, East Riding Lunatic Asylum.—Assistant Medical Officer, unmarried. Salary £150, with board, lodging, and washing

Birkenhead Union Infirmary, Workhouse, and Sanitorium.—Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments

Blackburn County Borough.—Assistant Medical Officer of Health, unmarried. Honorarium of £50 per annum, with board and lodging.

Bristol City Lunatic Asylum.—Medical Assistant, unmarried. Salary £140 per annum, increasing to £160, with apartments, board, and washing.

Croydon Borough Hospital.—Resident Medical Officer. Salary £160 per annum, with board and residence.

Devonport Royal Albert Hospital.—Resident Medical Officer, unmarried. Salary £110 per annum, with board and lodgings

Fisherton Asylum, Salisbury.—Assistant Medical Officer, unmarri Salary £150 per annum, with board, lodging, and washing.

French Hospital and Dispensary, 172, Shaftesbury-avenue.—R dent Medical Officer, unmarried. Salary £80 a year, with board.

Glamorgan County Asylum, Bridgend.—Fifth Assistant Medi Officer, unmarried. Salary £170, with board, lodging, washing.

Hartlepools Hospital.—House Surgeon. Salary £100 per annu with board, washing, and lodging.

Hereford County and City Asylum.—Senior Assistant Med Officer, unmarried. Salary £150 per annum, with board, lodgi and washing. Also Junior Assistant Medical Officer. Salary £ per annum, with board, lodging, and washing.

Hospital for Consumption and Diseases of the Chest, Brompton Resident House Physicians for six months. Honorarium of £25,

Hospital for Women, Soho-square.—Registrar. Honorarium twen five guineas.

Hull Royal Infirmary.—Casualty House Surgeon for not less t six months. Salary £80, with board and lodging.

Ireland, Queen's Colleges.—Dunville Professorship of Physiology, also Professorship of Natural History.

Liverpool Infirmary for Children.—Assistant House Surgeon for six months. Salary £25, with board and lodging.

London County Asylum, Bexley, Kent.—Junior Assistant Medical Officer. Salary £150 per annum, with board, apartments, and washing.

London Hospital Medical College.—Assistant Demonstrator of Anatomy. Salary £90 a year.

London Hospital, Whitechapel, E.—Surgical Registrar. Salary £100 per annum. Also Assistant Surgeon.

Leicester Infirmary.—Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

National Hospital for the Paralysed and Epileptic (Albany Memorial), Queen-square, Bloomsbury.—Second Assistant House Physician. Salary £50 per annum, with board and residence, or £100 a year and board.

Newcastle-upon-Tyne, City Hospital for Infectious Diseases.—Resident Medical Officer. Salary £100 per annum, rising to £150, with board, lodging, &c.

Norfolk and Norwich Hospital.—Second Assistant House Surgeon for six months. Honorarium £20, with board, lodging, and washing.

Northampton General Infirmary.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, attendance, and washing.

Northampton: St. Andrew's Hospital for Mental Diseases.—Assistant Medical Officer for three months. Salary four guineas a week, with board, lodging, and washing.

Nottingham General Dispensary.—Assistant Resident Surgeon, unmarried Salary £160 per annum, with apartments, attendance, light, and fuel.

Parish of Fulham Infirmary, St. Dunstan's-road, Hammersmith, W.—Second Assistant Medical Officer for six months. Salary £80 per annum, with board, apartments, and washing.

Royal Edinburgh Asylum.—Assistant Physician.

Royal Eye Hospital, Southwark.—House Surgeon. Salary fifty guineas per annum, with board and lodging.

Salop Infirmary.—Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board and apartments.

Sanitary Inspectors' Examination Board, 1, Adelaide-buildings, London bridge, E.C.—Examiner, who must be a Medical Officer of Health.

Somerset and Bath Asylum, Cotford, Taunton.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, &c.

Seamen's Hospital Society.—Surgeon at the Branch Hospital in the Royal Victoria and Albert Docks, E.

Throat Hospital, Golden square.—Senior House Surgeon (resident) and Junior House Surgeon (non-resident). Salary of the Senior £50 per annum, with board, lodging, and washing, and of the Junior £100 per annum, with lunch daily.

Walthamstow Urban District Council Isolation Hospital, Chingford.—Resident Medical Officer. Salary £120 per annum, with board and lodging.

Wangford Union.—Medical Officer. Salary at rate of £132 per annum, with fees

West Bromwich District Hospital.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, and washing.

West Kent General Hospital, Maidstone.—House Surgeon, unmarried. Salary £120, with board and residence.

Wolverhampton General Hospital.—Assistant House Physician for six months Honorarium at rate of £75 per annum, with board, lodging, and washing.

Yorkshire College Leeds, Pathological Department.—Junior Demonstrator Salary £120.

Births, Marriages, and Deaths.

BIRTHS.

Le Fleming.—On June 11th, at Wimborne, Dorset, the wife of E. Kaye Le Fleming, B A, M.B, B C Cantab, M.R C.S., L R.C.P., of a son.

Power.—On June 10th, at Regent's Park-road, N.W, the wife of Capt. J. H. Power R A M C, of a son

Rygate.—On June 12th, the wife of H. B. Rygate, M.B. Durh, Fonnereau House, Ipswich, of a daughter.

DEATH.

Dickinson.—On June 11th, at Alassio, Italy, Edward Dickinson, M.R.C S Eng, formerly of Rugby, in his 89th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"THE SEQUEL TO VACCINATION WITH GLYCERINATED CALF LYMPH"

THE *Redruth Times* of June 13th publishes a letter under the above title signed J. West, and dated from Stratford-on Avon, which contains a particularly silly and malignant falsehood concerning vaccination. The story which Mr. J. West tells is as follows:—

> "Amongst the most recent victims sacrificed at the altar of this modern Moloch is that of Job Williams, aged 29, who lived at 20, Kenmont-gardens College park, W., and was employed as a carman by Messrs. Warner and Company, Flora Wharf, Harrow road by whom he was sent with a load of building material to the new isolation hospital in course of construction at Dartford. Before being permitted to enter the premises re-vaccination was sought to be insisted upon, but for four hours Williams resisted the demand and finally gained his point. On a second journey about a week later, however, he felt that his situation would be jeopardised by a further refusal and so he submitted to the operation. A 'terrible' arm resulted, the inflammation appeared to strike inward, and in 15 days the poor fellow died. He had not previously suffered a day's illness but was a robust man and he leaves a widow and two young children."

This awful story is duly prefaced with remarks about "preposterous adulteration" and "consignment to limbo" and concludes with a string of such phrases as "mischievous vaccination fetish," "despicable tyranny," and "hateful delusion"; so that when we read Mr. J. West's effusion we knew that it emanated from the usual violent muddle-headed opponent to medical science. But as he gave exact details we did him the honour without believing him, to make inquiry into his facts. So we addressed a letter to Messrs. Warner and Co., Flora Wharf, Harrow road, begging particulars of the tragedy. A reply duly reached us from West's Stourbridge Brick Co., Ltd., whose depôt is the Flora Wharf, Harrow road, W., and who sign as "late Warner and Co." West's Stourbridge Brick Co. say that no such man has ever been in their employ as Job Williams and that, as far as they know, there is no truth whatever in the story. In these circumstances Mr. J. West owes apologies all round for circulating a silly circumstantial lie. We are not sure if he sent the letter to the *Redruth Times*, for it is headed "To the Editor of the *Cornubian*," but the Editor of the *Redruth Times* has the right to be sore at the mendacity of the story to which he has given circulation. The Editor of the *Cornubian* ought to be yet more aggrieved; while the explicit insinuation that the proprietors of the Flora Wharf have driven an employé to death may well be resented by West's Stourbridge Brick Company. We do not suppose that any of these people will think Mr. J. West worth a thought and although we have exposed his inaccuracy we have not stopped the dissemination of the yarn. The tragedy of Job Williams will yet be narrated from platforms and quoted in provincial newspapers. Job Williams will leave, in addition to the widow, aged parents to mourn their loss. He will die of all sorts of complications and the two orphans will expand into a large family of bereaved infants. But though we know that it is most unlikely that we shall be able to overtake Mr. J. West's lie we still think it right that it should be hall-marked as such.

HOMES FOR EPILEPTICS

To the Editors of THE LANCET.

SIRS,—I shall be very much obliged if any of your readers could tell me where there is a home which would take in an epileptic girl of about 25 years of age, strong and otherwise healthy except for a slight mental deficiency, willing, and able to work. She has £350, which is bringing her 4½ per cent., and this would be paid to the institution. She is of the small-farmer class of life.

I am, Sirs, yours faithfully,

W. G. WILLOUGHBY,

Medical Officer of Health of Eastbourne.

Eastbourne, June 17th, 1902.

THE ABORTION MONGER.

WE have frequently referred to the infamous advertisements of abortion-mongers which appear from time to time in the daily or weekly press. Their trend was quite obvious although veiled in ambiguous language. A correspondent, however, has sent us a leaflet which he says was left at one of his surgeries. This leaflet sets forth the talents and successes of an abortionist called Madame J. Jacobsen whose only address is 22, Mather-street, Newcastle-on-Tyne. The bill contains the usual lies about obstructions and irregularities and further states that "it is a subject too which for various reasons the medical world give very little attention to, hence the frequency of their failure to give relief when relief is most essentially needed." Madame Jacobsen sells a female mixture which "is warranted to be superior to all other female medicines, inasmuch as it will positively restore irregularity." It seems, however, to have struck Madame Jacobsen that the restoration of irregularity was a somewhat questionable boon, for she also sells special female pills which "never fail to give relief." Madame Jacobsen also states that the "utmost secrecy may be strictly relied upon." She, however, gives a variety of testimonials from which we extract the following. It will be seen that, by the writers' statements, it is no question of simple amenorrhœa.

"Manors Station Arches, City road, Newcastle.

DEAR MRS. JACOBSEN,—Please forward by return of post to my address one box of your Special pills, for bringing about all that is required. I had a box of them before and found them just the thing.

Yours truly,

Mrs. B."

"Consett.

DEAR MRS. JACOBSEN,—Will you kindly forward me another bottle of your Strongest Mixture, also a box of your Special Pills, for which I enclose Postal order trusting you will send it as soon as possible. It is four weeks over the time, so you will know what to send for me, and I beg of you to do your best to put me right. I think you will understand my case, as you have cured me three times before.

I am, yours sincerely,

Mrs. L. N."

Mrs. B. N., it will be observed, is an old hand and takes matters in time. Others are not so provident.

"Hector-street, Gateshead-on-Tyne.

DEAR MRS. JACOBSEN,—I must thank you for extra care bestowed upon my case. I became all right yesterday after taking only half of the second bottle of Mixture. I consider your medicines to be the best in the world for removing obstructions. My case was a stubborn one of 16 weeks standing but with your good advice I succeeded, for which I am truly grateful. I shall always recommend you.

I am, dear Mrs. Jacobsen, yours truly,

MRS. N."

These unblushing testimonials conclusively show that abortion is the object of the persons who take the pills and medicine. Whether their effects are aided by other means or not we cannot say but we should not be surprised if this were the meaning of the phrase "extra care" employed by "Mrs. N." We are forwarding a copy of the current number of THE LANCET to the Chief Constable of Newcastle who will perhaps pay a visit to Madame Jacobsen's "only address."

CERTIFICATES FOR INSURANCE SOCIETIES

To the Editors of THE LANCET.

SIRS,—May I ask for a reply in THE LANCET to the following? I am often asked, as well as other medical men I presume, to fill in certificates of death for life assurance societies on a special form, wherein one is requested to state certain facts as to the cause of death and duration of illness beyond what is demanded by the usual death certificate. I have been in the habit of declining to fill in these papers, referring the companies to the registrar for a copy of my death certificate, as it seems to me one might, by the further information supplied, inadvertently lead to wrong inferences being drawn as to the causes of death and so possibly bring about legal difficulties. 2. If filled in what range of fees should be charged?

I am, Sirs, yours faithfully,

X.

*** Most life offices require the representatives of the deceased to obtain a certificate from the medical attendant in the form desired by the particular office. This form varies according to the office. The medical man cannot be compelled to sign it but we have never heard of a refusal. The fee charged should be according to the usual scale of fees for attendance.—ED. L.

MOTOR CARS FOR MEDICAL MEN

To the Editors of THE LANCET.

SIRS,—In the autumn of 1900 I had the pleasure of writing you a short account of the experiences I had with a Benz motor car which I bought in May of that year (*vide* THE LANCET, Oct. 6th, 1900, p. 1045). Perhaps now I can write with greater authority on the subject, as I have continued to use the car (except when *hors de combat*, which I regret to have to say has been rather frequent of late) until the present time. To take matters *in extenso*:

The carriage.—After two and a half years any carriage, I presume, would wear and as I have not had mine repaired as yet the appearance is not prepossessing and the frame rattles and is worn and loose; the paint, too, is conspicuous by its absence.

The tyres.—The district in which I use my car is hilly and the roads are the reverse of good, so you will not be astonished to hear that I am using my third set of tyres on the driving or back wheels. On both occasions I have bought the same tyres as supplied with the car, "Connolly Ideal," solid wired on to the rims. I understand and believe they are the best, especially for constant use such as that of a man in practice. With rough wear I find a set lasts about 14 months. I believe I paid £12 for the four tyres, or £7 for the tyres on the driving-wheels.

The transmission gear.—Mine being an early type of Benz the power is conveyed by two belts to the counter-shaft, the belts running on loose pulleys on the counter-shaft and being shifted on to keyed pulleys by a fork. As you may remember, I mentioned in my previous letter that in one of my longer runs the second-speed loose pulley, through improper lubrication, seized and had to be rebushed. Apparently in bushing the journal cracked; any way, since then I have had to have a fresh pulley. The keys that fix the sprockets to the counter-shafts have also worn and once when I was driving one fell out and left me in a hole, the countershaft revolving and not driving the sprockets. Recently the sleeve on the right of the counter-shaft, over which the second-speed loose pulley revolves, broke away from the teeth of the compensation gear to which it is keyed, the result being once more the revolution of the counter-shaft without driving the sprockets and a journey home behind the car which was not as pleasant as one seated in it. A new sleeve which took three days to get soon remedied matters. The forks that shift the belts easily wear and then, while driving on one belt, the other is apt to slip off the loose pulley and pull the car up. Steel tubing placed round the sides of the forks prevents this wear and can always easily be renewed. The only other matter that requires attention on the transmission gear is the ball bearings that fix it to the car. I should always advise carrying a loose collar for the ball-bearing. On two occasions I have had a collar break and the balls fall out.

The engine.—The water-joints on the cylinder, especially the one at the back, have occasionally to be renewed—a not pleasant or easy task to do. A leakage can always be told by the presence of water in the cylinder. I make a rule of opening the cylinder-cock every morning and if on pulling the fly-wheel round much water escapes I know the water-joints want seeing to.

The valves.—The valves want frequent grinding, otherwise there is a great loss of power. The advantage in the old Benz is that both the inlet and exhaust valves have vertical spindles, horizontal ones are apt to wear more on one side than the other and so to stick. The exhaust valve is lifted up by a quadrangular arrangement worked by a cam. The teeth on the cam are of fibre. On one occasion while in Hampshire two of the teeth broke off and if I had not luckily come across the possessor of another Benz who allowed me the loan of his cam I should once more have had to proceed home by other means than the car. My advice is, always carry a spare cam. The arrangement in the new Benz for working the exhaust is better The rods on mine wore so much oval that I had to get a fresh set, though I believe mine could have been rebushed.

The cylinder.—This is, I presume, the great objection to the Benz, being horizontal, the advantage claimed for this type being, however, greater ease in lubrication and consequently less wear. Undoubtedly n all horizontal types the cylinder is apt to wear oval, and though I have had new piston rings fitted recently by Hewetson the power is not as good as before and I have no doubt that there has been bed wear and that it is a little oval

The bearings —I have had to have fresh brasses fitted on to the crank and the side bearings are now greatly worn, and as they allow too much play will doubtlessly soon have to be replaced by new ones. The brasses on the crank when they wear oval can be filed and so tightened.

I use Wellington belting and find that it lasts well and gives little trouble. The new Benz, I believe, has an arrangement to prevent the belts getting wet—a cause of slipping. On my car I have fixed a piece of oilcloth in front which generally keeps them dry. The teeth on the steering rods have worn quite sharp and therefore the rods have recently had to be replaced. The wheels run on ball bearings and in the time I have had the car the spokes have not given any trouble. Of course, the bearings require periodically seeing to and the worn balls to be removed and fresh ones inserted. The chains are Brampton's and of course require occasional picking up. I am now using my third set.

Conclusions —At the end of my last communication I fear my conclusions were rather gloomy. Are they better now? I have had much pleasure out of the motor. I have had many worries Occasionally on the road to an urgent case I have had to get out and walk. More than once have I been obliged to engage a cab when the motor was undergoing repairs. And then the question of expense My bill from Hewetson for this year only for repairs is £30 and this does not include £12 spent on tyres. Such being the case I hesitate to recommend my professional brethren to embark in one. I give them the facts and leave it to them to draw their own conclusions both as regards the Benz and other cars. I may conclude by saying that I am seriously thinking of trying another myself. I am, Sirs, yours faithfully,

CHARLES T. W. HIRSCH, M.R.C.S. Eng , L R C P Lond., L S A ,
Public Vaccinator and Police Surgeon, Woolwich,
late District Medical Officer, Colonial Medical Service, Fiji.
Woolwich, June 14th, 1902.

THE "Y" FUND.

SURGEON-GENERAL H. S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from The Marchioness of Ripon, Lady Mitchell Banks (who sent kind donations from Lady Tate, "Two Friends," Mr and Mrs. Wilkinson, Mrs. Illingworth, Mrs. Pearson, Mrs Whitewell, Mrs. Harris, Mrs. Blood, Mrs Fleetwood, Mr. and Miss Hakes, Mrs. MacFee Campbell, Mrs. F. Johnston, Mrs. Barr, Mrs. Wright, Mrs. McAllister, Miss Carter, Mrs. Thirlwall Thomas, Miss Grünbaum, Mrs. Burton, Mrs. Withers, Miss Binger, Mrs. Dalzell, Mrs. Stevenson, Mrs. Caton, Mrs. G. Walker, Mrs. H. Nicholls, Miss Abram, Mrs. Cunliffe, Mrs. Gee, Mrs. Westby, Mrs. Robinson, Mrs. Mahler, Mrs Rankin, Mrs. Graves, Mrs. Brannigan, Mrs. Horniblow, Mrs Riggs, Mrs. Bur T. A. W., C. N. W , M. G. W., Dr. W. Edgecombe, Dr. T. R Dr. J. M. Hunt, and Mr. Murray), Captain and Mrs. S (with kind donations from Mr. E. Pandorf, Mrs. Drab Mrs. Carr Shaw, and Mrs. Blindstone), Dr. and Mrs. kind donations from Dr. W. B. Stokes, Dr. A. R. H Beauchamp, and Mr. Walter Tyrrell), Surgeon Gen Wilson, K.C.M G , A.M.S., Surgeon-Lieutenant-Colonel nsman, C.M.G., A.M.S. (retired), and the following officers of the Royal Army Medical Corps: Lieutenant-Colonel H. W. Murray, Majors W. H. Pinches, and A. Hickman Morgan, D.S.O.; Captains W. Mould and G. A. T. Bray; and Lieutenants T. O. Lauder a E. McDonnell. The fund now amounts to £305. It may be explain that this is in response to an appeal made privately to membe of the profession for benevolent aid in a distressing case whic has been described in a letter sent to a limited number medical men (who would help the cause by kindly "handin on" to *confrères*). Should any reader of THE LANCET desire furth particulars with a view to expressing *practical sympathy*, a copy the letter will be forwarded on application to Surgeon-General Mui 26, Kensington gardens-terrace, Hyde Park, London, W.

A PLACE OF RESIDENCE.

To the Editors of THE LANCET.

SIRS,—In reply to "P. P.'s" query in THE LANCET of June 14t p. 1743, regarding a place of residence the Isle of Man would sat factorily fulfil the requirements. An illustrated guide-book with chapter on the climate may be obtained free of charge and post fr on applying to Mr W. Keig, secretary of the Board of Advertisin Douglas, Isle of Man. I am, Sirs, yours faithfully,

June 16th, 1902. J. H. B.

THE LAW FUND.

TRUSTEES. THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS LONDON, THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON.

THE following additional subscriptions have been received by I Paramore, 2, Gordon-square, W.C.:—

	£	s.	d.		£	s.
Mr. Charles Higgens ...	2	2	0	R. J. G.	2	2
Mr. B. J. Day	0	2	6	Mr. Charles Henry Wakeham	0	2
Dr. Edmund Hargreaves	0	2	6	Mr. T. H. W. Idris, J.P.	0	10
Dr. Richard Deane Sweeting	1	1	0	Dr. Geo. Eugene Yarrow	0	10
Rev. J. T. Fowler, M. A , D. C. L., M.R.C.S. Eng.	0	5	0	Dr. Charles John Girling	0	5
Mr. Charles Martin Row	1	0	0	Dr. Arthur R. Graham...	0	5
Mr. Charles Albert Foyl	0	10	6	Mr. David Basil Hewitt	1	1
Mr. John Noakes Hall	0	5	0	One who wishes he could give ten times as much	0	10
Dr Hugh James Dickey	0	10	6	Dr. A. F. G. Codd	1	1
Dr. Clarence William Haig Brown	1	1	0	Dr. Tom Robinson	1	1
Dr. George Alexander Gibb .	1	1	0	Dr. Karl C. Gimson ...	1	1
Mr. Alfred Pearce Gould	2	2	0	Dr. Edwin Hyla Groves	0	10
Dr. Gavin Stiell. ..	1	1	0	Dr. Wm. Fairbanks ...	0	5
Mr. Wm. Henry Watts .	0	5	0	Mr. F. T. Hindle .. .	0	5
Dr. G. A. England. .	0	5	0	Mr. Anthony A. Henley	1	1
Dr. John Campbell Fergusson . ..	1	1	0	Dr. Charles Henry Greaves	0	10
Mr. Alfred N. Godby Gibbs . .	0	10	6	Mr. Walter Frost . ..	0	10
Dr Wilfred Newell Soden .	0	10	6	Mr. Edgar Elliott	1	1
Mr. Wilson Eager .	0	10	0	Mr. Henry Hemsted ..	0	4
Mr. Charles Smyth ..	0	10	6	Mr. James Smyth	0	10
Dr. Claude Wilson .	1	0	0	Dr Samuel Herbert Habershon	2	2
Dr. Thomas Wakefield	0	5	0	Enfield Medico-Ethical Society, per Dr. Fredk. J. Tresilian	2	2
Mr. Alfred Downing Fripp, C B., C.V.O. ..	3	3	0	Dr. Josiah Oake Adams	1	1
Mr. H. A. Hall . .	0	5	0	Mr. Francis Hepworth ..	0	10
				Mr. Wm. Bramley Taylor	0	10

WANTED—A DIAGNOSIS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers help me with diagnosis in the followi cases? One is a man aged 80 years and the other is a man aged 60 yea They are practically identical; both are active, healthy, careful me and both are of a gouty habit. So long as they are up they feel nothin but no sooner do they get to sleep than they are awakened by pains both hands and forearms. The hands feel as if they were swollen b nothing is apparent to others except that they are perhaps a little re certainly not blue or pallid. Posture in bed has no effect, and the on thing that gives any relief—and this is only partial—is to raise t hands above the head. It has existed for a year or two. With ea every likely remedy has been tried; nothing has any effect and th are gradually suffering more and more. Any suggestions as to cau would be valued. I am, Sirs, yours faithfully,

June 17th. X.

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W. NASH, A.M.S.

THE following additional subscriptions to the fund have been received:—Surgeon General J. O'Nial, C.B., £1; Lieutenant-Colonel A. B Cottell, £1 1s.; Captain T. O. Lauder, 10s.; previously acknowledged, £101 11s. 6*d*. Total, £104 2*s*. 6*d*. The committee desires to intending subscribers that the Fund will be closed on

RYGATE —On ext.
Fonnereau H

◆

—"Filatow's spots" are the same as "Koplik's spots" ts which have been found in the earliest stages of measles

DICKINSON garded as pathognomonic symptoms of that fever. A short this eruption will be found in THE LANCET of Feb. 2nd, 1901, p 347. The *Journal of Physiology* and *Brain* might be consulted for Dr. Head's paper. We have not the exact reference, we regret to say.

New Jersey, Lübeck, Aix-la-Chapelle, Hamburg, and a number of other places; the one at Aix was particularly interesting as it was brought about by cases in the house of a dairyman, which were called by the medical attendant "gastric fever" and were not notified to the public authority and therefore no precautions were ordered; the excremental matters of the patients were thrown on a dung-heap from which they soon soaked into the well, the water of which was used to wash the milk-cans. The outbreak ceased on disuse of the well-water and connexion of the dairy with the town water-supply. The circumstances of this outbreak were very similar to those of the Marylebone outbreak in 1873 (Deutsche Vierteljahrschrift für Öffentliche Gesundheitspflege, vol. xxxii.).

III. Dr. J. Adolf Kraemer gives a very interesting account of an outbreak in an infantry regiment. Tired out by a long march in July and very thirsty the soldiers came to a place where they were given plenty of milk. The result was that 142 of them fell ill about the end of the second or beginning of the third week after drinking the milk; of these "81 had true typhus abdominalis, 31 febris typhosa sive gastrica, and 30 had indefinable symptoms." It appeared that in the house whence the milk was obtained there was a person suffering from typhoid fever and this case was at first regarded as the source of the outbreak, but it was found afterwards that it was contracted at about the same time as the cases among the soldiers and the poison appears to have been derived from a case which occurred in the previous year (Zeitschrift für Klinische Medicine)

THE

SURGICAL TREATMENT OF OBSTRUCTION IN THE COMMON BILE-DUCT BY CONCRETIONS,

WITH ESPECIAL REFERENCE TO THE OPERATION OF CHOLEDOCHOTOMY AS MODIFIED BY THE AUTHOR, ILLUSTRATED BY 60 CASES.[1]

BY A. W. MAYO ROBSON, F.R.C.S. ENG.,
SENIOR SURGEON TO THE GENERAL INFIRMARY AT LEEDS; EMERITUS PROFESSOR OF SURGERY IN THE YORKSHIRE COLLEGE OF THE VICTORIA UNIVERSITY.

WHEN once gall-stones have reached the common duct, their attempted dislodgment by purely medical means is with few exceptions disappointing in the extreme and the unfortunate patients are condemned to a lingering and painful illness, usually ending in death, unless the obstruction can be removed by surgical intervention. Seeing that it is only 11 years since Courvoisier first removed a gall-stone from the common duct by direct incision the progress in this branch of surgery must be very pronounced when we can safely affirm that there is no portion of the gall-bladder—cystic, common, or primary division of the hepatic ducts—which cannot under ordinary circumstances be reached for the removal of concretions and that with great probability of success.

No surgeon should attempt the removal of gall-stones unless he is prepared for any of the various operations on the biliary passages, as it is almost impossible to say beforehand what may be required until the ducts have been explored by the fingers and the condition of the parts ascertained, and no operation should, as a rule, be concluded until it is clearly made out that the ducts, including the hepatic and common ducts, are quite free from concretions, otherwise disappointment and dissatisfaction are certain to follow.

Arguing from some hundreds of cases of cholelithiasis on which I have operated I find that the common bile-duct has to be attacked in one out of every five or six cases. In a few cases concretions may be manipulated backwards into the gall-bladder and thence extracted by scoop or forceps, but this can only be done when the cystic duct is dilated I have been able to clear the ducts in this way on 10 occasions. Occasionally a small stone may be pressed into the duodenum, but this is exceptional and inadvisable, as it may be pushed into the diverticulum of Vater and so be missed and the whole operation rendered futile. In patients too old or too ill to bear choledochotomy a rapid cholecystotomy may be performed so as to relieve the jaundice and allow solvent injections to be employed, but my experience of this treatment has not been so favourable as to make me very hopeful of accomplishing the solution or the diminution to the passing point of the concretion deliberately left behind and a subsequent operation is usually necessary.

Crushing concretions by means of pressure by the finger and thumb through the duct walls is a method which I formerly employed in over 30 cases with considerable success and without fatality, but it is only available for soft concretions, and fragments are apt to be left and then to produce further trouble. I have not once adopted this method during the past two years unless I could at the same time remove the fragments.

Cholecystenterostomy or short-circuiting the obstruction should never be performed for gall-stones as it leaves the cause untouched and the small opening is apt to contract and to lead to speedy recurrence of the symptoms. This has actually occurred in my own practice and in that of other surgeons. Out of nearly 30 cholecystenterostomies that I have performed I have only done it on 10 occasions for gall-stones and not once during the past two years.

If the patient be too ill for choledochotomy the gall-bladder can be very rapidly united to the colon with very little disturbance of adhesions, and this as a means of giving relief answers quite as well as the more difficult operation of uniting the gall bladder and duodenum; this operation is, however, only applicable when the gall-bladder is dilated, which is unusual in cholelithiasis.

The operation of uniting a dilated duct to the intestine or draining a dilated duct on to the surface may be occasionally called for and I have twice done the former and once the latter operation and in all the cases recovery followed.

Reaching the common duct through the opened duodenum, a modification of choledochotomy, seemed to me when it was first suggested by Dr McBurney an easy and ideal operation and at that time it was easier than ordinary choledochotomy, but I feel sure that there is a greater danger of sepsis by this method owing to the necessary enterotomy, and since I have adopted my modification of choledochotomy I have not repeated the operation through the duodenum, since I am quite clear that it is not only more difficult and more dangerous, but that it does not afford so great a facility in clearing the whole of the ducts of concretions. I have performed it 11 times with three fatalities, which compares unfavourably with the ordinary operation of choledochotomy

Lastly, and most important, we come to the ideal operation for the removal of stones from the common duct, choledochotomy, which, after experience of all other methods in vogue for the removal of gall-stones from the common duct, I have come to the conclusion is the only one to be relied upon and as an operation is therefore worthy of special study. Moreover, as the result of my experience in 60 cases I have been able to modify the operation in such a way that what was formerly a most difficult procedure, involving prolonged manipulation, special appliances, and at least two assistants, and only to be undertaken after all other means had failed, is now a comparatively simple operation in the greater number of cases, only requiring the help of one assistant and not requiring the use of any special apparatus. By this method the time involved in the operation is reduced considerably, and where adhesions do not give unusual trouble it is easy to complete the work in from 30 to 40 minutes, which not only means a saving of time and fatigue to the operator but a considerable saving of shock to the patient. I always employ a firm sandbag under the back opposite to the liver, which not only pushes the spine and with it the common duct forward so that it is several inches nearer the surface, but acts like the Trendelenburg position in pelvic surgery by letting the viscera fall away from the field of operation. I then make a vertical incision over the middle of the right rectus, the fibres of which are separated by the finger, which I find to be the most expeditious and the most effective method of exposing the gall-bladder and bile-ducts; but when it is necessary to open either the common duct or the deeper part of the cystic duct, instead of prolonging the incision downwards, as was formerly done, I now carry it upwards in the interval between the ensiform cartilage and the right costal margin as high as possible, thus exposing the upper surface of the liver very freely. It will now be found that by lifting the lower border

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[1] A paper read before the Royal Medical and Chirurgical Society on March 25th, 1902.

Retired M.R.C.S.—Almost invariably the best advice is to recommend the patient to be satisfied with her lot. The only possible procedure is to improve the general nutrition and thus to fatten the patient. We certainly do not recommend local massage, but perhaps our correspondent means general massage with inunction of oil which possibly would be of service. The perils of quackery should be insisted upon

Bodeul.—There is no way for the unqualified son to keep the practice up in his deceased father's name. A medical man may be found to work the practice on a salary with the understanding that he will retire when the son has passed his final examination, but that medical man cannot practise under the name and style of the dead practitioner.

Mr. R. H. Powers.—Lists of sanatoriums for the outdoor treatment of pulmonary tuberculosis were given in THE LANCET of Sept. 9th (p. 724) and 23rd (p. 851), 1899 These are no longer complete. "Burdett's Hospitals and Charities, 1902," p. 707, might also be consulted.

ERRATA.—In paragraph No 12 of THE LANCET Commission on Glycerinated Calf Vaccine Lymphs, which appeared at page 1624 of THE LANCET of June 7th, the words "The Rebman Publishing Company" should be "Rebman, Limited." In line 2, column 2 of the same page No. 243 should be No. 343. In the paper by Professor F. O. Madden, published in THE LANCET of May 31st, p. 1533, line 2, column 2, should read, "remained fairly satisfactory for six days after the operation," instead of as printed, "six hours."

During the week marked copies of the following newspapers have been received:—*Lincolnshire Echo, Torquay Directory, Burnley Gazette, Northern Times (Golspie), Reading Mercury, Herts Advertiser, Times of India, Aberdeen Free Press, Lancashire Post, Plymouth Morning News, Western Mercury, Yorkshire Post, Pioneer Mail, Devon and Exeter Express, Burnley Express, Scotsman, Ipswich Times, Dublin Evening Telegraph, Southampton Echo, Belfast News, Lancaster Guardian, Bradford Observer, Sheffield Daily Telegraph, Municipal Reformer, Echo, Daily Express, Standard, Bristol Mercury, Windsor and Eton Express, Globe, Westminster Gazette, Sunday Times, Derbyshire Times, &c.*

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments*)

THE LANCET Office, June 19th, 1902.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall	Solar Radia in Vacuo.	Maximum Temp Shade.	Min Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
June 13	29·35	N.N.W	0·31	63	66	53	53	65	Cloudy
" 14	29·69	N.W.	1·28	65	58	49	50	52	Raining
" 15	29·66	W.	0·36	99	60	51	52	54	Cloudy
" 16	29·77	N.	0·06	70	57	48	52	54	Overcast
" 17	29·91	N.E.	0·01	109	63	49	50	53	Cloudy
" 18	30·11	E.	...	102	66	51	52	54	Cloudy
" 19	29·85	S.E.	...	121	73	51	58	63	Fine

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.).

TUESDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (25th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.)

THURSDAY (26th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.) St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.)

SATURDAY (28th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (23rd).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Communications:—Mr. A. Underwood: (1) Dental Irritation in a Case of Malignant Disease; (2) A Case of Pulp-stones; (3) A Case of Buried Wisdom Tooth discovered by X Rays and Removed. Paper:—Dr. S. Wallace: Some Effects of the Refinement of Food. The President: Valedictory Address.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. H. M. MacLeod: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Dunn: Ocular Therapeutics.

TUESDAY (24th).—POST-GRADUATE CLINICAL DEMONSTRATION (Westminster Hospital).—4.30 P.M. Dr. Murrell: Cirrhosis of the Liver.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Tooth: Cerebral Infantile Palsies.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Bidwell: The Preparation and Application of Sutures and Ligatures.

WEDNESDAY (25th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Cole: Medico-legal Relation of Insanity.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only. AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

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Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

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Y.—Dr. W. M. Young, Lond.; Yorkshire College, Leeds, Registrar of.

Letters, each with enclosure, are also acknowledged from—

A.—A. D.; A. M.; A. T.; A. M. S.; A. L. S.; A. M.; Mr. Anderson, Loughborough.

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The Cavendish Lecture

ON

INFLAMMATION OF THE VERMIFORM APPENDIX.

Delivered before the West London Medico-Chirurgical Society at the Town Hall, Hammersmith, on June 20th, 1902,

BY SIR FREDERICK TREVES, K.C.V.O., C.B., F.R.C.S. ENG.,

SURGEON TO H.M. THE KING; CONSULTING SURGEON TO THE LONDON HOSPITAL.

MR. CHAIRMAN AND GENTLEMEN,—The subject is the not perfectly novel one of appendicitis, the reason being that there are certain points in connexion with this trouble which I think are still open to discussion. I should imagine that there has scarcely been anything more remarkable in the way of medicine at the close of the nineteenth century than the sudden appearance of the disease now known as appendicitis. If we remember that this is proportionally the very commonest acute malady met with in the abdomen excepting possibly the complications of hernia it is really astounding that 20 years ago this affection was absolutely unknown. It was not until the year 1886 that the very name itself had any existence. It was, as a matter of fact, by Fritz in 1866 that the name was first used, and it is particularly curious that he used it in a sense totally apart from the sense in which it is used at the present day One knows that the academical-minded have a great objection to this uncouth term "appendicitis"; it lacks precision, but it has found its place in the clumsy nomenclature of medicine and has been accepted by the public with an extraordinary amount of generosity. Of course, I need not say that under no circumstances is appendicitis to be regarded as a new disease It is probable that even the cave man with his rudimentary methods of eating suffered occasionally from appendicitis. The disease is not new but newly discovered; it has been hidden for centuries under a lot of vague clinical facts and medical verbiage. In old records we hear about appendicitis as gastric catarrh, gastric seizure, cramp of the bowels, iliac phlegmon, and many other terms. Moreover, a large number of examples of peritonitis were no doubt examples of appendicitis. In 1887 a certain elaborate treatise on peritonitis included no less than 28 entirely different forms of that particular affection. There are a few earlier reports of the trouble and in those earlier reports the appendix was blamed as being the cause of the disturbance. But all these earlier reports were like the voice of men crying in the wilderness, no sort of heed was paid to them although there were two authors who accused appendicitis of being the cause of what was then known as iliac phlegmon.

The point that should be first insisted upon in connexion with this malady is this it is a pure peritonitis There is no consideration about it which is apart from peritonitis. Until the peritoneum is involved there is no malady An acute attack of appendicitis is an attack of peritonitis. It is very desirable, therefore, that in speaking of this affection we speak of a definite form of peritonitis, and the features and complications and possibilities of the malady and the treatment to a certain extent are simply those of peritonitis. No progress will be made, I think, until a proper estimate of this malady is realised and all terms about the twisting and turning of the appendix are thrown aside. Then it will be understood that the trouble is nothing but a form of peritonitis. That leads me to say one word about the disease originally in the appendix. Fritz used the term to describe a malady that had no symptoms; he described it to indicate those changes in the appendix which preceded the implication of the peritoneum and which clinically may have no kind of existence. In connexion with that point I should like to emphasise these three solitary facts. The first is this that quite extensive changes may take place in the appendix without the production of a single solitary symptom. The appendix may be almost obliterated without the production of a single symptom of appendicitis, its mucous membrane can be entirely destroyed, and it can become stenosed or shrunken without the production of a single symptom. I am reminded of a case in which I was doing the ordinary operation of ovariotomy and I came across an appendix showing the grossest changes. In this case neither the patient nor the medical attendant had any suspicion of trouble in the appendix, for this woman never had any symptoms of appendicitis. The second fact is this. An attack of appendicitis, as we know it, may be preceded by a number of minor disturbances or minor seizures for which we have no name but which may be included under the title "appendicular colic." But this term is actually wrong Colic, I imagine, means pain in the intestinal tube due to disorderly muscular action and there is no muscle in the appendix capable of producing the phenomenon of colic. A patient gets an attack of pain in the abdomen with a feeling of nausea and this lasts for perhaps two or three hours and then the whole thing is gone, but these troubles do not come under the head of appendicitis and probably do not concern the actual peritoneum. Thirdly, we must take a little more heed of a condition that should be called chronic appendicitis as seen in patients who have an abiding trouble in the right iliac fossa but never an attack of appendicitis. These attacks of chronic appendicitis are common enough. Some men and women are never free from some sense of discomfort in the abdomen—a gnawing pain, a burning pain, a griping pain, a feeling that there is something coming away there, a desire to support the back. People often walk across the room with the body bent and the hand pressed on the abdomen. These symptoms come under the proper heading of chronic appendicitis and should be more fully recognised than they are now To these three remarks I should like to add another as to the ridiculous classification of appendicitis. Every monograph on the subject begins with a ridiculous list of forms of appendicitis—the gastric form and so on—and if you discuss a case with a medical man he often says: "Do you think this is catarrhal or suppurative, or what is it?" This same elaborate classification has a place in the history of all maladies There was a time, for instance, when there were about 15 or 20 different forms of pleurisy and these all came down to one thing How many forms of synovitis were there 20 years ago? How many forms are there now? Inflammation of the appendix, catarrh of the appendix—what does it lead to? Ulceration, stricture, perforation, gangrene. There is nothing to be gained by this ridiculous classification. Appendicitis is an inflammatory trouble due to certain micro-organisms and it begins as a catarrh, excepting cases of actual torsion. I do not propose to say anything in detail as to the causes, or reputed causes, of this malady We know it is most common in young people, 80 per cent. of the cases coming under the age of 30 years and, curiously enough, 73 per cent. occurring in males.

I should like to draw attention to certain factors in the cause of appendicitis which I think have a good deal to do with the treatment of the disease. The first factor is the extraordinary effect of a tropical or sub-tropical climate. I have often said that, although my practice is in London, a large proportion—I will not say the majority—of my patients come from tropical countries, not necessarily hot countries but countries in which intestinal trouble is inevitable, such as India, the Straits Settlements, China, South Africa, and other plac[illegible] to them. It is obvious how these cases are so freque[illegible] persons with a disturbed appendix go to a country in which intestinal troubles are common and being more liable to the disease they contract it. I think therefore that no person should be allowed to go to a tropical country if he is a suspected subject of trouble in the appendix. It is very noteworthy how persons who have had a little suspicion of this malady in themselves will come to an acute termination of it after having gone to reside in a tropical or sub-tropical climate. Another curious point is the frequent coincidence in the female subject of an attack of appendicitis with the menstrual period. It cannot be an accident, because in one particular case that I had the attack occurred on the fourth or fifth day and never varied from that. One might say that out of nine or 10 attacks in females perhaps as many as four or five will be associated with the menstrual period. Of course, that is explained by the circumstance that the two organs concerned are closely allied and that they certainly can mutually disturb one another. I have actually seen a cystic ovary in a child, aged 10 years, and attached to that cystic ovary a diseased appendix; I was unable to arrive at the conclusion that the appendix was the cause of the cystic condition of the ovary. Anyhow, these two organs are close together, and I need not remind you of the fact, which has been well demonstrated, that they have the same lymphatic arrangement. The association of these two maladies is very common and I think it should be a matter of routine in every case in which the appendix is removed in the female subject that the right ovary should be inspected, because the cases in which this organ has been so diseased as to need removal are very striking. One must remember that fact in the causation of appendicitis because we cannot get away from the fact that an abiding ovarian disturbance may induce trouble in the neighbouring organ or *vice versâ*.

The last point in this connexion is one that I am sure will be at once agreed to by everybody in this room and it is this. If there is one solitary factor in the production of appendicitis which is overwhelming it is a loaded cæcum. I really think it is a little exaggeration, but not a gross one to say, that if loading or overloading of the cæcum could be avoided there would be exceedingly little appendicitis. That is so almost uniform a feature of this trouble that one need hardly go into the history of some of the cases. You know what these histories are—a child with teeth overlapping, a man with no masticating teeth to eat meat, the commercial traveller who has his meals all over the country and eats and drinks and smokes too much, and a man who habitually bolts his food. Nothing plays, I think, so important a part in the prophylactic treatment of appendicitis as the recognition of the fact that if the cæcum can be kept free from indigestible food and undigested food the risk of attack is very much minimised.

With regard to clinical matters it would be a gross waste of time of this society if I were to deal in any way with the clinical phenomena of this common trouble. But in this connexion I want to deal with one solitary point—with the so called McBurney's point. Tenderness at this magic spot has become a sort of talisman; it is an inspired sign, it is a sort of religious stigma, it is the touchstone of the disease. The hand of the experienced man is put on the spot and there is tenderness and the patient has got appendicitis. I need not remind you where this spot is, but let me say what is said of it. It is said to be always present in every case of appendicitis, it is said to be not present in other troubles met with in the abdomen. It is said to indicate the seat of the disease, it is said by some to indicate the position of the diseased appendix. It is said by others who are more cautious—by McBurney to wit—that it actually indicates the precise space of the appendix. Well, now, that is the most modest account that could be given of the possibilities of McBurney's point. Beyond that there is a great deal more, but that is keeping soberly within the limit of fact. The construction that I would venture to put upon it is this. There is a certain tenderness in the right iliac fossa in appendicitis and McBurney's spot corresponds roughly to the centre of the right iliac fossa and therefore it is reasonably the place where tenderness is exhibited. Next it is a symptom quite common in other maladies, most notably in colitis. In the next place I should say that it is a feature exceedingly common in perfectly healthy individuals in a quite normal state. Last of all, it does not indicate the situation of the disease a[illegible] does not indicate, which McBurney insists that it does, [illegible]tuation of the base of the appendix. Any man ope[illegible] and cutting through the situation at this point will know [illegible]ctly well that there may be tenderness there and the base o[illegible]he appendix does not correspond to that spot. Feeling that it was a matter that needed investigation I asked Dr. A. Keith if he would carry on investigations on certain lines that I indicated and I am deeply indebted to him for the admirable manner in which these investigations were carried out. What struck me was this. So many persons are tender at certain points in the right iliac fossa and very often acutely tender. But there is no such point on the left side and there must be something, therefore, anatomically different there What is it? The ureter or what? This is how the facts come out. Sections were made along the spino-umbilical line; that line measures in the normal male adult six inches and it crosses the rectus muscle at the anatomical point known as Munro's point and it roughly corresponds there to McBurney's point. Well, now, the ureter has nothing to do with Munro's point because it does not cross the line there. Exactly the same condition exists on the left side, so that nothing is to be learnt from that. The next thing is this. The structure that exactly comes beneath that point is the ileo-cæcal valve. The tender thing that can be discovered in the body of a healthy person at that exact spot is the ileo-cæcal valve. As you know, all orifices are peculiarly well supplied with nerve fibres and are peculiarly sensitive, such as the sphincter of the anus, the orifice of the pylorus, and other sphincter-like openings. That that is the cause of the tenderness in that particular spot admits of no dispute. The base of the appendix, you will be surprised to hear, is one inch below McBurney's point, as discovered in 50 bodies prepared by formalin. Dr. Keith was good enough to examine the bodies of 27 living medical students with this result:—in 11 the point of tenderness was exactly on the point; in nine it was a little above the point; and in four it was a little below the point. Those data pretty nearly correspond *pro rata* with the condition found in 50 hardened bodies by formalin. Moreover, in only three out of 27 students was there any particularly tender spot in the right iliac fossa; in none was there any tenderness discovered on the left side of the body. That, I think, should render definite the circumstances about McBurney's point and the part it plays in this trouble. Any medical man present who has examined in detail cases of colitis will well know the extraordinary tenderness there is often discovered and maintained at McBurney's point.

I want at this stage to say one word about phantom appendix—an appendix described as vertical, of the size of your little finger, and sometimes lying obliquely. That appendix is a phantom and it is a curious phantom. The vertical appendix is due to constriction of the uppermost fibres of the rectus muscle that can be often excited by stimulating the nerve as it enters the muscle. I need not remind you that the appendix, the cæcum, the peritoneum surrounding them, and the muscles of the abdomen which cover them and the skin which covers these muscles are all supplied by one nerve, in the main the eleventh dorsal. Even when the patient is under anæsthesia a little hard pressure in that spot where the nerve enters the rectus muscle will bring out this vertical appendix.

In order not to take up too much of your time I think I might finish what I have to say by dealing with what, after all, is the most interesting part of my subject—the operative treatment of this trouble. It is most remarkable that this subject, which one would think is simple enough, is perfectly bewildering by divergent opinions coming from men whose authority one cannot repudiate and must recognise, and added to this is the difficulty that we are still entirely lacking in reliable statistics. What is the general death-rate from appendicitis? Of course, hospital cases are cases of certain gravity and in those cases the death-rate is estimated at something like 15 per cent. But take 10 medical men who have practised in a large town for, say, 20 years and therefore must have had to deal with a great many cases of appendicitis. What number have they lost in that period? They would be shocked at the suggestion that they had lost 15 per cent. It is impossible, therefore, to get quite at the figure. But records have been obtained casually from practitioners and also from the German army in time of peace. It is curious that in both these instances the figure comes out at 5 per cent. I know that this figure is open to dispute, but still I do not think that out of 100 cases of appendicitis I have lost more than five in the course of my private practice. I think, therefore, that 5 per cent. may be accepted as the general rate of mortality in appendicitis. When one goes further into the question of operative treatment of appendicitis the whole crux is, What is to be done during an acute attack? There are certain men whose opinions must be listened to who assert that you must operate in every case of appendicitis as soon as the diagnosis is made. I know that that is not perhaps quite the common position taken up by surgeons in this country, but, as you know, it is almost universal—at least, in America. An operation, they say, should be carried out as soon as the diagnosis is made—not on the second, third, fourth, or fifth day. There are others who operate only on compulsion; they say, "No, the majority of the patients get well," and they only operate in exceedingly acute cases in which pus is evident or in cases that are really spun out and going to such a length that they feel there must be some condition within the iliac fossa which can only be reached by operation Those are the two sides of it.

Speaking from no other than the very uncertain basis of one's own experience I would take the opportunity of submitting these isolated points to your consideration, believing that they form the basis upon which something like a sound opinion can be arrived at. First of all there are advocates of what may be called indiscriminate operation. They use terms of this sort—"You must operate; the appendix is ruptured, there is perforation, there is acute peritonitis, there is gangrene." And mark—and this is the point that I want to draw attention to—these expressions are used exactly in the same sense as you use such expressions as "There is perforation of the bowel, there is a perforating ulcer in the stomach, there is gangrene or hernia of the intestine." And so they say an operation must be carried out even before a reasonable diagnosis has been made, as soon as an attack is suspected. What I very seriously object to is this that the two things are put in the same category It is an absolutely false analogy and distinctly misleading Is it for one moment reasonable to put perforation of the appendix in the same category with perforation of the stomach? It is monstrous. Not only can a perforation of a fair size occur in the appendix but a fair degree of gangrene may be met with without causing serious symptoms. I have found a concretion lying outside the appendix one month after an attack, when all the symptoms have subsided and without a single drop of pus. That must have been due to rupture of the appendix or perforation of the appendix or, if you like, gangrene of the appendix. Is it very reasonable, therefore, to use those terms in the same sense as you use the term rupture of the bowel, gangrene of the ileum, or perforation of the stomach? The analogy is absolutely unjustifiable. The second fact that I do not think can be pressed too strongly is this. The very great majority of all cases of appendicitis get well spontaneously I am speaking of a whole series of cases which come under the care of a medical man in general practice, and I think that it may be said that we are not very far from the truth when we say that the death-rate from appendicitis is 5 per cent. The third fact, which I think should be emphasised as strongly as the last one, is this. operation during an acute attack of appendicitis is attended with great risk to life. What that risk is we again have great difficulty in expressing in figures because they are not easy to get hold of. But we must take things as they are, and I have been at infinite pains to go through records by hundreds and the death rate in cases of operation—I do not say what operation—during an acute attack comes out at about 20 per cent. Some of the hospital records come out higher than that. The fourth point is a little by the way Relapses may occur after an operation carried out during an acute attack and that is a thing which must not be quite pooh poohed The last thing which I should like to impress upon your memories in very large letters, so to speak, is that the removal of the appendix during the quiescent period is attended with infinitely small risk.

If these facts are admitted—perhaps you may say they are not accurate or they are distorted, but I do not think they can be very much out of what is actually the fact,—if these facts are accepted, then I think the line of treatment is not difficult to establish and may be pretty clearly defined Acting upon what one believes to be the best information that the records at present provide in the various directions that I have indicated I think one comes to some such conclusion as this. all that we know of the pathology of inflammation of the appendix is positively opposite to the teaching that operation should be carried out the moment the diagnosis is made. I think that that cannot be put too strongly We know a good deal about the pathology of this trouble and I think that what we do know will not support the dictum that as soon as the diagnosis is made operation should be carried out. The second point is this. An immediate operation should be carried out in all the ultra-acute cases. It is often said that you cannot diagnose them. I would venture to controvert that statement. I believe all these cases are easily recognised, although there are two perfectly distinct types of these ultra-acute cases. There are some in which the local manifestations are not very striking and where the overwhelming symptom is that the patient has introduced into his system a gigantic dose of poison, with a temperature of 104° or 105° F., with the pain not very striking. Those are cases of septicæmia of the most intense character and the patient dies, perhaps, within 36 or 48 hours. In such cases the operation will probably do no good, but it can do no possible harm and it should be as a matter of positive routine carried out. The second class of acute cases also cannot be mistaken. It is exactly parallel to perforation of the stomach and I do not think anyone can have any difficulty in recognising the acute peritonism. The ultra-acute cases cannot be operated upon too soon. The third proposition, which I hope also will meet with your approval, is this an immediate operation should be carried out as soon as there is any suspicion of pus. I suppose that will be universally accepted. I do not want a demonstration of pus but a reasonable suspicion of it.

If those three propositions are accepted that takes us a long way What, then, with regard to the residue of these cases which represents the great mass of cases of appendicitis? I have excluded all the ultra acute cases and I have excluded those cases in which there is pus, and I think that in the cases that remain it is seldom imperative that an operation should be discussed until about the fifth day I think that you will agree with me that in a case of appendicitis, if the temperature comes down and is getting towards normal about the fifth day your anxiety is becoming comparatively slight. And because the temperature keeps up after that day the case is not necessarily doomed, though very probably it will have to be dealt with. Having excluded the cases that I have mentioned I think that the phenomena associated with this malady will bear out that somewhat moderate suggestion in the matter of practice that the surgeon should hold his hand until some such time as the fifth day has been reached when the requirements of the case will have been made quite manifest. Another matter that I will trouble you with is with regard to operative treatment carried out during the quiescent period. It so happened that in a paper which I read before the Royal Medical and Chirurgical Society in 1887 I ventured to suggest that appendicitis when relapsing should be treated by removal of the appendix during the quiescent period. Looking back on the discussion which followed that paper it is curious to note how very feebly it was received and how the method advocated therein was scarcely accepted at all as a reasonable method of treatment. In that particular discussion one physician of considerable experience said that in the whole of his life he had never seen a case of typhlitis that could possibly have called for surgical interference of any sort. So that the reception of that paper was one which, I must confess, condemned me very much. Still, I do not think one has any reason to complain of the infrequency with which the operation is carried out at the present day I have since that particular date removed the appendix during the quiescent period over 1000 times and out of that number I have lost two patients. I could without being very Jesuitical exclude one of those cases because it was not primarily a case of appendicitis but where there was a mass in the right iliac fossa and where as a result the appendix was concerned. But I will acknowledge the two deaths.

The next point that I want to ask you to consider is this, and it is a difficult matter in practice When should this operation be carried out? A patient comes to you and says, "I have had one attack," and you might almost tell him that the operation is so trifling that he should have the suspected organ removed. But the whole question is summed up in this What is the probability of relapse? It is a curious thing that the percentage of relapses has greatly gone up. At one time there were said to be very few relapses—from 20 to 30 per cent. I am quite certain that it is safe to say nowadays that the great majority will relapse. Therefore I think it could be put down, as a line to guide one in directing this matter, that it is desirable to remove the appendix after the first definite attack. The line of argument is this. In the majority of cases there will be a relapse and the patient must feel that the weight of figures is against him. Secondly, the risk of the operation is really almost infinitesimal and will in time become quite trivial. There is just this little sort of comment to be made on a bold assertion of that kind. If there has been an abscess in the first attack then I think an operation may be put out of court altogether because that abscess will in certainly 95 per cent. of the cases obliterate the organ and render it harmless.

Well, then, I have been frequently asked this question: What has been your experience of cases that do not relapse? Going back as I can now over some years, and having seen some thousands of cases of appendicitis, I have seen a great many patients who have had only one attack and having known their career for a number of years—I do not want to quote them as exceptions to any rule but to put them forth as cases in which perhaps that rule may be subjected to consideration and perhaps relaxed—my experience has been this. I have seen children in whom an attack of appendicitis has distinctly followed the lodgment of some mass in the cæcum. In one such case the child ate a lot of nuts and had appendicitis with cramp and hardness over the organ. In that case where there has been only one solitary attack following the lodgment of some mass in the cæcum the child may never have another attack unless it repeats the same alimentary performance. The other class of case is this: the adult who has a great many errors in the matter of feeding to correct. For instance, the commercial traveller who perhaps has no masticating teeth eats anything he comes across at all times of the day: lunches at one, two, or three o'clock, rushes into the bar with his hat on the back of his head, eats anything that happens to present itself, bolts it, and goes about his business in an atmosphere of tobacco and alcohol. That man has gross dietary errors to correct and if they be corrected that man may never have another attack. I think that in the consideration of cases of appendicitis the circumstances in those two classes of the disease that I have mentioned must be taken into account. I might, perhaps, just quote one such case. A medical man was working in a colliery district under the very worst possible conditions. The man was up day and night and got his meals anyhow, and he practically had no masticating teeth. He was a man temperate in every respect. Eventually he inherited a fortune, a very large sum of money, and of course the very first thing he did was what any of us would have done—he abandoned the profession and sought opportunity for rest. Previously he had had one attack of appendicitis and he now came to me saying that he wanted to have some enjoyment out of life and he thought that the first element of success in that direction was to have his appendix removed. I thought that perhaps he might make a little cult of his appendix, so it was agreed that it should not be removed. That man observed the general rules of health and I see him occasionally and he has never had a single attack since. With regard to chronic appendicitis I think that in every such case the appendix should be removed when there is no other treatment for it.

Last of all I must say this: the removal of the appendix is not a panacea for every ill in the lower part of the abdomen, because there is apparently an impression abroad in the present day that any kind of disturbance below the umbilicus must of necessity involve the removal of this very much discussed organ.

The Hunterian Lecture

ON

SOME POINTS IN PRACTICAL SURGERY SUGGESTED BY THE STUDY OF THE LIFE AND WORK OF JOHN HUNTER.

Delivered before the Hunterian Society of London on Feb. 26th, 1902,

BY REGINALD HARRISON, F.R.C.S. ENG.,
SURGEON TO ST. PETER'S HOSPITAL, LONDON; CONSULTING SURGEON TO KINGSTON DISPENSARY AND BRAINTREE COTTAGE HOSPITAL.

MR. PRESIDENT,—When your predecessor asked me to deliver the Hunterian Lecture this year I felt less diffidence in accepting the honour than I should otherwise have done because I knew that your society had never ceased to show its reverence for the illustrious man whose name it bears in the most practical and useful forms.

I am taking for my subject some points in practical surgery suggested by a study of the life and work of John Hunter. It would be difficult to find a more agreeable or improving occupation than that of recognising and tracing how much we are indebted to him for the rapid strides our art has made in almost every direction. Though Hunter did not give us anæsthetics or antiseptics, he prepared surgery, by placing it on a scientific basis, for the reception of these two grand discoveries of this age.

[Mr. Harrison proceeded to show that Hunter's teaching as to the cure of hydrocele was true even of the present day. He proceeded:]

Hunter's observations on perineal urinary fistula are interesting. He says: "In whatever part of the urethra the disease is the external opening seldom heals as long as the seat of the disease has no disposition to heal. Let us compare this disease (urinary fistula) with the state of parts after lithotomy. If the incision is made in sound parts, and the whole injury be a stone which is extracted, the parts readily heal in spite of the urine passing through that channel. This, then, shows that there is another cause of their not healing." Further he states: "To cure this disease it is necessary first to make the natural passages as free as possible, that no obstruction may arise from that quarter—and sometimes this alone is sufficient—for the urine finding a free passage forwards is not forced into the orifice and the fistula heals up. But the dilatation of the stricture is not always sufficient; it is often necessary to perform an operation on the fistulæ when they alone become the obstacle to the cure." Here we have in a few lines the pathology and treatment of urinary fistula with a reservation for exceptional or complicated cases. There can be no doubt that in the larger proportion of cases where a stricture of the urethra co-exists with a urinary fistula, or is the cause of it, the removal of the stricture by some form of dilatation, with or without the retention of a catheter, as Hunter suggests, is sufficient in itself to effect a cure of the fistula, and so long as the patient is careful in keeping the stricture dilated such a consequence is not likely to recur. But this consideration by no means covers the whole ground. Water or urine will invariably escape through the easiest channel. Cases are frequently met with where it has thus been found impossible to heal up these sinuses even though the stricture has been fully dilated. This would seem to imply that either owing to a state of urethral spasm to which persons are more liable who have had obstructions of this kind, or, as Hunter suggests, to the precise manner in which the false routes communicate with the urethra, it is impossible to prevent some urine from entering them during the voluntary act of micturition. Either of these reasons is sufficient to explain this difficulty in closing a fistula.

Then arises the question, What more can be done to bring about a closure of these fistulæ? for nothing can be more intolerable to a patient than having to go about with a leaking and discharging sinus that fails to heal. Hunter's reference to the making of wounds which "readily heal in spite of urine passing through them," to use his own words, has an important bearing upon this point, for it will be recognised that their substitution for those which show no tendency to repair, but, on the contrary, to remain patent as suppurating and offensive sores, may often be advantageously utilised. This point has frequently been demonstrated in practice, and proved the quickest and safest way of dealing with certain forms of urethral stricture complicated with one or more urinary fistulæ. Thus the secondary proceedings to which Hunter refers—namely, operations on the fistulæ themselves—may be obviated as unnecessary when the stricture is entirely freed and the urine so efficiently drained as to be prevented from entering unnatural channels. And it is upon the two governing principles as laid down by Hunter in the passage quoted as being generally applicable to this class of cases that I would desire to lay stress. These are (1) the necessity of securing a free outlet forwards for the urine, and (2) the provision of a wound when required for this purpose which will, as Hunter states, "readily heal in spite of urine passing through it."

I have already observed that in dealing with the expulsion of urine from the bladder it must be remembered that its course is entirely determined by the degree of resistance that is opposed to it. If this is less in the case of a false or an unnatural route it is certain to select this in preference to the natural channel, whatever may be the condition of the latter. Hence to divert the urine from these fistulous openings and cause them to dry up and heal from want of use it is a first principle to secure its escape by the natural channel, or, if the latter is permanently damaged, by a substitute. In the matter of urine drainage much depends on the nature and position of the wound that is made for this purpose. We see this, for instance, in the case of wounds made for median lithotomy as compared with those made for lateral lithotomy. The former will not drain thoroughly and incontinently without a suitable drain-pipe or other apparatus. The latter is entirely independent of all kinds of apparatus and the drainage will be free and incontinent until repair has made considerable progress. I do not think sufficient has been made of this distinction.

Hunter says, when speaking of the effects of enlargement of the lateral lobes of the prostate: "A small portion of it which lies behind the very beginning of the urethra swells forward like a point, as it were, into the bladder, acting like a valve to the mouth of the urethra. It sometimes increases so much as to form a tumour, projecting into the bladder some inches. This projection turns or bends the urethra forwards, becoming an obstruction to the passage of a catheter, bougie, or any such instrument, and it often raises the sound over a small stone in the bladder so as to prevent its being felt." In such cases, he remarks, "I have frequently passed first a hollow elastic catheter till it has reached this point, and afterwards a stylet or brass wire properly curved so as to go over the prostate gland."

Hunter gives a very sound piece of advice in reference to the importance of surgeons instructing patients who are liable to urethral obstructions or to enforced retention of urine in the art of passing a catheter for themselves. He observes: "This practice of the patient under a surgeon's eye, by which he is taught how to pass them, becomes more necessary as strictures are diseases that commonly recur; and therefore no man who has ever had a stricture and is cured of it should rely on the cure as lasting, but should be always prepared for a return, and should always have some catheters with him. He should not go a journey, even of a week, without them, and the number should be according to the time he is to be absent, or to the place whither he is going, for in many parts of the world he cannot be supplied with them." No better counsel could be given than this. Now, however, it would not be regarded as complete without attaching instructions as to the necessity for employing scrupulous care in cleaning these instruments and rendering them innocuous, so far as this is possible, by the use of antiseptics.

In reference to the latter subject I cannot find that Hunter recognised as possessing any striking peculiarities what at the present day we are accustomed to speak of as urinary fever. It would be very interesting, Sir, if at your bidding we could hear from him his opinion as to its etiology. Which view would he take—the neurotic or the septic, or would he recognise both? It is a difficult question to determine and much variety of opinion in reference to it prevails. For my own part I cannot see how and where the nerve theory of causation comes in, though I fully recognise how largely the sexual apparatus is innervated and how sympathetic it is. I would ask what have been the results of the extension of the principles of antiseptics to the surgery of the urinary organs? What has followed the more stringent precautions that we as surgeons impose upon ourselves in all that applies to the use of instruments to these parts? and what happens commonly when we or our patients fail in giving the fullest effects to these antiseptic provisions? Have we thereby lessened or increased the number of cases which would come under the designation of urinary fever? Again, how does it happen that the most frequent and fatal forms of urinary fever are associated with the smaller lesions and not with the larger? How insignificant must be the nerve damage which is occasioned by an internal urethrotomy or the passing of a sound or catheter as compared with that of a lateral lithotomy for the removal of a large calculus, as used to be practised. And yet after the latter we seldom, if ever, saw anything more than the febrile excitement which is usually associated with all wounds which are not protected by antiseptics. Again, an unprotected internal urethrotomy wound is almost invariably followed by a rigor and some degree of urinary fever. Whereas if we considerably add to that lesion by a perineal section for the insertion of a drainage-tube into the bladder, no urinary fever follows if the latter acts perfectly. Lastly, what has sterilisation of the urine done in reference to the liability to urinary fever? The late Dr. Palmer of Louisville, whom I knew well, showed how by sterilisation of the urine by administering boric acid beforehand, the liability to this fever was almost reduced to *nil* in the case of such operations as internal urethrotomy. By evidence of this kind the septic origin of urinary fever is, I believe, substantiated as against the nerve theory.

The question which I have thus raised as to the etiology of so-called urinary fever is one of much importance, for if it is septic, as I believe it is, it should be amenable to precautionary antiseptics. For some time I have been acting on this principle. If I ever cause, either accidentally or designedly, a lesion of the male urethra, as by passing a sound or a catheter or in performing an internal urethrotomy, I am in the habit of putting some antiseptic into the bladder immediately after, which would seem to have the power of temporarily sterilising the urine and rendering it less likely to infect the individual through any small lesion that may have been caused. For instance, after an internal urethrotomy on completing the operation I put into the empty bladder some ounces of boric lotion or of a solution of corrosive sublimate, the latter in the proportion of 1 in 6000, and leave it there. In this way I believe that I have succeeded in averting the absorption by the wound of intensely poisonous compounds derived from the urine, probably of the nature of ptomaines, which indicate their presence in the system by the characteristic rigors and elevation of temperature with which, unfortunately, we are so familiar. By following this local treatment up by the internal administration of certain drugs which more or less sterilise the urine, as in Dr. Palmer's experiments with boric acid, the development of urinary fever in this class of operation may often be prevented. The best sterilisers for this purpose are urotropine, benzoate and salicylate of soda and borocitrate of magnesia. The last-mentioned is the only digestible preparation of boric acid I know of which can be given in sufficiently large doses to effect this purpose. Quinine and salol have a similar action, but they are not so well adapted as those mentioned.

We would do well if we paid more attention to the subject of urine sterilisation in its relation to the prevention and treatment of urinary fever, in connexion more particularly with some of the minor operations on these parts. In some surgical works hardly any reference is made to this as a necessary part of the preparatory treatment of persons about to undergo operations involving these organs. Hence urinary fever and the complications arising out of it, such as suppression of urine, are far commoner than they should be.

Hunter, when evidently speaking of the treatment of residual and retained urine in cases of enlarged prostate, makes a very pertinent observation. Referring as to how the urine may be evacuated in these circumstances he says: "There are three ways in which it can be done, one by allowing the parts to do their own business as much as they can, and this at first sight might be supposed to be the very best, but it is in some cases the very worst." He gives prominence to the view, now as then entertained, that there is some degree of positive risk connected with non-interference in cases of this kind which may arise from persons carrying about with them constantly that which ought to be spontaneously evacuated. Where this can be done with impunity and where it is attended with more or less risk is sometimes a fine point to decide, but it is one that should always have our careful consideration.

No one, I am sure, would wish to introduce a patient to what is called catheter life—for life it usually is—prematurely or without sufficient reason, but the necessity for the use of the catheter under certain conditions of bladder unrest and urinary change should not be overlooked or disregarded. States of exhaustion and sepsis may thus be imperceptibly impending. Because an elderly man carries about constantly with him two or three ounces of normal urine is not sufficient reason why he should use a catheter. On the other hand, an ounce or so of decomposing urine contained within the bladder in some depression or sac may readily prove a source of infection which should be removed and dealt with, for thus the whole amount of urine may be rendered offensive and poisonous.

Amongst the many subjects that Hunter occupied himself with were the periodical changes which took place in the sexual glands of birds and certain mammals. In some observations on the function of the prostate gland in man and the lower animals Mr. Joseph Griffiths of Cambridge quotes the following from Hunter's works: "The prostate and Cowper's glands and those of the urethra in the perfect male (bull) are soft and bulky. In the castrated animal (bullock) these are small, flabby, tough, and ligamentous, and have little secretion. Especially marked is the change when the animal is castrated when young."[1]

Passing from these observations, I will proceed to notice some points connected with the surgery of this part. I do not think there can be any doubt that there are various states of obstruction arising out of prostatic hypertrophy where it is impossible to give adequate relief to the patient by the use of the catheter, however skilfully it may be employed. Further, there are instances where persons, either from sentiment or more cogent reasons are willing to incur some degree of risk to their lives to escape the annoyance of catheter dependence. For many years it has been laid down as a guiding principle that persons so situated by reason of an obstructing prostate should be content with their lot so long as the process can be carried on with a reasonable amount of ease and satisfaction to themselves. This principle seems to have been arrived at on the following grounds: first, because catheter dependence is not inconsistent with the maintenance of good health and the attainment of an average existence or even a life considerably exceeding this limit; and secondly, because the removal of more or less of the prostate did not necessarily mean that normal micturition would in all cases be permanently restored.

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[1] Journal of Anatomy and Physiology, vol. xxiv.

Evidence seems to be accumulating to indicate that prostatectomy may be practised with greater safety and certainty than it was formerly. This is due, partly to improved methods of operating and partly to our recognising more fully the varieties of form and structure which the hypertrophied prostate presents. Our desire to discover some uniform method of treatment appeared to retard the surgery of this part, for I have little doubt that Dr. William White's important suggestions and practice relative to the induction artificially of shrinkage of the prostate tended in some measure to draw our attention from Mr. McGill's work long before we had acquainted ourselves with all its merits and were sufficiently informed as to its limitations.

It would be premature at present to draw conclusions from figures relative to the more recent developments of prostatectomy. Taking, however, cases where the enlargement is mainly due to what may be spoken of as enucleable adenomas[2] which by their early and somewhat rapid development appear to have squeezed out of existence, even to the limits of the fibrous capsule, the original prostatic tissue, the mortality is not large. Fuller[3] writes: "The mortality attached to prostatectomy is at the present time (1900) in the neighbourhood of 15 to 18 per cent. If one operated simply on selected cases it ought to be much less." My colleague Mr. P. J. Freyer[4] has recently published the results of eight cases with one death at the end of three weeks. These cases are of much interest and importance and have undoubtedly given a fresh impulse to enucleation in connexion with suprapubic prostatectomy. Mr. H. L. Barnard[5] has recorded two cases, both successful, whilst from my own practice during the past year I can mention five cases without a death, as yet unpublished, and in the practice of some of my colleagues five other cases, also unpublished, without mortality and with excellent results.[6] Within my own knowledge, therefore, I can bring forward a series of 21 cases in which this operation has been performed with only one fatality. It is hardly fair, perhaps, to take such a limited number of cases as the basis of a statistical statement, but it will be seen that far from Fuller's mortality of 15 to 18 per cent. being reached, the mortality in this series only totals 5 per cent. Even the last figure is capable, I believe, of a further reduction by utilising the less formidable process of urethral prostatectomy as will first be illustrated, or by substituting perineal tubing with control drainage[7] in cases physically or otherwise unfitted for vesical prostatectomy. Nor should I omit to mention a paper published by Mr. Mayo Robson,[8] which included 12 cases of prostatectomy with one death. From a different standpoint Professor Albarran,[9] of Paris recently recorded 16 cases of perineal prostatectomy which he had completed without a death. The operative prospect from all sides may therefore be regarded as favourable. Viewing these figures as a basis representing the results of prostatectomy and comparing them with what happens to persons leading a catheter life, I am inclined to think that they favour the former rather than the latter. Take, for instance, the man who has to catheterise himself 1000 times or more in the year. What is his expectation of life as compared with the individual who incurs the risk of a prostatectomy and has, after a successful operation, no further need for this instrument? I am disposed to think, from long observation and knowledge of persons habitually using and dependent upon catheters, that they eventually succumb to one or other of the casualties incidental to this form of instrumentation.

Then, again, our views relative to the paralysed atonic bladder associated with the hypertrophied prostate certainly require remodelling under the light that prostatectomy has thrown. There can be no doubt that after this operation persons have completely recovered natural bladder power after its suspension for from one to seven years. The possibility of this has been doubted and more than once publicly challenged. A reference to such records as I have mentioned is sufficient, however, to support this statement.

Time will not permit me to speak of the relationship, which Hunter was the first to point out, that existed between the testes and the prostate and to offer some remarks on the employment of vasectomy in connexion with some forms of urinary disorder. I refer more particularly to the influence which this operation may exercise in preventing and arresting prostatic enlargement in a very simple manner, and further, in interrupting the extension of inflammations and other microbic conditions from above downwards and *vice versâ*. These observations have already been placed before the profession and are utilised in practice. I will therefore pass on to notice the application of prostatectomy to some cases of enlarged prostate complicated with vesical stone.

As matters at present stand there can be no question that in the case of stone in the bladder happening in young children and adults before the prostatic age is reached its removal should be effected by crushing, save under exceptional circumstances. When, however, the period is reached when prostatic hypertrophy may be the cause or the complication of a bladder stone the liability to recurrence after removal by crushing becomes exceedingly frequent and has to be taken into consideration.

In early days my practice, so far as the operative treatment of stone was concerned, included a considerable number of young male children, and I remember tabulating a large number of lateral lithotomy cases in these subjects, with a record of "no deaths and no recurrences." More recently I published a paper[10] which included an analysis of 110 persons upon whom I operated for stone in the bladder during the years 1890–97. This comprised 101 litholapaxies, three perineal lithotrities, two suprapubic lithotomies, and four median lithotomies. Of the 101 litholapaxies or crushing operations, though the mortality was only a fraction over 5 per cent., 23 of the patients were known to have one or more recurrences for which I treated them on subsequent occasions. These occurred for the most part in persons of an advanced age with enlarged prostates who were more or less dependent on their catheters and possessed but little power of voluntary expulsion. Thus by trapping gravel and concealing fragments of grit, prostatic hypertrophy considerably adds to the liability to vesical stone and its recurrence in the later portion of male life. For reasons of this kind many surgeons have considerably restricted the use of litholapaxy, and have substituted for it suprapubic cystotomy. Writing to me recently on this subject and in view of a reduced mortality after the latter operation, Mr. W. Cadge states: "I should, were I still in active practice, do abdominal cystotomy, not only for large stones, but for cases in which the stone is of moderate or small size, the patient depending wholly on the catheter, the prostate large, and the bladder misshapen or pouched; for cases, in short, which constitute the large proportion of recurrences." The more recent developments in prostatectomy will, I think, add considerably to the force of Mr. Cadge's remarks.

In persons suffering from much enlargement of the prostate and catheter dependence, complicated with stone in the bladder, after litholapaxy has failed once, or perhaps twice, to prevent recurrence of the latter suprapubic cystotomy will have still further claims for consideration, not only because it permits of the removal at one operation of the stone, but a contributing cause of it, as well as the catheter dependence, which so frequently coexists or arises under these circumstances, I will proceed to illustrate the employment of prostatectomy by the narration of a few cases and to show what was thus removed.

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[2] "A Case of Lithotomy where a Portion of the Prostate (adenoma) was also successfully Removed," by Reginald Harrison, Transactions of the Royal Medical and Chirurgical Society, 1882.

[3] "Diseases of the Genito-Urinary System," pp. 412, Macmillan and Co., New York and London, 1900.

[4] Brit. Med. Jour., July 20th, 1901, and Feb. 1st, 1902.

[5] THE LANCET, 1901.

[6] Sir William MacCormac had a very successful case shortly before his lamented death where a large adenoma was thus removed together with numerous calculi. The specimen is in the museum of the Royal College of Surgeons of England.

[7] Polyclinic and Medical Graduates' Journal, November, 1901.

[8] Brit. Med. Jour., vol. ii., 1894.

[9] Trans. Association Française d'Urologie, Paris, 1901.

[10] "A Further Contribution to the Surgery of Stone in the Bladder," op. cit.

CASE 1.—The following case may be taken as illustrating, not any difficulty connected with the removal of stone from the bladder by crushing or litholapaxy, but two conditions favourable to the formation and recurrence from time to time of phosphatic stone when an enlargement of the prostate is present. These were (1) the necessity existing for the permanent use of the catheter which implied the suspension of the voluntary power of urine-expulsion and whatever else the bladder contained, and (2) a specially foul state of the residual urine which co-existed and supplied a material for stone formation. The case further illustrates how the removal of the obstruction thus caused by the prostate ended these two conditions. The patient, aged 55 years, was seen with Sir R. Douglas Powell in April, 1899, with symptoms of stone in the bladder for which he was sounded A stone was felt lying behind a prominent prostate. I removed the former by litholapaxy, the fragments weighing 296 grains of oxalate and phosphatic stone. The patient previously to the operation had been largely dependent on his catheter for a year and it was hoped that the removal of the calculus would be followed by a return of natural power This, however, was not the case, though in other respects he made a rapid recovery after the operation. A recurrence in the form of a phosphatic stone took place and he was again operated upon in August of the same year by litholapaxy A second recurrence occurred later and a stone was removed in a similar manner in September, 1900 Early in 1901 he had further symptoms of stone and it appeared clear that the only way of preventing these recurrences and restoring the natural function of micturition was to remove the obstructing portion of prostate. A careful examination was made by the cystoscope and I recognised the conditions outlined in the illustration (Fig 1). It will be seen that two stones were covered by an *overhanging middle lobe, with a narrow or* stalk like pedicle Thus both gravel and urine were trapped. Guided by some previous experience of a similar kind I recognised that this form of prostatic obstruction could be completely removed without opening the bladder, an important point. I therefore punctured the deep urethra on a grooved staff as for a median lithotomy and introduced my finger into the bladder. Having thus made my way I substituted a pair of polypus forceps, and seizing the neck of the growth twisted off the excrescence as figured and afterwards withdrew the two stones which are delineated beneath it (Fig 2). A drainage-tube was introduced into the bladder and retained for a few days, on the withdrawal of which the small wound speedily healed. He left the surgical home on the fourteenth day. He has never used a catheter since nor has he had any further recurrence of stone. He had been dependent on his catheter for over three years and never hoped after what he had been told to dispense with it. How far this form of prostatectomy succeeded may be gathered from my examination of his *bladder a year after* this operation. His urine was perfectly normal and he had no residual.

FIG 1

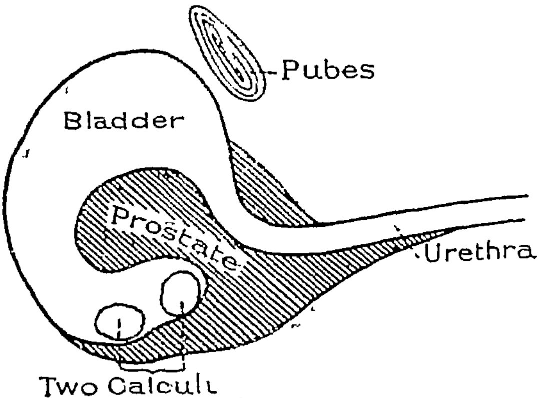
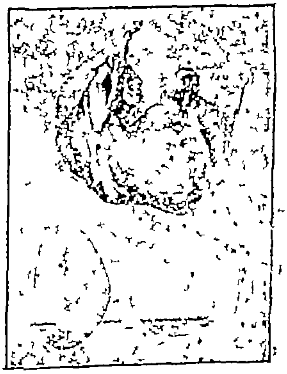


FIG 2.



The growth proved to be a pendulous adenoma and no further enlargement is likely to take place. The case shows the importance of recognising those prostatic enlargements which can be dealt with without submitting the patient to a more extended operation. Dr J G Pardoe assisted me and Mr C Carter Braine gave the anæsthetic on these occasions.

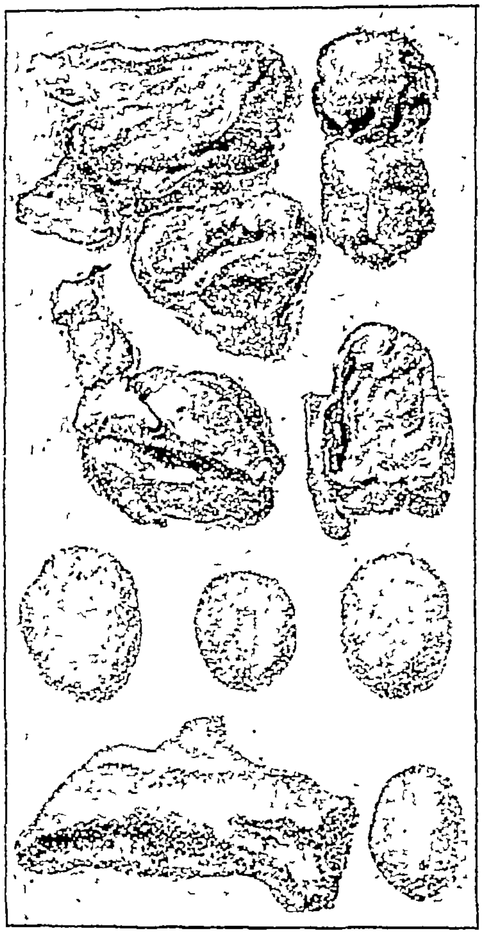
CASE 2.—The patient, a male, aged 79 years, was seen by me in consultation with Dr J G Glover. In 1897 I had removed a small stone from his bladder by litholapaxy His prostate was then considerably enlarged, and he was entirely dependent upon his catheter Attacks *of cystitis were frequent, and the difficulty connected* with the use of his instrument was constantly increasing When I saw him again in consultation in 1901 his condition was about as bad as could be imagined and his life most miserable. I advised suprapubic prostatectomy, which was done at once Dr Pardoe assisted me and Mr F W Braine administered the anæsthetic. The operation was a difficult one as the enlargement consisted of a prostate far advanced in fibrous degeneration and but little of it was enucleable by the finger However, a considerable mass was removed, partly by finger and forceps, and in addition the five stones, also figured below, weighing three drachms, which were completely concealed by overhanging growths (Fig 3). The patient *did remarkably* well and 21 days after the operation passed 40 ounces of urine naturally in 24 hours. He left the home at the end of four weeks and shortly after went to Bournemouth. His health is completely restored and he is again leading an active life. The case is a remarkable instance of how completely a person, even at this advanced age, can recover the normal power and function of the bladder After *seven years'* catheter dependence he has, been able to dispense entirely with this instrument and to exercise full control over urination.

[*Mr Harrison* gave particulars of three other cases of prostatectomy Concluding, *he said*]

Though the results of prostatectomy as now being practised are very encouraging, it must be remembered that instances of carcinoma of the prostate are liable to be submitted to this process. The diagnosis between a hard fibrous prostate and a cancerous one belonging to the malignant type is not always easy to make during life. Nor, as a distinguished microscopist once said to me, can this point invariably be readily determined even after death, except from a clinical point of view Yet the supposed rarity of cancer in this part must not be relied upon too much. *I have* already met with one instance in my practice, not sufficiently advanced *for* publication, where a carcinoma has been removed in these circumstances So far the case has done well and relief has been given, but what about *the future?*

In these remarks which I must now bring to a close, I have endeavoured, though very imperfectly, to illustrate by a few examples the influence that one man, in the person of John Hunter (who has now been dead over a hundred years), exercised on the development and progress of practical surgery. At no period in the history of surgery has this influence been greater or more conspicuous than at present.

FIG. 3.



The public and the profession owe a deep debt of gratitude to a society like this which devotes so much attention and attaches so great importance to all that relates to the life and work of John Hunter.

A NOTE UPON AMPUTATION AT THE HIP-JOINT.

BY EDMUND OWEN, F.R.C.S. ENG.,
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IN proportion to the gross number of amputations disarticulation at the hip-joint is, I suppose, performed more often at a children's hospital than at a general hospital. There are several reasons why this should be so. In the first place, cases of advanced hip-joint disease, for which the operation is often most admirably suited, naturally drift towards a children's hospital and the little patients as a rule rapidly pick up as soon as the hopeless limb is removed. Then sarcoma of the periosteum of the femur, for which disarticulation at the hip offers the only prospect of recovery, is particularly a disease of early life. Septic osteo-myelitis, also, which is peculiarly a disease of children, may require the high amputation.

I have assisted at the operation of amputation at the hip-joint, and I have performed it, a good many times and in a good many ways. The fact of there being many schemes for performing the disarticulation may be taken as evidence that there has been in the past no general recognition of there being any one operation of surpassing merit. Compression of the abdominal aorta by fingers or tourniquet, of the common iliac artery by the rectal lever, of the external iliac or common femoral by the fingers, or by a rubber tube applied in one ingenious way or another, or securing the vessels in the flap—each method of dealing with the main vessels has shown some evidence of defect, or, at any rate, has left a good deal to be desired. Then as regards the division of the soft parts—the planning of the flaps—there was the dashing method (particularly associated in this country with Liston's name) which gave a long anterior flap by transfixion; there were the methods by lateral flaps, and there were various racquet-shaped incisions. In later years came Furneaux Jordan's method of enucleating the femur through a long external incision and cutting through the soft parts in the middle of the thigh, or lower, the vessels having been controlled by the rubber band encircling the pelvis. This operation has, or rather the modifications of it which have been adopted from time to time have, much simplified disarticulation at the hip. But there is a still simpler method of operating, and it is the object of this note briefly to describe it.

First, the crural sheath is opened through an incision running vertically down from Poupart's ligament and the common femoral vessels are secured in separate ligatures. This takes very little time—not nearly as long as is usually taken to secure the superficial and deep femoral vessels and their bleeding branches in the cut flaps of an ordinary amputation. Then a circular sweep is made round the thigh a little above the middle, straight on to the femur, the bone being sawn through at the same level. Thus the limb is cut off square. An incision is next made on to the femur from the top of the great trochanter downwards and the bone is enucleated, some small branches of the sciatic, gluteal, or circumflex iliac arteries possibly requiring attention. If the amputation is being done for tuberculous or septic inflammation the periosteal and muscular attachments to the femur are separated with the utmost ease by a blunt raspatory, but if for peripheral sarcoma the surgeon would have to use a knife and to keep it well away from the bone.

Briefly, I would state my proposition thus: Amputation at the hip-joint is most conveniently performed after a preliminary ligation of the common femoral vessels by cutting straight across the thigh a little above the middle, and by enucleating the remaining part of the femur through an incision running down on to the bone from the top of the great trochanter.

Great Cumberland-place, W.

THE FIXATION OF MOVEABLE KIDNEY BY MEANS OF STRONG CARBOLIC ACID; SIX CASES.

BY THOMAS CARWARDINE, M.S. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON, BRISTOL ROYAL INFIRMARY.

THE method which I have adopted for nephropexy in the cases here recorded is, I believe, an improvement on methods in which scarification or peeling of the renal capsule is employed in association with other measures. It is applicable to all the recognised forms of nephropexy and gives greater security to their results.

The plan consists in freely painting the whole surface of the kidney, except the hilum, with the strongest liquid carbolic acid, so that the surface becomes covered with granulation tissue within a few days. The painting is best done after the supporting sutures, &c., have been inserted, but before they are tied, by means of a swab containing the liquid not in excess. In four of the cases—those in which the kidneys were suspended by gauze slings and packing—I have been able to watch the surface of the kidney for from 10 days to three weeks afterwards and I have observed the granulations and lymph rapidly form, followed by intimate and firm incorporation of the kidney with the surrounding tissues. The kidney could then be seen to move with respiration in conjunction with the parts surrounding it, and on pressing upon the exposed renal surface it was found to be inseparably attached even in those cases in which no sutures were used. Moreover, in a case treated thus combined with gauze packing I was able to verify the results a year afterwards, for on cutting through the old scar for the relief of pain of the liver in bulk (if needful, first drawing the organ downwards from under cover of the ribs) the whole of the gall-bladder and the cystic and common ducts are brought quite close to the surface, and as the gall-bladder is usually strong enough to bear traction, the assistant can take hold of it by fingers or forceps and by gentle traction can keep the parts well exposed, at the same time that, by means of his left hand with a flat sponge under it, he retracts the left side of the wound and the viscera, which would otherwise fall over the common duct and impede the view. It will now be observed that instead of the gall-bladder and cystic duct making a considerable angle with the common duct an almost straight passage is found from the opening in the gall-bladder to the entrance of the bile-duct into the duodenum, and if adhesions have been thoroughly separated, as they should always be, the surgeon has immediately under his eye the whole length of the ducts with the head of the pancreas and the duodenum. So complete is the exposure that if needful the peritoneum can be incised and the common duct can be separated from the structures in the free border of the lesser omentum, but this is not necessary except where a growth has to be excised. The surgeon, whose hands are both free, can now with his left finger and thumb so manipulate the common duct as to render prominent any concretions, which can be cut down on directly, the edges of the opening in the duct being caught by pressure forceps. The assistant can now take hold of the forceps with his left hand, as that instrument with the sponge will form a sufficient retractor since the duct is so near the surface. When the duct is incised there is usually a free flow of bile which it must be remembered is probably infective, but a sponge in the kidney pouch and rapidly mopping up the bile as it flows by means of sterilised gauze pads avoid any soiling of the surrounding parts, and if thought necessary the bulk of the infected bile can be drawn off by the aspirator either from the gall-bladder or from the common duct above the obstruction before the incision into the duct is made. After removing all obvious concretions the fingers are passed behind the duodenum and along the course of the hepatic ducts to feel if other gall-stones are hidden there, and a gall-stone scoop, the only special instrument that I use, is passed quite up into the primary division of the hepatic duct in the liver and quite down to the duodenal orifice of the common bile-duct, and, if thought necessary to insure the opening into the duodenum being patent, a long probe is passed into the bowel. The incision into the bile-duct is now closed by an ordinary curved round needle held in the fingers without any needle-holder, a continuous catgut suture being used for the margins of the duct proper and a continuous fine green catgut or spun celluloid thread being employed to close the peritoneal edges of the gut. In such cases, where the pancreas is indurated and swollen from chronic pancreatitis and is likely to exert pressure on the common duct for a time, I insert a drainage-tube directly into the duct and close the opening around it by a purse-string suture, the tube being fixed into the opening by a catgut stitch which will hold for about a week, but where this is not done I usually fix a drainage-tube into the fundus of the gall-bladder in the same way, as this drains away all infected bile and avoids pressure on the newly-sutured opening in the duct.

So easy is it to remove impacted stones after this method of exposure that I now never spend a long time in manipulating stones impacted deeply in the cystic duct, but at once incise the duct, remove the concretions, and close the opening without damaging the duct by much pressure and prolonged manipulation. Although there is seldom any fear of leakage or of infection, yet, owing to the separation of extensive adhesions, there is usually some tendency to pouring out of fluid in the first 24 hours. I therefore generally insert a gauze drain through a split drainage-tube, bringing it out either through a stab wound in the loin or forwards by the side of the gall-bladder drain The wound is closed in the usual way by continuous catgut sutures, first to the peritoneum and deep rectus sheath, next to the anterior rectus sheath, and, lastly, to the skin.

To those having little experience in this operation the modification which I have employed may seem trivial, but to those who have experienced the difficulties of the ordinary operation I feel sure that the method which I have described, which enables the whole of the bile passages to be dealt with as a straight tube close to the surface, will be sufficiently appreciated. But the technique of the operation is not the only important part of the treatment of these serious cases, which require thought and care not only before and at the time of, but subsequently to, operation.

A careful study of the causes of mortality in operations on the common duct shows that hæmorrhage, either immediate, consecutive, or secondary, cannot be ignored as a danger, and that shock apart from hæmorrhage has next to claim our attention. Sepsis is no longer the bugbear that it used to be, thanks to a rigid all-round asepsis, the employment of gauze drainage, and the careful avoidance of soiling the wound by infected bile. Although there is a greater tendency to bleeding in chronic jaundice from pancreatic disease than when jaundice is due to gall-stone obstruction I think there can be no doubt that in all cholæmic conditions the blood becomes so altered that the coagulability becomes seriously diminished and that these factors demand serious attention before any operation is undertaken in cases of common duct cholelithiasis. After reading Professor A. E. Wright's researches on the coagulability of the blood published in the *British Medical Journal* of Dec. 19th, 1891, my mind was prepared to grasp the possibility of turning the experience gained on dogs to practical uses in the human subject, as I had lost two jaundiced patients, one in 1888 and one in 1890, from persistent oozing of blood subsequently to operation. I therefore at once began to employ it in these cases and with benefit, but it has been only within the last two years, since using chloride of calcium in apparently heroic doses, that I have been able to get at the real value of the drug, which is the one I now always employ in the cases of jaundiced patients, both before operation in 30-grain doses by the mouth and afterwards in 60-grain doses by the rectum thrice daily for several days. The following case reported by Dr. W. Gough affords a good example of its utility.

A married woman, aged 38 years, was admitted to the Leeds General Infirmary on Jan. 23rd, 1901. She had had typhoid fever in September, 1899, and had never been quite well since. Shortly afterwards she began to suffer from biliary colic, though she had never been jaundiced till six months before admission, from which time jaundice had never left her. On Dec. 24th, 1900, she became much worse and had very severe paroxysmal pain, accompanied by shivering and profuse sweats. From that time she lost weight very rapidly and the jaundice deepened. On admission the liver could be felt below the ribs and there was a distinct fulness on deep palpation in the region of the pancreas. From Jan. 21st to the 31st she took calcium chloride in 20-grain doses thrice daily. Duodenocholedochotomy was performed on the 31st. There was very little bleeding. A stone nearly as large as a pigeon's egg was removed from the ampulla of Vater, which was laid open over a director introduced through the papilla at its opening into the duodenum. The head of the pancreas was felt to be much enlarged and hard. The incision into the ampulla was not sutured and through it the common bile-duct, very much dilated, was explored by the finger. The anterior wound in the duodenum was then sutured and the abdominal wound was closed. A drainage-tube was inserted through a stab wound in the right loin. The patient inadvertently did not have calcium chloride given in the nutrient enemata as is usual in these cases. She did well till the morning of Feb. 2nd, when the nurse noticed at 3 o'clock that the dressings were soaked with bright blood. The drainage-wound was exposed, but no hæmorrhage was occurring there. On examining the abdominal incision blood was seen to be slowly oozing from it and from the stitch punctures. One drachm of calcium chloride was administered at once by the mouth and three stitches were removed; the surface of the wound was then seen to be oozing all over. It was packed with gauze soaked in tincture of hamamelis and a firm dressing was applied. One drachm of calcium chloride was given again in two hours and afterwards it was repeated in 30-grain doses every two hours for six times, the drug being then given thrice daily. There was no recurrence of hæmorrhage and the patient made an uninterrupted recovery. The drainage-tube was removed on the 4th and she returned home within the month An examination of the blood showed a very marked diminution in the blood-plates.

I think that it is important to ligature all bleeding points and not to trust simply to forcipressure, and while in non-jaundiced patients adhesions may be simply separated, in these cases I prefer to divide adhesions between ligatures where practicable. Where there is persistent oozing of blood from innumerable points, a tampon of sterilised gauze forms

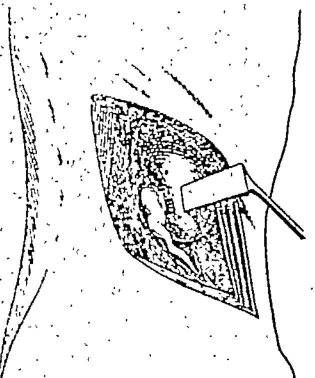
TABLE OF SIX CASES OF THE APPLICATION OF STRONG CARBOLIC ACID TO THE KIDNEY.

Case.	Date.	Age.	Cause.	History.	Method.	Remarks.	Result.
		Years					
1	Feb. 15th, 1898.	24	Congenital (?)	Paroxysmal pains as long as the patient could remember; nausea, vomiting, and dyspepsia two years.	Carbolisation; kangaroo - tendon sutures.	Several slight attacks of hæmaturia after getting up.	Reported as "quite well, no symptoms" 18 months afterwards.
2	August 9th, 1899.	18	—	Paroxysmal pains for two years, with nausea and constipation; frequent micturition.	Carbolisation; silk sutures.	Complete investing membranous capsule.	Gained much flesh and left the Infirmary free from pain. The patient has now been lost sight of.
3	Jan. 16th, 1900.	25	Lifting a wash-stand.	Pains increasing for six months "as if some-one gripped her loin;" vomiting.	Carbolisation; gauze slings above and below, gauze packing below.	Kidney bound to fatty capsule by strong adhesions.	Quite well for nine months, then the scar became tender and painful. The scar was incised 20 months afterwards and re-sutured in layers with complete relief. The kidney was then found to be inseparably fixed.
4	April 27th, 1900.	24	—	Pains in one loin. Tried a belt for 12 months. Unable to work.	Carbolisation; gauze.	Kidney small.	Now in service and "feels very much better than she had been for a very long time."
5	May 7th, 1901.	33	Lifting a heavy box seven years before.	Pains, tenderness, and a lump in the right side.	"	Kidney adherent to the fatty capsule and so moveable as to rotate with ease.	A year later reported "no pain in side or scar unless I overwork, then it passes off after rest."
6	Feb. 24th, 1902.	33	Lifting a bed a month ago.	Very severe pain since first acute attack in the right loin; intermittent tumour and polyuria.	Carbolisation; temporary suture of the kidney in horizontal axis; gauze packing below.	Upper ureter sinuously kinked and pressed upon by the lower end of the kidney.	Completely relieved from pain.

therein of six months' duration no differentiation of the scar tissue was visible until the cortex of the kidney was actually cut into, so intimate was the fixation. For these reasons I am very favourably impressed with the method of suspension with gauze (Senn) combined with cortical carbolisation which I have carried out in the six cases indicated below. There have been no disadvantages witnessed from the application of strong carbolic acid to the kidney and there has been a marked absence of post-operative pyrexia. One patient had temporary hæmaturia on leaving her bed, which I attributed solely to tight suturing. Hæmaturia is a recognised sequel to nephropexy.

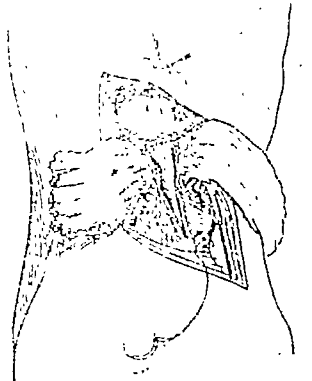
The last case was interesting from the demonstration it afforded of the mechanical conditions causing the hydronephrosis. When the kidney was freely exposed and lifted forwards (Fig. 1) the upper end of the ureter was found to be kinked and thrown into several folds and was also pressed upon by the lower end of the kidney in front of it. To correct these conditions it was found necessary first to place the kidney under the ribs and then to tilt it horizontally so that the lower end projected outwards to the wound (Fig. 2). Three temporary sutures, passing right through the parietes, were used to fix the lower end of the kidney in that position and then three pieces of gauze were lightly packed beneath the kidney, one anterior to the ureter, one behind it, and the third between them and reaching as far as the ureter. The sutures and gauze were finally removed at the end of three weeks.

FIG. 1.



Hydronephrosis: showing the kidney lifted forwards so as to reveal the contorted upper end of the ureter behind the lower end of the kidney.

FIG. 2.



The lower end of the tilted kidney suspended by temporary suture, thus straightening the ureter. Gauze is seen placed in front of and behind the ureter. A third piece was placed between the two prior to parietal suturing.

In three of the cases the kidney was apparently dislocated by definite injury. In most of them there were firm adhesions between the kidney and its outer fibro-fatty capsule.

Clifton, Bristol.

FURTHER NOTES ON THE USE OF THE NASO-PHARYNGEAL TUBE FOR PROLONGED NITROUS OXIDE ANÆSTHESIA.

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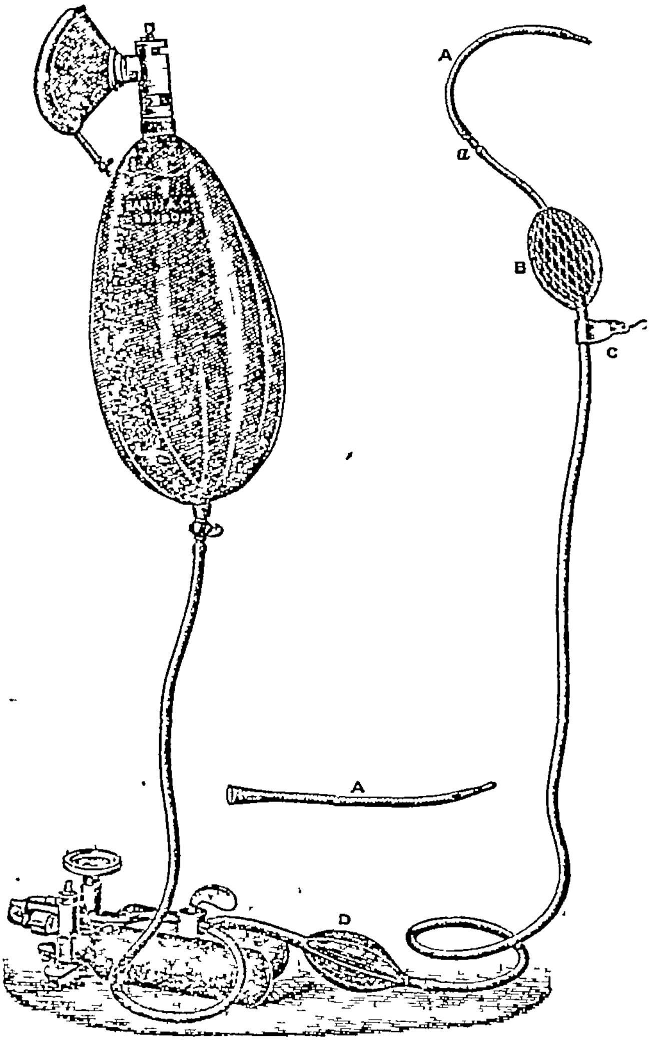
ASSISTANT INSTRUCTOR OF ANÆSTHETICS AT THE LONDON HOSPITAL AND THE ROYAL DENTAL HOSPITAL; LATE REGISTRAR IN CHARGE OF THE CEYLON MEDICAL COLLEGE, ETC.

ON May 7th, 1898, p. 1244, I published in THE LANCET a short paper on a method of prolonging nitrous oxide anæsthesia for dental operations by administering the gas through a naso-pharyngeal tube apparatus which I had devised Further observations of this method were prevented by an absence of two years in Ceylon, which deprived me of the opportunity of bringing it more prominently to the notice of the profession, but since that time the more extended employment of the apparatus then described, in all kinds of cases in dental surgery, has convinced me that the use of ether, with all its objections, need practically never be resorted to, and this fact will assure the welcome of this method not only by dental surgeons and anæsthetists but in even greater measure by the public when it becomes more widely known, for all are agreed that N_2O is the most perfect anæsthetic at our disposal. This, then, must be my excuse for referring again to the subject and it renders further apology needless.



The apparatus, which has been most carefully made to my design by Messrs. Barth and Co., consists of a two-way stopcock, the inlet tube of which screws into the union connecting the gas cylinders in such a manner that the whole stopcock lies between them and is thus out of the way; the tap of the stopcock is an elongated broad arm so that it can be easily turned by the foot. From the stopcock chamber lead two tubes of exit, and the tap is so arranged that when it is turned on to either of the two exit tubes the arm lies over that tube through which the gas will flow when liberated from the cylinders by means of the ordinary foot-key. The whole gas-supply can thus be entirely controlled by the administrator's foot. The exit tubes, like the other parts of the stopcock, are made of brass, are placed at an angle, and are an inch long, with bulbous ends so that the rubber tubing can be easily slipped over them; to the left hand one, which is of the same calibre as the union connecting the cylinders, is attached a Hewitt's gas-inhaling apparatus, to the other—the right-hand one—which is marked with the letter "N" and has a very fine calibre in order to reduce greatly the rapidity of the gas flow, is attached the other connexions of the nasal tube—viz., a small stout rubber "expansion bag" (vide diagram D) which is connected at one end with the stopcock exit, the other extremity being continued by tubing to a thinner and smaller rubber bag, B, also netted and which I have called the "pressure bag," as it shows the degree of pressure at which the gas is being supplied; it is fixed to the headpiece of the dental chair by a safety-pin hook, C. This bag is continued as a small rubber tube inclosed in a spiral of steel wire to prevent kinking, and terminates in a conical vulcanite nozzle *a*, fitting into the funnel-shaped extremity of the naso-pharyngeal tube proper, A. These tubes are made for me by Messrs. Stevens and Sons in three sizes—corresponding to numbers 7, 8, and 9 male English catheters—and consist of soft silk gum-elastic; they are six inches in length with the distal end made "*à boule*" and solid up to the orifice, which is situated half an inch from the point, the proximal end being expanded to receive the conical vulcanite attachment of the tubing.

Having occasionally experienced difficulty during a prolonged administration with the original apparatus, owing to the intermittent and irregular evaporation of the fluid nitrous oxide from the cylinders, which was not sufficiently compensated by the expansion bag provided to prevent it and which became in consequence over-distended, I found it necessary to make certain alterations in the construction of the apparatus, thereby eliminating these evils and making the administration more easy. To prevent too rapid a flow of gas the right-hand nozzle of the stopcock—to which the rest of the apparatus is attached—has been made with a very much finer orifice; this allows a much more delicate adjustment of the gas-supply and prevents those sudden escapes from the cylinders which not infrequently arise owing to a partial occlusion of the valve from frost suddenly giving way. In addition, also, the "expansion bag" is now made of half the thickness and double the capacity, which much more effectually regulates the flow by converting an intermittent stream into a continuous one; this bag is inclosed in a net of stout silk to prevent over-expansion, any tendency to which after maximum distension is at once seen in the pressure bag. This pressure bag is small and is made of thin rubber which easily stretches under slight pressure, it is inclosed in a loose net. Its object is to show, approximately, under what pressure the gas is being supplied and to act as a danger signal when this becomes too great, it also enhances the action of the expansion bag in regulating the flow of gas; for this reason it is placed well in view, next to the hook which fixes the apparatus to the headpiece of the dental chair; from it comes off the small rubber tube which terminates in a vulcanite nozzle made to fit into the naso-pharyngeal tube and which is protected from kinking or compression by a spiral coil of steel wire.

With these modifications I have been able to obtain much quieter and more satisfactory anæsthesia, without that tendency to over-dosage which was one of the disadvantages of the first apparatus. Now, too, since certain dental surgeons have become accustomed to its use they have undertaken more extensive operations, have worked with greater calmness and precision, and in consequence the periods of anæsthesia have been necessarily prolonged, the maximum hitherto being seven and a half minutes. The average anæsthesia reckoned from the last 100 consecutive cases of which I have made notes is 2·75 minutes; these cases were selected for treatment with the tube on account of the necessary operation being unusually extensive or of great difficulty.

Some objections have been raised to the employment of the naso-pharyngeal tube on the following grounds: 1. That it is inadmissible in cases of nasal obstruction. As a theoretical objection this is valid enough, but practically it is very trivial, for in over 300 cases I have not met with a single case in which I could not rapidly pass my tube down one or other nostril; cases of complete nasal obstruction are extremely rare. 2. That the passage of the tube gives rise to hæmorrhage. In the 300 cases before-mentioned I have not in a single instance met with anything approaching troublesome bleeding; in six cases only among the last 100 there was slight oozing for a few minutes, and these cases suffered from hypertrophied and very vascular turbinal mucosa, which is not a common condition and is no contra-indication to the careful passage of a soft gum elastic tube no larger than a No. 9 catheter. 3. That the method cannot be used in cases of adenoids. When I had less experience of these cases I believed this to be true and therefore I did not employ my apparatus in children suffering from adenoids, but latterly, to meet objectors, I have been on the look-out for them and have not met with difficulty or unpleasant after-effects. A little blood must be expected, but as a rule the growths are soft and not very vascular and are easily pushed aside by the tube. One word of caution, however, is necessary with regard to adenoid cases—these are almost always in children; children at any time are rapidly anæsthetised with N_2O and show jactitation early when no air is administered with the gas, but, owing to the obstructed nasal respiration and the relatively small mouth, so little air is inspired in proportion to the anæsthetic, when administered continuously with the tube, that there is a danger of over-dosage. The greatest care and attention are therefore imperative in treating these cases and the gas should be allowed to flow into the pharynx as gently as possible; indeed, in all cases of impeded nasal respiration and in the anæmic the difficulty is not to keep the patient under but to give sufficiently little. 4. That the method is septic because the nasal tubes may convey disease germs from one case to another. This may occur in the hands of those ignorant of the elements of aseptic surgery, in spite of the fact that the tubes are easily sterilised and that furthermore their interior is never soiled, since the full stream of gas emerging from them effectually prevents any foreign matter entering; it is as easy to convey sepsis by an ordinary facepiece or a dental forceps.

I have here quoted the objections that have been raised by theorists and those who have had little or no experience of the method, but on the other hand, operators have never complained that the apparatus has impeded their manipulations or that their time has been taken up assisting the anæsthetist by having to use a mason's gag—a duty for which he is entirely responsible. Indeed, with this apparatus not only can the administrator easily perform all his legitimate duties but he can further aid the operator by helping to sponge out the mouth, for both hands are not occupied in managing the apparatus. Some other advantages of this apparatus over other methods for prolonging N_2O anæsthesia are that it leaves the mouth entirely unobstructed to the operator, whereas the nosepiece considerably hampers his manipulations in the front of the mouth by pressing upon the upper lip. The disadvantage of any form of mouth tube is obvious in this connexion. The tube is easily kept in place by the thumb of either hand while supporting the head, and the prop or mason's gag can be manipulated with the greatest ease without preventing the anæsthetist giving his assistance in sponging. With the nosepiece, on the other hand, it is sometimes a matter of difficulty to keep the apparatus in place; while one hand is occupied in doing so, the other is necessary to work the air valve. Again, with the nosepiece the success of the anæsthesia largely depends upon whether or not the patient is a persistent mouth-breather, whereas with the nasal tube the ordinary respiratory rhythm is not interfered with and the patient is bound to get the gas whether he breathes through the mouth or through the nose, since the gas is supplied in the naso-pharyngeal space, the stream being directed downwards upon the upper opening of the larynx.

In only one case have I been unable to maintain the anæsthesia sufficiently to keep the patient quiet for longer than one minute. In this case the patient was a very neurotic girl with a highly arched palate and very little naso-pharyngeal space. She had had gas on three previous occasions and each time she screamed and fought, the anæsthesia being too short to permit of the operation being accomplished. Anæsthesia was obtained with the tube, but having pushed the gas to its limit of safety, with resulting extreme cyanosis, I was obliged to stop the administration for a few moments, during which the patient recovered so quickly that before sufficient gas could again be administered she fought so much that I was forced to discontinue the administration altogether.

In the vast majority of cases one could easily give a lethal dose with this apparatus by closing the patient's nostrils with the fingers. I was obliged to resort to this practice in the case of an alcoholic patient who stated that on a previous occasion an unsuccessful attempt had been made to anæsthetise him; he had taken a glass of whisky on his way to the dentist, but with the tube and compression of the nares anæsthesia was easily maintained for one and half minutes; there was some rigidity throughout.

It is needless to multiply cases here; the average anæsthesia in 200 consecutive administrations is sufficient to show the capabilities of the method. They were selected on account of the operation being likely to prove unusually protracted. But even in an ordinary case it is an obvious advantage to the surgeon to be able to operate with deliberation, in the full confidence that there is no probability of the patient coming round before he has finished his manipulations. To the patient the advantage is two-fold: first, he is spared the necessity for either several distinct operations on several distinct days or the alternative of ether anæsthesia, and secondly, the risk of damage to the mouth from a hurried operation.

With regard to the administration itself, the gas is turned on to the ordinary apparatus and the administration is conducted in the usual way to the stage of light anæsthesia; with a full bag the facepiece is then momentarily removed and the tube is passed during an expiration; by so doing the patient inhales no air during this proceeding. It is important not to pass the tube until the patient is unconscious, for otherwise its presence in the nares causes lacrymation, phonation, or other signs of irritation and excitement. When the point of the tube is felt to impinge on the posterior pharyngeal wall the facepiece is re-applied over it, the two-way stopcock is turned so that the gas now flows through the nasal tube, and the administration is continued to full anæsthesia by means of both apparatus in order to see that everything is working properly. Before passage of the tube its point should be slightly bent downwards so that it is the more easily directed along the floor of the inferior meatus of the nose; unless this is done it is not difficult to pass it into the middle meatus, where obstruction is sure to be met with and bleeding is likely to arise. When its point is felt to impinge on the posterior pharyngeal wall the tube should be passed no further for fear of inflating the œsophagus and of causing swallowing movements or even vomiting.

The best and safest position in which to place the patient is sitting straight up in the chair with the head erect—i.e., tilted neither forwards nor backwards—in this posture there is no embarrassment of the respiration from stretching of the muscles of the neck and it is the best position for the surgeon when operating upon the lower jaw, while the head can always easily be tilted back after anæsthesia is complete for operations upon the upper jaw. What is far more important, however, is the fact that the bleeding caused by the operation does not gravitate backwards into the pharynx with the attendant risk of being inhaled and causing asphyxia, but it collects in the floor of the mouth whence it is removed easily with a sponge. The advantage of this posture is felt with those patients who salivate freely under gas and in whom troublesome coughing or retching is caused during induction by the saliva trickling backwards into the pharynx.

In cases requiring prolonged nitrous oxide anæsthesia it is more important than usual to have the bladder empty before the operation and the patient should abstain from food for at least three hours before the time fixed for operation, as subsequent nausea is less uncommon than after an ordinary administration. Loose clothing is imperative.

Since I first introduced this apparatus in 1893 I have been able in my own practice to make good the claim which I then made for it—viz., that it would render the employment of ether in dental surgery unnecessary; that owing to its small bulk and great portability it is more convenient and economical, as regards the quantity of N_2O used, than any other apparatus employed with the same object; and, finally, that it is free from risk of damage to the nose, naso-pharynx, and mouth, and is without danger to the patient.

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ON THE TREATMENT OF INCIPIENT BRONCHO-PNEUMONIA IN INFANTS.

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INFANTILE pneumonia is a serious condition which deserves special attention, as in very young or ill-nourished children, but especially in cases debilitated by previous illness, it often proves fatal. But apart from the fact that the child's life is in jeopardy, in distinction from lobar pneumonia which generally terminates within a fortnight, broncho-pneumonia drags on for three, four, or six weeks and more. The continual fever has a detrimental effect on all the tissues, but especially on the heart, and the result is that convalescence is often complicated by anæmia, intractable dyspepsia, &c., and the danger of incomplete restitution of the tissue of the lung or incipient phthisis must not be underrated.

Any means to shorten the disease must be seriously considered by the physician. The question is: Have we any means at our command to arrest the disease at the outset or at least to shorten materially the duration of the pneumonia? I believe that I am in a position to reply in the affirmative. It is obvious that the evidence adduced must rest on a firm basis of indubitable clinical facts and that these must receive a careful and logical consideration. The treatment referred to is not medicinal from a pharmaceutist's point of view but belongs to the domain of hydro-therapeutics in a simple form, so as to be available even in country practice. I am anxious that none of my professional colleagues should disregard it merely on the ground of its simplicity or because he has already made use of similar but not identical measures of treatment. My method of treatment claims no special originality; it is the result of the theoretical and practical study of hydro-therapeutics extended over a number of years. My evidence is partly of a negative and partly of a positive kind. Let me start with the former.

Pneumonia is most often met with as a complication of two infantile diseases—viz., whooping-cough and measles. No one will contradict the statement that the mortality of these two diseases is greatly dependent on the question whether pneumonia ensues or can be warded off. Voit gives the mortality of whooping-cough at 25 per cent. in children under one year of age and at 4·8 per cent. in those between one year and five years. Let us compare with this statement the fact that 6 46 per cent. of 4181 cases of whooping-cough were complicated with capillary bronchitis (Szabó).[1] One can treat measles and whooping-cough exclusively on hydro-therapeutic principles. The result is decidedly better than if one treats the patient only medicinally and avoids making use of hydriatric procedures. But the best results are doubtless obtained by a combination of these two treatments and I in no wise wish to underrate proper drug treatment. The proper use of hydro-therapy in both these diseases tends to ward off complications In about 120 cases of whooping-cough in children aged from three weeks upwards who have been under my care till they were cured I have not seen a single case of pneumonia develop, consequently the mortality was *nil*. Five patients had already more or less severe broncho-pneumonia when they entered on my treatment; they all recovered within six weeks.[2] The best results were obtained by combining hydro-therapeutic measures with medicinal treatment; in my cases hydrochlorate of quinine or euchinine rendered me better service than bromoform.[3] My cases of measles, numbering about 150, I have not yet revised and published. Here also I have no fatal case to record, though of course I do not pretend that the mortality must be *nil* under a line of treatment which has given me such favourable results even partly under unfavourable hygienic surroundings and deficient nursing. Pneumonia as a complication I have only observed in half a dozen cases, one of which I will refer to in detail. The duration of the pneumonia never exceeded one week, nor that of the total convalescence three weeks. I will now give some short notes on cases observed within the last half-year. They refer partly to pneumonia checked at the onset and partly to the successful treatment of fully-developed pneumonia. To do more than mention my other cases thus treated would be a useless repetition.

CASE 1.—This patient was four years old and belonged to a poor family living under unhygienic conditions. She was taken ill with high fever on Jan. 21st, 1902. On the following day a rash rapidly developed and spread over the body. I diagnosed measles. From the outset the child seemed exceedingly ill, the rash was very intense, the conjunctivitis and pharyngitis were very severe, and the cough was exceedingly troublesome and was hardly relieved by wet packs for the chest and the bronchitis kettle kept beside the bed. On the 26th (the fifth day) the temperature, which had gone down, rose again to 103° F. and the cough continued to be very irritating. The child would scarcely move and was slightly somnolent; the number of heart beats was increased by one-third and the number of respirations also. There were signs of deficient breathing with small non-crepitant râles and dulness on percussion over the lower part of the right lung posteriorly. Incipient pneumonia was diagnosed and a "half bath" (*Halb-bad*) with friction was ordered and applied for four minutes. The temperature of the bath was 30° C. (86° F.) at first and was then decreased slowly to 24° C. (76° F.). It was to be repeated within 12 hours if the temperature remained over 103°. The next morning the child looked quite different, so that no second bath was ordered. She was brighter and more lively and asked for solid food which, however, was not given. Her temperature was 37·5° C. (99·5° F.) and remained normal. The lung symptoms persisted for a few days; diffuse bronchitis with small râles was recognisable, but these also rapidly disappeared on the application of cross packs (*Kreuz-binden*) No medicine was prescribed. Complete recovery ensued and the patient was pronounced quite well on the 30th.

CASE 2.—This patient was a delicate boy three years old, one of a working-class family of six. He fell ill with measles, as the mother reported, on Jan. 26th, 1902, and was treated by the parents themselves. As the fever continued they called me in on Feb. 1st. I found the spotted condition of skin seen after measles. The temperature varied from 101·6° to 102 2° F. There was pneumonic infiltration into the base of the left lung and the boy looked very ill. Baths were ordered as above. After three baths of from 86° to 76° of four minutes' duration, repeated only every 24 hours as the boy was weak, the fever abated, and the lung symptoms disappeared a few days afterwards. Recovery was complete on the 10th; a quinine tonic, however, was prescribed. I may here mention that the vin de Vial has among a score of other tonics given me excellent results in infantile diseases; during convalescence it may be taken in half teaspoonful to teaspoonful doses three times a day.

CASE 3.—This patient was aged five years. At the age of four and a half months in the course of protracted eczema of the face she developed diphtheria of the skin of the face and this rapidly spread to the conjunctiva where diphtheritic membranes formed. An antitoxin injection saved the cornea and probably also the life of the child. Since then she had been weakly, though a child of very healthy parents, and had been susceptible to cold and attacks of tonsillitis. She was taken ill on Jan. 2nd, 1902, with fever and a cough. As the temperature continued to run up from 101° to 104° F. I was called in on the 5th. The child had very severe and extensive bronchitis and capillary bronchitis, but so far no symptoms of infiltration of the lungs. Notwithstanding cool packs from under the arms to the ankles (*dreiviertel Packungen*) the state of the child became rapidly worse, the respiration rose to 40 per minute, and the pulse-rate to 160; there were dilatation of the right heart to the right of the sternum and evidence of commencing cyanosis associated with a temperature varying from 103 6° to 104 6°. Infiltration of the base of the right lung gave the clue to these symptoms, the diffuse bronchitis having increased in severity. The case threatened to be serious. The parents agreed to a tepid bath of from 28° to 26° C. (82° to 78° F.) which was applied for seven minutes with rubbing. The condition of the patient greatly improved within 12 hours; the temperature was 100°

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[1] Thus a high percentage of all the deaths must be due to capillary bronchitis and pneumonia.

[2] I had not in those days begun to treat pneumonia with tepid baths and in the latter years I have not come across a case of whooping-cough complicated with pneumonia.

[3] Zur Therapie des Keuchhustens, Correspondenzblatt für Schweizer Aerzte, 1901, No. xii.

the next morning and declined to normal within 24 hours and without a second bath being given. The symptoms of infiltration of the lung were discernible for four days (crepitant râles and dull percussion note); the symptoms of bronchitis disappeared with marvellous rapidity under the application of cross packs. The patient's recovery was complete on the 18th and she was seen in full health in April.

CASE 4.—This patient was my own daughter, a healthy infant one year old. She was teething and had been suffering from slight cough for 10 days. She was taken ill with a rather severe attack of varicella on April 20th, 1902, with hundreds of vesicles all over the body, in the mouth, on the soft and hard palate, and on the conjunctivæ. The temperature from the 20th to the 22nd ranged from 100° to 101° F. On the 23rd she coughed more, seemed very ill, was very apathetic and drowsy, and took very little food. Baths of from 95° to 93° with bran had been given so far morning and night, each of from five to 10 minutes' duration. This is my usual treatment of varicella, the excessive irritation of the skin soon subsides under it. On the 24th the child's temperature rose to 103° and breathing was impeded, the cough was painful, and the pulse-rate was high. Professor O. Wyss, who was called in in consultation, diagnosed incipient pneumonia in the left lung, otherwise diffuse bronchitis. We agreed to give a bath of from 94° to 86° continuously for five minutes, Professor Wyss being averse to lower temperatures. On the 25th it was noted that the child had a very disturbed night. Symptoms of infiltration of the lung were clearly defined, there were crepitant râles over the left lung and dulness on percussion. The child was very weak, could scarcely sit up, coughed a great deal, and was very drowsy. The temperature rose to 103·6° in the evening. I gave the little patient a bath at from 86° to 79° continued for six minutes but without friction in order not to irritate the vesicles which were drying up or had dried up. The child had a good night with less cough, her temperature on the 26th was 99·6° in the morning and 98·6° in the evening, after which it continued normal. The child now sat up again and her pulse-rate and respiration rate were normal. On the 27th crepitant râles over the base of the left lung and dulness on percussion were very distinct. The child looked very pale but was lively. The bronchitis was improving. Baths of from 95° to 90° were resumed morning and night for from three to five minutes.[4] On the 28th the crepitant râles had disappeared, the percussion note was almost equal on both sides, there was very little bronchitis, the child's temperature was normal, and she had very little cough. Convalescence was prolonged owing to a very acute attack of follicular tonsillitis a week later, but she was quite well on May 18th.

I must mention that I have here only referred to cases where no medicines were given. I have done so in order to prove that the hydro-therapeutic procedures alone cut short the duration of the pneumonia. Even if these simple methods sufficed in such simple cases—and they could scarcely do better on any other treatment—yet drug treatment in combination with this "water cure" (*sit venia verbo*) will certainly be desirable in somewhat severe or prolonged cases. However, it is very much to be regretted that many physicians resort to the use of these baths only in the second or third week of pneumonia when the case is becoming more and more serious. Why use them only as a last resource, and *why not in the incipient stage?* Brand obtained his remarkably low mortality of 3·5 per cent. in the treatment of typhoid fever cases when they were treated with tepid baths from the onset.

Of course these baths can be varied in duration and temperature; packs have not given me as good results. The experienced hydro-therapeutist will vary the procedures according to the physique of the patient, the age, the severity of the symptoms, the complications, &c. For first trials I prefer recommending something simple and well defined, as a wrong technique may result in harm to the patient and also reflect detrimentally on the method of treatment and the medical practitioner as well. It is advisable for the latter personally to supervise the first bath at least; for feeble infants a stimulant is a necessary preliminary.

Let me resume. At the very first onset of pneumonic symptoms (high temperature, diminished resonance, small non-crepitant or crepitant râles, apathy, increased rates of heart beat and respiration) I give a bath of 86° F. for two minutes and then slowly reduce the temperature of the bath by adding cold water for from two to three minutes till a temperature of 76° is reached. I rub the body of the patient with a sponge or cloth or the hand to promote reaction of the skin and reduction of the body heat. The bath water need not, and in cases of feeble children should not, quite cover the body but the water can be sponged on the chest, the patient lying in the arms of an attendant. If definite pneumonic symptoms be present the bath may have to be repeated at intervals of from eight to 24 hours. The cross packs (*Kreuzbinden*) relieve the symptoms of bronchitis. I use them extensively in incipient phthisis, but they give excellent results, and naturally prompter ones, in uncomplicated simple bronchitis. They are applied in the following way. A linen bandage about one and a half inches broad for infants and five inches for adults, and from two to three yards long, is placed in cold water (from 54° to 66°), is well wrung out, and is applied to the chest thus—(1) beginning under the right axilla, passing over the left clavicle and round the chest back to the right axilla; (2) from here round the chest horizontally; (3) from the right axilla to the left and over the back and the left clavicle to the front (or left axilla). This bandage is covered in the same way with a thick single, or thin double, flannel bandage perhaps half an inch broader. This "pack" is applied at night and left till the morning; on removing it the chest must be well rubbed with a cold, wet towel and then rubbed dry.

I shall be glad if this method of treatment is favourably received and tried by my colleagues. These tepid baths are far superior to the chest packs so universally recommended. The latter harass the child, disturb its sleep if changed every one or two hours, trouble the attendants, and if continued day after day they tend to weaken the child, especially if not alternated with cold, wet friction. The results of the tepid bath, which have been best studied in cases of typhoid fever, do not merely rest on the reduction of body heat; it is not merely palliative but curative. The capillaries of the skin, that vast reservoir, are filled with blood; this temporarily relieves congested internal organs and improves their circulation; the action of the heart as well as that of the most important nerve centres (*imprimis* the vaso-motor centre) are stimulated by reflex action, defecation is promoted, and especially diuresis, thus causing the elimination of toxic substances.

Zürich.

SOME EXPERIMENTS ON THE PRECIPITINS.

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WE are indebted to Bordet and to Wasserman for the first researches on the precipitins—a group of bodies which are every day acquiring greater importance on account of the many practical applications of which they are susceptible. Bordet observed that when a rabbit received several injections of cow's milk its blood acquired certain special properties. Thus the blood serum of the treated rabbit on addition to diluted milk produced a precipitate in the milk. This precipitate did not occur on the addition of a normal rabbit's blood to milk. Wasserman not only confirmed this observation but clearly demonstrated that in this respect every species of animal has a milk which acts in a specific manner. For instance, the serum of rabbits immunised with cow's milk produces the above reaction in fresh cow's milk, but does not do so in goat's milk or in human milk, &c. A fresh impulse was given to these researches by Bordet himself in his study of the precipitins of the blood. The French author, following up the work of the Italian observer Belfanti, has already shown that on injecting animals with the blood of another species the serum of the treated animals developed specific lysins and agglutinins for the erythrocytes of the blood of the species employed. And Bordet, continuing his experiments, observed that if animals were injected simply with the serum of another species [illegible] precipitins were likewise developed in the serum of the treated animals. For example, the blood of a rabbit which had been treated with the dog's serum produced a precipitate in, and only in, normal dog's serum. These researches were extended in various directions—e.g., by Wasserman, Uhlenhuth, Nuttall, and Schütze. And upon the results obtained a method was based for the special identification of human blood. For this purpose repeated doses of human serum were given to a rabbit. After a certain time it was found that the serum of the treated rabbits had acquired definite specific properties as regards human blood, and was capable of producing a precipitate not only in fresh human serum but likewise in very dilute serum solutions obtained by redissolving dried human blood-stains several weeks old. The serum of the rabbits, however, did not produce a precipitate in any other serum, with the one exception of the monkey's, in which a slight positive reaction was obtained. This method has already been applied in medico-legal investigations with good results (Ferrai, Ogier, Stockis). Another interesting fact may be noted here—viz, that the blood of animals immunised with human serum causes also a precipitate in albuminous urines (Stern) as well as in ascitic and hydrocele fluid (Schütze, Dieudonné).

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[4] No cross packs were ordered in this case owing to the varicella as they would naturally macerate the skin and irritate the vesicles and perhaps also promote secondary infection of these little ulcers.

Farmen likewise has applied this biological test to semen. Rabbits injected with the sperma of different species of animals developed specific precipitins in their blood. Thus, the serum of a rabbit which had been immunised with dog-sperma produced a precipitate in a salt emulsion of dog sperma, but not in emulsions of sperma from other sources. Schütze has recently published[1] an important paper on the differentiation of different albuminoid preparations by means of similar biological tests; and closely connected with the above observations are the interesting researches of Kraus upon the specific precipitates that occur in *filtered* cultures of micro-organisms on the addition of the serum of animals previously immunised with bacterial cultures. Kraus showed that the serum of a typhoid-immunised animal induced a precipitate in a clear filtrate of a culture of the typhoid bacillus, but that it was impossible to obtain a precipitate by adding the serum of animals immunised with other bacteria.

The first experiments which I have made were with reference to the specific precipitins which might be obtained by immunising animals with different kinds of proteid preparations, and they were undertaken with the view of obtaining some preliminary data for the special research I had in view. These experiments were carried out with two albuminoid preparations known commercially as somatose and "roborat," the latter a vegetable proteid derivative.

A strong solution of somatose in physiological salt solution was used for injection into rabbits. A subcutaneous injection of five cubic centimetres was made and this was repeated several times. Injections of "roborat" were made in a similar fashion. The "roborat" was previously dissolved in hot water and filtered before use. The rabbits did not suffer in any way from the injection of these preparations nor did they lose weight. At the end of two weeks' treatment the animals which had received "roborat" gave evidence of a distinct formation of precipitins in their blood. A few drops of their serum produced a distinct precipitate in a fresh solution of "roborat" The reaction was best obtained by keeping the tubes for some hours at blood heat. The reaction, on the other hand, did not occur on adding the serum of the treated animal to a solution of somatose. As regards the rabbits which had been treated with somatose the formation of a specific precipitin was not so clearly marked, but still, although after a longer period of time, it was possible to produce a slight precipitate with their serum in a solution of somatose, whilst none occurred in a solution of "roborat." These experiments demonstrate once more the possibility of obtaining specific biological, in contradiction to purely chemical, tests for proteid bodies whether these be of animal or vegetable origin. Many valuable extensions might and are being made in this direction.

The subsequent experiments which I made were with *special reference to the precipitins produced by the serum* of animals immunised with living cultures of bacteria. These experiments were performed with the bacillus typhosus, staphylococcus pyogenes aureus, and two varieties of bacillus coli, designated by the numbers I. and II. A series of rabbits were immunised by the subcutaneous inoculation of living broth cultures of the above organisms. The blood of the treated animals very quickly acquired marked agglutinating properties with regard to the respective organisms employed. I may point out in this connexion that the typhoid serum, in addition to agglutinating very markedly the bacillus typhosus in a dilution of 1 in 10,000, also agglutinated to a certain degree (1 in 200) the Bacillus coli II., although it did not agglutinate the Colon bacillus, strain I. The possibility of some typhoid sera agglutinating certain strains of the colon bacillus has already been experimentally demonstrated by Iatta.

The following are the details of some of my experiments:—

EXPERIMENT I.—A broth culture of typhoid four weeks old was passed through a Berkefeld filter. The sterility of the filtrate was controlled by microscopic examination and by incubation of the filtrate for 24 hours at blood heat. To each of three test tubes five cubic centimetres of the clear filtrate were added and to each of these the serum of a rabbit immunised with typhoid bacilli was added in the following proportions: one cubic centimetre, half a cubic centimetre, and one-twentieth of a cubic centimetre. The tubes were then placed for 12 hours in the incubator at blood heat. At the end of that period the first and second tubes contained a marked precipitate whilst the third tube showed a very slight one.

EXPERIMENT II.—The same fluid was tested as in Experiment I.—viz., a filtered culture of the typhoid organism. To a series of test-tubes containing five cubic centimetres of the filtrate were added two cubic centimetres, one cubic centimetre, half a cubic centimetre, and one-twentieth of a cubic centimetre of serum taken from a rabbit immunised with Bacillus coli I. To a second series of tubes, containing the typhoid filtrate, similar quantities of serum obtained from a rabbit immunised with Bacillus coli II. were added. No precipitate occurred in any of the tubes after 12 hours' incubation at blood heat.

EXPERIMENT III.—Four weeks' old broth cultures of the first strain of the colon bacillus were filtered and added to three series of test tubes. To the first series were added varying quantities (one cubic centimetre to one-twentieth of a cubic centimetre) of the first colon serum, to the second graduated quantities of the second colon serum, and to the third typhoid serum. The result was that only the first series gave precipitates.

EXPERIMENT IV.—The filtrate from an old broth culture of Colon bacillus II. was added to the three test tubes, to each of which was likewise added half a cubic centimetre of Colon serum II., Colon serum I., and typhoid serum respectively. After 12 hours at blood heat the first tube contained a marked precipitate, the second was quite clear, and the third (typhoid serum) contained a very slight precipitate. As I have already remarked, the typhoid serum had also a certain agglutinating power on Colon bacillus II. The serum of Colon bacillus I., on the other hand, had no agglutinating power on Colon bacillus II.

EXPERIMENT V.—To the filtrate of an old broth culture of staphylococcus pyogenes aureus were added varying quantities of the serum of a rabbit which had been immunised with living broth cultures of the same organism. The addition of one tenth of a cubic centimetre of the staphylococcus serum was sufficient to produce a distinct precipitate in the filtered culture of the same organism, but the results were negative with colon and typhoid serum.

EXPERIMENT VI.—A rabbit was simultaneously immunised with the typhoid bacillus and with the colon bacillus by injecting subcutaneously living broth cultures of the typhoid and the colon bacillus. Two weeks subsequently the blood showed very strong agglutinating properties on both of these organisms, whilst at the same time the formation of agglutinins had been accompanied by the production of precipitins. The serum produced not only an agglutination but a precipitation in filtered cultures of the typhoid and of the colon bacillus.

The above experiments were typical of the results obtained and are confirmatory of the observations made by Kraus, and, in my opinion, they point to the existence of a certain correlation between the agglutinins and precipitins. This correlation appears to me to be evident from the following facts. The serum of an animal, for instance, which has been immunised with the typhoid bacillus develops along with its acquired power of agglutination the property of producing a precipitate in the filtrate from typhoid cultures.

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[1] Zeitschrift fur Hygiene, vol. xxxviii.

The agglutination is a specific phenomenon, but this specificity is only relative inasmuch as a typhoid serum may likewise exhibit a certain degree of agglutinating power on some strains of the colon organism. Similarly I have found that the precipitins are not absolutely specific. A typhoid serum which agglutinates a certain strain of the colon bacillus will at the same time produce a slight precipitate in a filtered culture of the same colon organism. Finally, I have observed that if an animal be immunised with different bacteria at the same time a poly-agglutinating serum results, in the same way that a serum results which will produce a precipitate in filtered cultures of the several organisms used for immunisation. This had already been observed by Wolff as regards a poly agglutinating serum.

I next proceeded to study the precipitins which might be produced by the serum of animals that had been treated with *filtered* broth cultures of bacteria.

Kraus, experimenting in this direction with the diphtheria bacillus, came to entirely negative results, and was led to the conclusion that there is no formation of precipitins in the serum of animals treated with germ free filtered cultures. I may say at once that experimenting like Kraus with the diphtheria bacillus I came to a similar conclusion But the results are of a different character if the experiments are extended to other bacteria. For example, cultures of the typhoid bacillus, colon bacillus, and staphylococcus aureus were freed from the organisms by filtration through a Berkefeld filter and the filtrates were injected into rabbits. In the blood of all the treated animals it was easy, after a certain time, to detect the formation of specific precipitins, as will be seen from the following experiments.

EXPERIMENT I.—The filtrate from an *old* broth culture of the typhoid bacillus was added to three series of test tubes. To the first series were added varying quantities of the serum of a rabbit (from one cubic centimetre to one twentieth of a cubic centimetre) which had been treated with filtered cultures of the typhoid bacillus. To the second series were added the same quantities of serum taken from an animal treated with filtrates of cultures of the colon bacillus, and to the third the serum of a rabbit which had received filtered cultures of the staphylococcus aureus. After being kept for 20 hours at blood heat two tubes of the first series contained distinct precipitates—viz., those to which one cubic centimetre and half a cubic centimetre of the typhoid serum had been added. The test tubes in the second and third series, on the other hand, remained perfectly clear

EXPERIMENT II.—An *old* broth culture of staphylococcus aureus was passed through a Berkefeld filter, and the filtrate added from a rabbit treated with staphylococcus filtrate, to a second half a cubic centimetre of serum from a rabbit treated with typhoid filtrate, and to a third half a cubic centimetre of serum from an animal treated with colon filtrate. At the end of 12 hours a precipitate occurred in the first tube and not in the other

EXPERIMENT III.—To the filtrate of diphtheria cultures I added in varying quantities the serum of a horse immunised in the usual manner with diphtheria toxin. I was, however, not able to detect any precipitin, although the tubes were kept at blood heat for 48 hours

The above observations show that on immunising animals with bacterial free filtrates of cultures of the typhoid bacillus, colon bacillus, and staphylococcus aureus it is possible to induce a formation of precipitins in their blood. The results were negative in the case of filtered cultures of the diphtheria bacillus. This fact, is in my opinion, an additional argument in favour of the intimate relation existing between the agglutinins and precipitins. For if we treat an animal with filtered diphtheria cultures we do not induce in its blood a formation of agglutinins (or only very slightly), but if we treat an animal, e.g., with filtered typhoid cultures, the blood will acquire a marked agglutinating power, though not so strong as if we had carried out the immunisation of the animal with unfiltered cultures.

A final series of experiments was made in order to determine whether precipitins were formed in the serum of animals that had been treated with *dialysed* cultures of bacteria. For this purpose typhoid cultures were taken (45 days old) and dialysed by means of a Martin gelatin filter The dialysates were injected several times into two rabbits five cubic centimetres at a time being inoculated subcutaneously 12 days after the first injection the agglutinating power of the blood of the animals was tested and it was found that it had acquired distinct agglutinating properties, a distinct agglutination of typhoid bacilli being produced by a dilution of 1 in 500. This confirms the observation made by Macfadyen that it is possible to induce a formation of agglutinins by treating animals with dialysed cultures I tested the blood at the same time for the formation of precipitates, using as test material old filtered cultures of the typhoid organism. The results were positive. The serum of the animals treated with the dialysed cultures produced in doses of 0·5 and 0·25 cubic centimetre a precipitate in the filtered typhoid broth. The serum did not produce any precipitate in filtered cultures of staphylococcus aureus or the colon bacillus My experiments, therefore, lead me to the conclusion that it is possible to induce the formation of precipitins as well as agglutinins by injecting dialysed cultures. My experiments lay no claim to completeness and it is my intention to continue and to expand them. Thus it would be interesting to test whether the serum of typhoid fever patients causes a precipitate in filtered typhoid cultures.

The experiments which I have made point to the following conclusions 1 The blood serum of animals treated with different preparations of natural albumins contains specific precipitins for the albumins. 2. The blood serum of animals treated with unfiltered bacterial cultures produces a precipitate in filtered cultures of the organisms in question. 3. The serum of animals treated with *filtered* cultures of bacteria likewise develops specific precipitins which produce precipitates in the filtered cultures of the same bacteria. 4 An exception was in the case of diphtheria cultures, the injection of which did not lead in my hands to the production of precipitins. 5. Animals which are treated with dialysed typhoid cultures develop the specific precipitins in their serum. 6 There is a close connexion between the agglutinins and the precipitins.

I am greatly indebted to Dr Allan Macfadyen for the help afforded me in the course of the experiments, as well as for the performance of the necessary inoculations.

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SOME PRACTICAL POINTS IN THE TREATMENT OF CONGENITAL TORTICOLLIS

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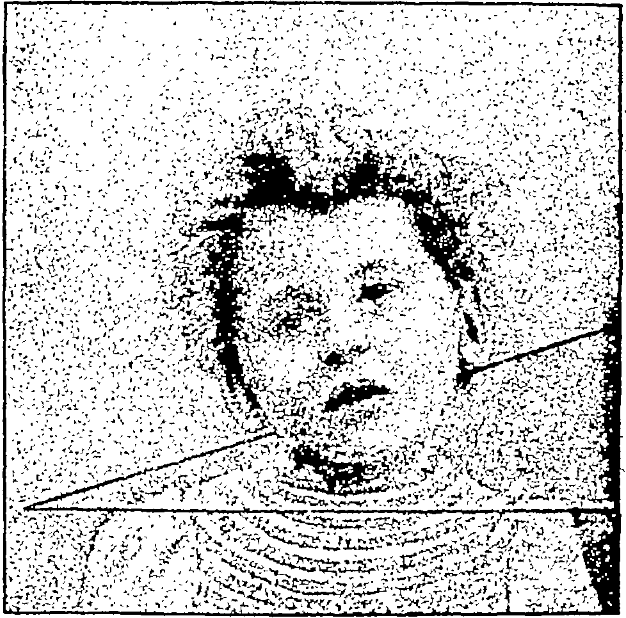
THE main facts known about congenital torticollis have been described by many writers and therefore I propose to limit my remarks to a few practical points in the conduct of these cases. These points may be summarised as follows. 1. Division of the contracted sterno-cleido-mastoid muscle is usually required to cure the deformity The anterior fibres of the trapezius and also deep bands of cervical fascia are also sometimes involved. 2. A retention apparatus is not usually necessary in the treatment of uncomplicated congenital torticollis, either before operation or as a means of retaining the head in a straight position after the division of a contracted muscle. 3. In operating we have to decide between an open wound and a subcutaneous section The open wound (assuming that strict antiseptic precautions are taken) is desirable in the majority of cases and certainly it ought to be made when the clavicular attachment of the muscle has to be divided. When the sternal origin alone requires division and the contraction is sufficiently severe to cause the tendon to be raised away from the deeper tissues—then the subcutaneous operation may be performed as a safe procedure. It is impossible to divide the clavicular attachments of the muscle subcutaneously without risk of wounding some important structure, notably a vein. 4. A vertical incision between the two attachments is useful in operating, first because it is less likely to leave a noticeable scar than a transverse cut and, secondly, because we can through this one opening divide both the clavicular and sternal portions of the muscle. When other bands of contraction occur they must be dealt with according to their peculiarities. 5. The incision should be about one and three-quarter inches in length from the level of the clavicle upwards and should expose the edge of the clavicular portion of the sterno-mastoid. A director should then be worked closely under the muscle just above the clavicle until it projects at the outer border of the muscle. The vertical wound will allow the skin to be drawn to the outer side sufficiently to permit of the escape of the end of the director. Then the muscle can be carefully cut through from without downwards, the surgeon observing as he proceeds that no important vein, nerve, or artery is involved. The same method can then be applied to the sternal attachment. Oozing of blood having ceased the wound must be stitched up and treated in the ordinary manner, a large pad of gamgee tissue or other soft dressing being applied to effect gentle pressure. The dressing should be fixed with adhesive strapping and a bandage. The patient's head should then be placed in a perfectly straight position or even a little bent towards the side opposite to the affected muscle and fixed in position by sandbags placed on each side of the head, the patient lying supine. No other method of retention is necessary unless the child should be very unmanageable. The divided muscle usually reunites rapidly and about from a week to 10 days in bed in the one position suffices usually to allow a fairly firm union to take place. After this it is generally permissible for the patient to sit up in bed and in the course of a few days to get up and move about cautiously. At the end of three weeks the patient should have recovered from the operation. 6. The subsequent treatment depends upon the condition of the patient previously to operation. In the case of a young child, say five or six years of age or even older, it is probable that the structural changes in the spine from the previous malposition of the head will not be severe and that when the contraction is relieved the patient will have little or no difficulty in keeping the head straight. If there should be an inclination on the part of the patient to drop the head towards its former malposition a course of massage and special exercises will suffice to correct this tendency. In proportion to the length of time which has elapsed before operation has been performed, or, in other words, in proportion to the age of the individual and also in proportion to the degree of the contraction, so will be the tendency to deformity of the neck. It is in the older patients, and especially in adults, that the spine and other structures will have changed their shape, so that a very decided inclination for the head to assume the old position will exist. But even in these cases massage and exercises will generally suffice in a few weeks or months to overcome the evil. We may, of course, meet with severe lateral curvature as a result of the deformity and then such a complication will require to be separately dealt with, but these cases are comparatively rare and hardly come under consideration in a paper dealing with uncomplicated congenital torticollis. Of course, patients ought never to be allowed to continue to adult age unrelieved but such cases certainly exist. It is probable that a fear of bad results from operation—a fear which with antiseptic surgery and care in operation ought not to be entertained—explains the fact that this affection is sometimes allowed to continue beyond childhood. In some cases other muscles besides the sterno-mastoid are contracted, but these do not come into the category of uncomplicated congenital torticollis. Nor, I may as well add, am I considering those instances of contraction due to tonic spasm caused by caries of the cervical vertebræ and other causes.

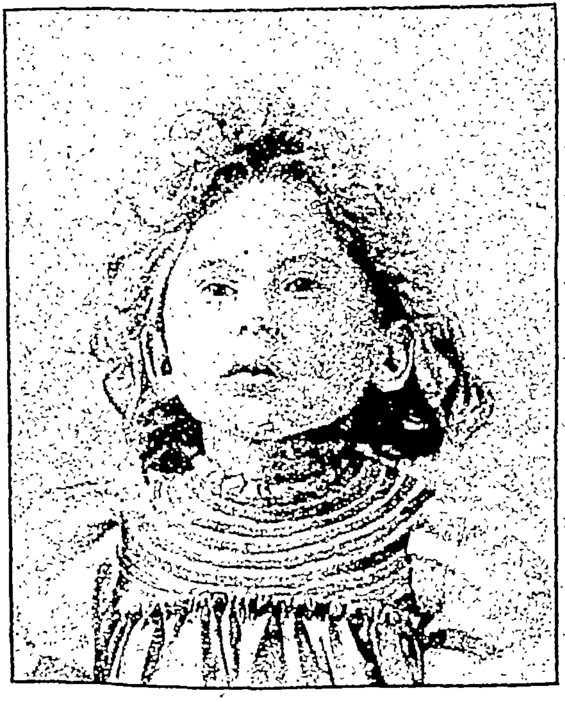
CASE 1.—The patient, a girl, aged three years and three months, was sent to me by Dr. F. A. Purcell on June 11th, 1895. The right sterno-mastoid was contracted, drawing the head down on that side, as shown in Fig. 1. It is possible that in this case the contraction was due to injury to the muscle from the force which was necessarily employed in delivering the head at birth, the case being a breech-presentation although, of course, this may not be the explanation of the contraction. In the treatment of the torticollis it was necessary to divide both the sternal and clavicular attachments of the contracted muscle. The head was immediately placed in a straight position and perfect union took place rapidly, so that in three weeks the child was well and about again. Four months after operation the head remained perfectly straight and the father took the second photograph.

FIG. 1.



The patient in Case 1. The lines show the amount of deformity, one line being at the level of the shoulders and the other at the level of the lobes of the ears.

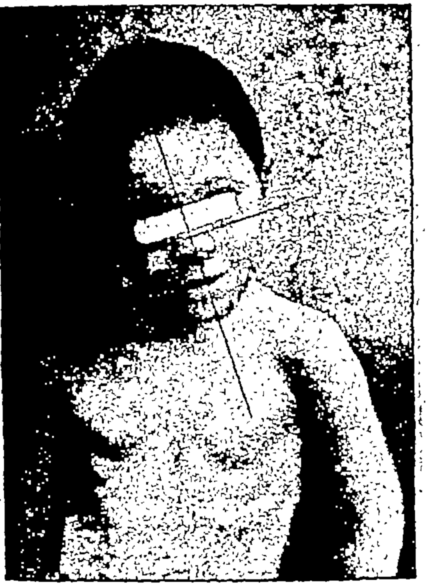
FIG. 2.



The same patient four months after operation.

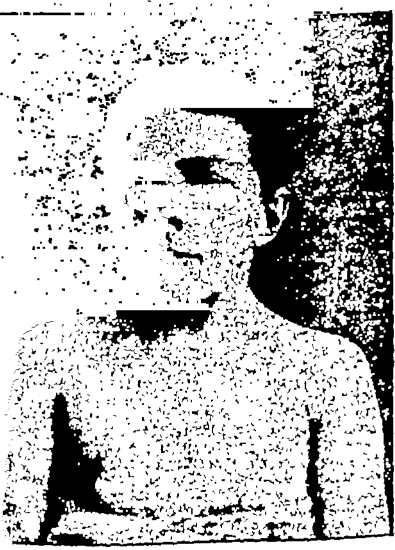
CASE 2.—The patient, a boy, aged five and a half years, was sent to me by Mr. J. Keay of Stockport in April, 1896. This patient is shown in Fig. 3 and it will be observed that

FIG. 3.



The patient in Case 2 before operation in April, 1896. The whole trunk was curved in accordance with the bend in the neck. The lines show the amount of distortion of the head.

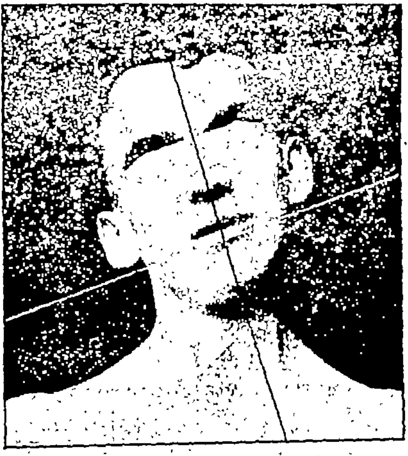
FIG. 4.



The same patient in April, 1901, five years after operation, showing that he was absolutely cured of the deformity and remained sound.

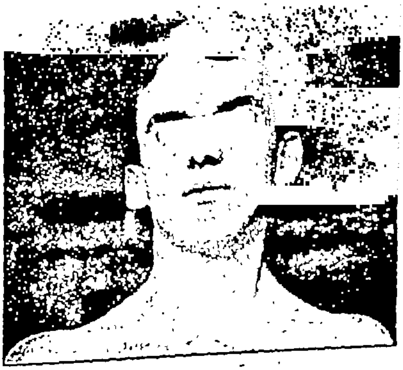
the whole body is curved in correspondence with the deflection of the head—that is to say, *from the vertex of the head to the pelvis is one continuous curve*. In this instance the spine had become involved as a result of the torticollis and I found it necessary to use an apparatus for a time *for the spine itself*. I therefore took the opportunity to extend this apparatus to the head. Had the spine not been thus affected I should not have used any apparatus and from more recent experience I believe that the case would have done very well without the head-piece. On April 10th, 1896, I divided both the attachments of the sterno-mastoid. The patient made a rapid recovery and a few weeks after operation the head was retained in a perfectly straight position. I had the opportunity of seeing this patient in April, 1901, five years after operation, and I found the cure to be absolutely perfect and I therefore took the photograph which is represented in Fig. 4.

FIG. 5.



The patient in Case 3 before operation. The lines show the deflected position of the head.

FIG. 6.

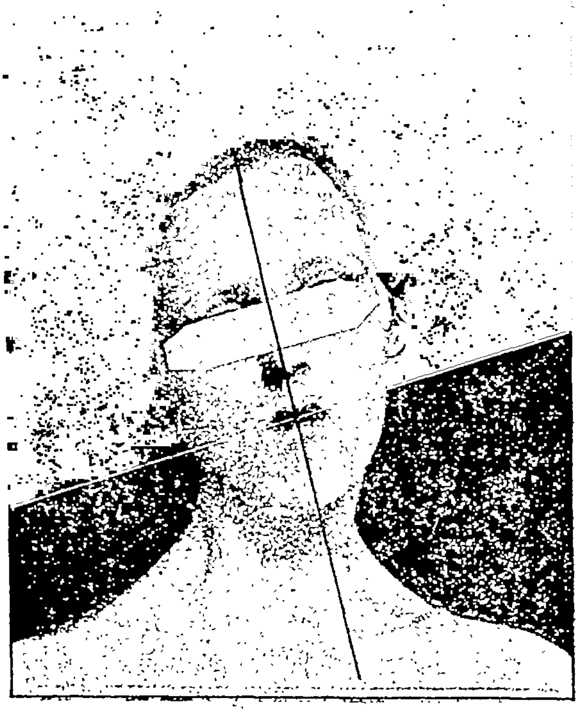


The same patient a few weeks after operation.

CASE 3.—The next case is instructive as showing the effect of torticollis being allowed to continue without treatment until adult age. In such instances it is almost certain that structural changes will have occurred in the spine and other parts requiring longer after-treatment, but yet, even under such circumstances, it is not necessary, as a rule, to use apparatus. The patient, who was 21 years of age, was sent to me by Dr. M. H. Gardiner of Richmond, on Dec. 8th, 1900. The right sterno-mastoid was contracted as shown in Fig. 5. There was also some contraction of the left sterno-mastoid, which seemed to be of a temporary nature and had probably been brought about by the continued efforts of the patient to counteract the contraction on the right side. Operation was necessary on both attachments of the right sterno-mastoid and the result was perfectly satisfactory. In a few weeks after operation the patient was able to hold *his head almost perfectly straight as shown in Fig. 6.* There was, however, a great tendency for the head to drop to the former position in consequence of the altered shape of the cervical vertebræ and other tissue changes, and a course of exercises and massage was necessary to overcome this. The patient made rapid improvement, so that at the end of three months he had complete control over the head. I considered, however, that it would take several more months before he could safely give up the exercises. After the first three weeks he had been able to carry out these exercises by himself. At the age of 14 years this patient wished to enter the navy, but he was refused in consequence of his wry-neck.

CASE 4.—A girl, aged 14 years, was sent to me on March 5th, 1901, by Miss Rigby, a member of the Ling Association, who had been *treating* her with exercises *for* curvature of the spine. As seen in Fig. 7, the contraction was chiefly on the right side, but partly also on the left.

FIG. 7.

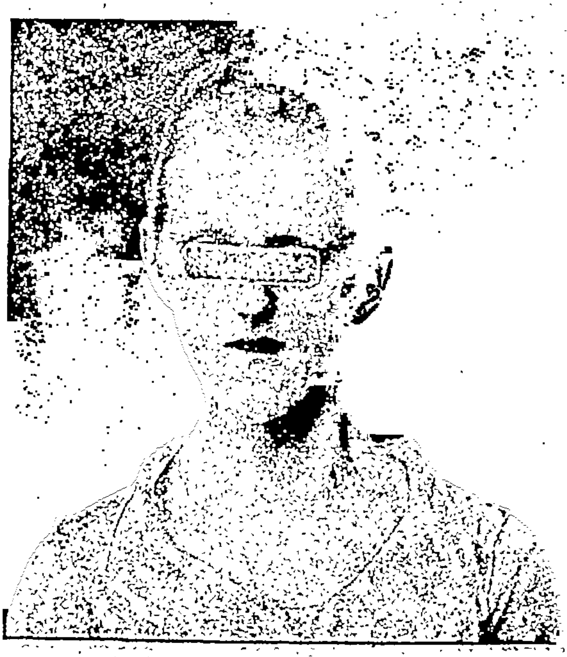


The patient in Case 4. Before operation, the lines show the deflected position of the head.

It had been thought that the position of the head was due to the curvature of the spine, but it is more probable that the spine trouble was the result of the wry-neck. By exercises Miss Rigby had been able to overcome the curvatures in the dorsal and lumbar regions, but she failed to produce any effect on the cervical curve. This failure was not surprising as the neck was kept bent by the contracted muscle. Both attachments of the sterno-mastoid had to be divided and the patient made a good recovery (Fig. 8). It was, of course, necessary in this case to carry out a course of massage and exercises to overcome the curvature in the cervical part of the spine and the consequent tendency to drop the head towards the old position.

The whole subject of torticollis is a large one and I have purposely limited the above remarks to the simplest form which presents itself. Those surgeons who wish to study torticollis in all its forms cannot do better than consult the work of Dr. P. Redard, published in Paris in 1898, which is not only complete in itself but which gives a long list of the bibliography of the subject.

FIG. 8.



The same patient three weeks after operation.

Queen Anne-street, W.

BRIEF NOTES ON THREE CASES OF AUTO-INTOXICATION: ONE FATAL.

By A. B. DUPREY, M.R.C.S. ENG., L.R.C.P. LOND.,
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IN Grenada and the Grenadines, where corn and peas form chiefly the staple article of food of the people, constipation is a very troublesome condition among them, so also it is with the inhabitants of the other islands where the same diet prevails. Various fruits as well which the poor indulge in, such for example as the mango, the sugar apple, and the apricot (mammy apple), are all fibrous and as such are calculated to render the bowels most obstinately constipated. It is well known that whereas the well-to-do indulge in foods that are much too rich the diets of the poorer classes are not sufficiently stimulating. Be that as it may, cases of obstinate constipation frequently present themselves, and it is a very difficult matter to persuade such patients that their diet should be altered for a more stimulating one; indeed, in very many instances there is no alternative, seeing that the parties are too poor to afford a frequent change of diet. My attention has for some years been drawn *to a series of cases* presenting *symptoms not unlike* those following upon a condition of uræmic poisoning and it has always been remarkable to me that there is not the slightest sign indicative of any Bright's disease. The urine has usually been free from the slightest trace of albumin or sugar and the patients, except for a state of stupor gradually deepening into coma, are otherwise physically healthy. Malaria cannot account for this condition, for usually in malarial coma there is always to be found a history of intermittent fever, and, moreover, the treatment adopted in the cases under discussion is sufficient to do away with any idea of malarial infection. Alcoholism is also excluded by virtue of the history and the state of the patient when he comes under observation. The only other state which might be allied to this condition is that of hysterical coma, which, in a useful means of hæmostasis and this may be made more efficient by employing at the same time a solution of suprarenal extract to the bleeding surfaces.

The best treatment of shock is preventive and to that end it is desirable to lose as little blood as possible, though I do not agree with those who assert that shock in operation is always dependent on loss of blood. The patient is enveloped in a roughly made suit of Gamgee tissue and where he is very feeble or the operation is likely to be prolonged it is performed on a heated table. A large enema of normal saline solution, with or without stimulant, given from 15 to 20 minutes before, and the administration of 10 minims of solution of strychnia subcutaneously just before commencing anæsthesia, are useful. Expedition in operating is an important factor in lessening shock, especially in abdominal surgery, for it stands to reason that prolonged manipulation and exposure of the viscera in patients so ill as are those composing the class of cases which we are now considering must generally be, will be badly borne, for it is not only the work of the surgeon, but the deep anæsthesia, that adds to the shock, since for choledochotomy to be well and expeditiously performed the muscles must be well relaxed. Choledochotomy should occupy from half an hour to an hour and in case of unusual complications a little longer, but it seems to me that the surgeon who spends two, three, or four hours over one operation is lacking either in skill or in judgment. After the operation a pint of saline fluid with one ounce of brandy is given by enema and five minims of solution of strychnia are given subcutaneously every two hours for several hours if called for. Subcutaneous injections of saline fluid or intravenous infusion are only rarely required.

As I have performed the operation of choledochotomy for the removal of gall stones from the common duct on 60 occasions it would be too tedious to read even a short abstract of them all. I shall therefore refer those who wish for more detail to the second edition of my book on "Diseases of the Gall bladder and Bile Ducts," where an account is given of all my cases, 28 in number, operated on up to Dec. 31st, 1899, and to the list of cases, 32 in number, operated upon since Jan. 1st, 1900. It is interesting to note that the mortality of the whole series of 60 choledochotomies is 16·6 per cent., or excluding the duodeno-choledochotomies 14·2 per cent., but while those operated on before 1900 give a rate of 23·8 per cent. those since Jan. 1st, 1900, show only 7·1 per cent. of deaths, and of the two fatal cases one was from heart disease and the other from pulmonary congestion and shock, both deaths I believe being essentially due to ether anæsthesia, the ether having been given by means of the old apparatus with an india-rubber bag, a method which I have discarded on account of its asphyxial tendency and its want of cleanliness. I think, therefore, that it is quite reasonable to assume that with due precautions the mortality of the operation of choledochotomy should be reduced to 5 per cent. or under.

A SUMMARY OF A SERIES OF 60 CHOLEDOCHOTOMIES.

Cases 1 to 21, inclusive, which were operated upon before 1900, have been previously reported, in 16 of these recovery ensued.

CASE 22.—The patient, aged 50 years, was seen by me with Dr. J. T. Windle of Ovenden. There had been gall-stone colic for two years and three months. There was loss of flesh and of strength. Jaundice and infective cholangitis were present. A stone was floating in the common duct and there was a fistula between the gall bladder and the colon. The operation was performed on Jan. 28th, 1900. The stone was removed from the common duct, the fistula between the gall bladder and the colon was closed, and a good recovery followed. The patient was quite well in September, 1901.

CASE 23.—The patient was a married woman, aged 44 years, who was seen by me at the General Infirmary, Leeds. There was a history of gall stones of 14 years' duration and of great failure in health. There was jaundice which was intensified after each seizure. The operations of choledochotomy and cholecystotomy, which were carried out on March 29th, 1900, resulted in a good recovery. The patient was well in 1901.

CASE 24.—The patient was a man, aged 52 years, whom I saw with Mr. W. H. Ellis of Shipley. There was a history of "spasms" lasting for some years and in later years of jaundice and infective cholangitis. There was a stone floating in the common duct. Jaundice and infective cholangitis were present. Choledochotomy and cholecystotomy were performed on June 7th, 1900, and a good recovery followed. The patient was well in July, 1901.

CASE 25.—A woman, aged 54 years, who was seen at the General Infirmary, had had colic two years previously followed by jaundice. There had been several severe attacks since with ague-like seizures and loss of weight. There were five stones in the common duct. Choledochotomy and cholecystotomy were performed on August 22nd, 1900. A good recovery resulted and the patient was well in December, 1901.

CASE 26.—I saw the patient, a man, aged 56 years, with Dr. A. G. Barrs of Leeds. He had been troubled with diarrhœa and indigestion for 25 years. The first attack of gall-stone colic and jaundice had occurred six months previously. One stone was ulcerating through the gall bladder and one was in the common duct. There was muco-pus in the ducts. Suppurative cholangitis was present. Choledochotomy and cholecystotomy were carried out on August 22nd, 1900. Posterior drainage was employed, but recovery was tardy. The patient has been well since except for occasional attacks of pain.

CASE 27.—This patient, a woman, aged 43 years, I saw with Mr. G. A. Davies of Newport, Mon. She had suffered from colic for six years and from jaundice for two months. Two recent colicky attacks had been followed by fever and rigors. There were jaundice and infective cholangitis and a stone in the common duct. Choledochotomy was performed on Oct. 26th, 1900. A rough stone was removed. Anterior drainage was adopted. After a severe attack on July 19th, 1901, another stone was passed. The patient was very well in November, 1901.

CASE 28.—The patient, a woman, aged 45 years, who was seen at the General Infirmary, had had colic for eight years. Jaundice was present and was increased after each attack. Choledochotomy and cholecystotomy were performed. Several gall stones were removed from the gall bladder and the common duct and a good recovery followed.

CASE 29.—A man, aged 52 years, who was seen at the General Infirmary, had had symptoms for 20 years—"pains, &c." There were infective cholangitis with loss of flesh and strength, a fistula between the gall bladder and the duodenum, intense adhesions, and jaundice. Choledochotomy with closure of the fistula and cholecystotomy were carried out on Feb. 15th, 1901. The patient took ether badly, became livid and had much mucus in the bronchi. He died from shock and congestion of the lungs.

CASE 30.—The patient was a woman, aged 50 years, whom I saw with Dr. H. Mitchell of Cockermouth. She had suffered from attacks of colic over a long period of time. Jaundice was moderate. There was a fistula between the gall bladder and the duodenum. There were two stones in the gall bladder and one stone in the common duct. Choledochotomy and cholecystotomy were proceeded with on Feb. 6th, 1901. The fistula was repaired. Complete and perfect recovery ensued and the patient was well in September, 1901.

CASE 31.—A woman, aged 57 years, was seen by me with Dr. F. R. Mallett of Bolton. There had been many attacks of colic, and jaundice had prevailed for three weeks. There were rapid loss of flesh and jaundice. There were a stone in the common duct and one in the gall bladder. The gall bladder was calcareous, forming a hard tumour. Choledochotomy and cholecystectomy were performed on June 8th, 1901, and a good recovery followed, the patient being very well in November, 1901.

CASE 32.—A woman, aged 40 years, was seen by me with Dr. F. W. A. Godfrey of Scarborough. For three years she had suffered from colic and jaundice. Jaundice and infective cholangitis were present and there were eight stones in the gall bladder and one in the common duct. Choledochotomy and cholecystotomy carried out on June 17th resulted in a good recovery. The patient was very well in November, 1901.

CASE 33.—I saw this patient, a woman, aged 48 years, with Dr. T. Wakefield of London. Colic had persisted for one year and there was jaundice. There was a fistula the result of a previous operation performed elsewhere in October, 1900, when two stones were found in the cystic duct. There was also a biliary fistula. Slight jaundice and rigors occurred if the fistula was not kept patent. On July 1st, 1901, choledochotomy was performed with excision of the fistula. Two stones were found in the common duct. A good recovery followed and the patient was very well in November, 1901.

my opinion, may also originate in a loaded bowel by the absorption of injurious toxins, but whereas hysteria commonly affects women alone this process of auto-intoxication affects both men and women equally. In fact, there is nothing that I see which would cause this state of stupor in patients otherwise healthy except the absorption of injurious substances consequent upon a loaded bowel, and in defence of my contention I would point out that the headache which is a usual result of constipation is very suggestive of poisoning. The treatment, moreover, is so simple and successful as to admit of no doubt of the origin of the trouble. This consists simply of a large enema of soap-and-water with two tablespoonfuls of castor oil added. The two following cases indicate the clinical symptoms of this condition.

CASE 1.—A woman was admitted to hospital in an apparently comatose state. She was well nourished and between 35 and 40 years of age. She was quite unconscious. Her face was perspiring, the pupils reacted to light and to accommodation, and the breathing was quick and shallow. The lungs and heart were normal. The pulse was full and regular, counting 96 in the minute, and the temperature was normal. The urine, which was drawn by catheter, was free from albumin. The history was that she was quite well but was seen to drop as if shot. A large enema of soap-and-water with an ounce of castor oil was administered and half an hour later she passed a very large motion, when she almost immediately regained consciousness. She was discharged well.

CASE 2.—I was called to see a young man who was taken suddenly ill and who was said to be dying. I found him unconscious but he could be roused on shaking him, when he would open his eyes, mumble a few unintelligible words, and subside again into an unconscious state. He had not been drinking. His heart and lungs were free from disease and he was not a fever subject, but there was a distinct history of constipation. There was no albumin or sugar in his urine which was subsequently examined and he was not subject to fits. I gave him five grains of calomel by the mouth and ordered the usual enema of soap-and-water and oil, which according to the attendants worked him well. On the following day he was up and about.

Such is the usual history of these cases, but quite recently a case of sudden death in a child, six years of age, was reported to me and I made a post-mortem examination the result of which suggested the writing of this note. On careful inquiry no history of any disease could be obtained from the parents which would be likely to bring about the sudden death of the child, only the mother stated that her bowels were "hard to go off." She was playing about the yard when she dropped down and almost immediately expired. The necropsy was performed in the mortuary of the St. Lucia District Hospital 17 hours after death. The body was found to be that of a well-shaped, well-nourished female child. Rigor mortis had passed off in the upper part of the body but was still present in the lower extremities. The larynx and trachea were not obstructed and appeared to be quite normal. The lungs and pleuræ were normal. There was a little less than a tablespoonful of serous fluid in the pericardial sac; there was no evidence of pericarditis. The heart had stopped in systole. The left ventricle contained a little ante-mortem clot which extended to about half an inch up the aorta. The mitral and aortic valves were perfectly smooth and normal. The right ventricle was quite empty. The tricuspid and pulmonary valves were normal. The œsophagus and stomach were normal and the latter contained about one ounce of a white grumous fluid; its mucous membrane appeared to be normal. The small intestines were normal and contained no worms. The appendix was normal; its position was upwards and backwards. The ascending colon and transverse colon were empty. The descending colon from the splenic flexure to the sigmoid was a bag of fæces, the contents being more or less a cast of semi-solid fæces, with here and there very hard fæcal masses forming lumps of about the size of a shilling. There was no sign of obstruction or contraction or any thickening whatever. The sigmoid and rectum appeared to be perfectly normal. There was only slight distension of the descending colon. The liver and the gall-bladder were normal, so were the kidneys, spleen, and pancreas, the bladder, and the uterus and its appendages. As regards the brain the calvarium was somewhat adherent to the dura mater; the pia arachnoid seemed to be normal. The lateral ventricles were normal and contained a little fluid but of no unusual quantity. The optic thalami, the caudate and lenticular nuclei, and the internal capsule seemed to be perfectly normal, so also did the pons, the cerebellum, and the medulla. The fourth ventricle was also examined and appeared to be normal. In fine, there seemed to be nothing, with the exception of the fæcal distension of the descending colon, to account for the sudden death of the child who appeared perfectly well up to the time of her death. Had she lived she would undoubtedly have suffered sooner or later from intestinal obstruction from fæcal retention. I have therefore come to the conclusion that the absorption of poisonous toxins from the bowel, which would in an adult have given rise to a suspension of consciousness until relieved by treatment, caused sudden death in the case of this child, whose vitality presumably was less able to withstand such poisons.

St. Lucia.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

BETHNAL GREEN INFIRMARY, N.E.

A CASE OF CHOLESTEATOMA OF THE FOURTH VENTRICLE.

(Under the care of Dr BEATRICE KNOWLES and Mr. WILLIAM HALL PEILE, assistant medical officers.)

THE patient, a well-developed woman, aged 30 years, came under observation on Sept. 19th, 1901, complaining of pains in the back of the head "like knives," a feeling of weight on the top of the head, a sensation of pins and needles in the hands and feet, and of inability to walk. She had enjoyed good health until two years previously, when she was noticed to stagger on walking; the difficulty in locomotion increased steadily, and of late she had been constantly falling down. The pains in the head and other subjective sensations were of only three weeks' duration. The patient was married; she had had six children and one miscarriage. No history of syphilis, otitis, injury to the head, or alcohol could be obtained.

On admission the patient was a well-nourished woman, of medium height, with a sallow complexion. Her mental state was dull and she was slow in answering questions but did so accurately. The speech was thick and indistinct, resembling that of a general paralytic. This the patient noticed herself and she volunteered the statement that her tongue and mouth felt swollen; the tongue, which was furred, was protruded in the middle line and was distinctly tremulous; the breath was offensive and had very markedly that peculiar odour which is often present in cases of tumor cerebri. The gait was a staggering one, with the feet wide apart and with the arms extended to preserve the balance. There was a constant tendency to fall to the left and Romberg's symptom was well marked. There was good muscular power in both lower limbs and no tenderness on pressure, rigidity, wasting of muscles, or anæsthesia could be detected. The knee-jerks were present on both sides and were exaggerated; ankle clonus could not be obtained. In the upper limbs the only thing noted amiss was a slight impairment of the muscular sense. As regards the head, there was slight but distinct tenderness to percussion and pressure all over the occipital region, but it was not more marked on the one side than on the other; there was no facial or ocular palsy or nystagmus. The pupils were equal and moderately dilated and they reacted readily to light and accommodation. It is to be regretted that the ophthalmoscope was not used at once, as the patient's sudden death prevented this being done subsequently. The bladder acted normally; the bowels were obstinately constipated, resisting calomel, salines, croton oil, and enemata, all of which were used freely.

There is not much to be said as regards the progress of the case. The patient lay quietly in bed and slept well at night; she complained of moderately severe occipital headache. There was no vomiting; the appetite was good and the temperature varied between 97·4° and 99·2° F. The pulse was normal. On Sept. 24th, five days after admission, she became restless, taking off the bedclothes and attempting to get out of bed. At intervals she would lie quietly on her left side curled up in the bed; towards evening the pulse became very rapid, respiration failed rather suddenly, and she died, remaining conscious almost to the last.

Necropsy.—At the post-mortem examination on removing the skull-cap a very congested state of the cortical veins was noted. When the brain was being removed a puncture was accidentally made in the floor of the third ventricle, out of which more than half-a-pint of cerebro-spinal fluid spurted with considerable force. On the removal of the brain a portion of the tumour was seen lying in the space between the cerebellum and pons. The tumour, which was irregularly spheroidal, had a diameter of about two inches and was roughly of the size of a Tangerine orange. The surface was very irregular and on it were numerous pearly outgrowths varying in size from that of a pin's head to that of a pea. The whole tumour had a remarkable pearly lustre which was especially marked in the smaller outgrowths. Before dissection it appeared to be growing in the space between the medulla and the cerebellum; the medulla was pushed forwards and to the right and considerably flattened; the tumour also pressed upon both lobes of the cerebellum, especially the left, and upon the vermis which was flattened out. On cutting through the inferior vermis of the cerebellum the full size of the tumour became evident and it was seen to be lying in a greatly distended fourth ventricle. On moving the tumour the floor of the fourth ventricle could be seen and at its extremity the orifice of the Sylvian iter to which the tumour was closely applied. In order to preserve the specimen no further dissection was done. The other organs of the body appeared to be quite healthy.

Remarks by Dr. KNOWLES and Mr. PEILE.—Cholesteatoma, or pearly tumour, occurring within the cranium is an exceedingly rare condition, as is proved by the fact that there was no example of it in the museum of the Royal College of Surgeons of England. In most of the text-books on medicine it is merely mentioned as a curiosity in company with psammoma. Cholesteatomata are found in three situations—(1) in pre-existing hollow spaces lined with epithelium, such as the mastoid cells of the temporal bone; (2) growing from the leptomeninges, the pia mater, or the trabeculæ of the arachnoid; and (3), as in this case, in the central canal of the cerebro-spinal system, where, according to Thoma, they arise as autonomous new formations of endothelial cells. "These tumours are waxy or mother-of-pearl-like masses consisting of shed epidermic squames and cholesterin crystals The epidermic squames are arranged in irregularly concentric laminæ and accordingly the whole mass has a rounded shape. They are sometimes primary multiple growths and are then found as a number of pearl-like tumours in the arachnoid; in other cases the originally separated pearls become united and form irregular masses" (Thoma).

A diagnosis of slowly growing intracranial tumour was made *intra vitam* and it was thought that the tumour was involving the cerebellum and probably the left lobe. The true nature of the tumour was, of course, not discovered till the necropsy, when its remarkable appearance removed all doubt. Gumma and tubercle were both suggested; malignant disease was excluded by the long duration of symptoms. It is remarkable that so large a tumour situated in such a position should have caused so little motor and sensory disturbance and that the bulbar symptoms should have been confined to a mere thickness of utterance. The specimen is now in the museum of the Royal College of Surgeons of England. For permission to publish the case we are indebted to Dr. W. J. Potts, medical superintendent.

SEAMEN'S HOSPITAL, FUNCHAL, MADEIRA.

A CASE OF DOUBLE COMPOUND FRACTURE OF THE TIBIA WITH SIMPLE FRACTURE OF THE FIBULA UNTREATED FOR ONE MONTH; OPERATION; RECOVERY WITH SOUND LIMB.

(Under the care of Mr. J. GEDDES SCOTT.)

ON Feb. 30th, 1899, a sailor, aged 19 years, was admitted into the Seamen's Hospital, Funchal, Madeira, with the following history. Four weeks previously whilst engaged in his duties on board a sailing ship he sustained a severe blow on his right leg from a block of wood. He fell down and on attempting to rise found that he was unable to do so. His companions "bound a rag" round the injured limb and removed him to his berth in the forecastle, where he lay without any further treatment until his vessel put into Funchal to obtain medical assistance. On admission to the hospital his condition was as follows. He had a compound fracture at the junction of the middle and lower thirds of the right tibia and a compound fracture just below the point of junction of the upper with the middle thirds of the same bone. The fibula on the same side had sustained a simple fracture about the middle of the bone. Both wounds on the tibia were suppurating, the lower one having a deep sinus which lead down to dead bone. They were surrounded by unhealthy granulations and the whole leg was swollen and œdematous besides being exceedingly painful. The patient's temperature was 100° F. Both fractures showed good examples of vicious union, the upper having united with the convexity slightly outwards and the lower with the convexity forwards and inwards. The fracture of the fibula was ununited. In the absence of the surgeon the physician to the hospital, Dr. R. Krohn, asked Mr. Scott to operate.

The patient having been anæsthetised Mr. Scott cut down on to the projecting pieces of bone in both wounds, raised the periosteum, and with a bone forceps and chisel removed the projecting fragments together with some superfluous callus and dead bone. He removed with a sharp spoon the unhealthy granulations in the neighbourhood, scraped the sinus after laying it open, and stitched the edges of the wounds together with silk. Having set the fracture of the fibula as well as possible under the somewhat difficult circumstances, the parts were dressed with lint wrung out of a solution of perchloride of mercury (1 in 2000). The dressings were left untouched for a week, during which the patient's temperature fell to normal and the pain in his leg subsided. On removing the dressings the upper wound was found to have healed by first intention, whilst the lower one showed very slight signs of suppuration at its lower extremity. The swelling of the leg had entirely disappeared. After a fortnight the patient was allowed to get up. The fractured fibula had healed with apparently firm union in a good position. In a month's time from his admission he was able to get about with the aid of a stick and the leg showed about half an inch of shortening. He was discharged soon afterwards with a very sound useful limb which he was able to use almost as well as his healthy one.

Remarks by Mr SCOTT —The points of interest in the case in my opinion are the following: (1) the remarkable fact of the patient having survived a double compound fracture with two undressed septic suppurating wounds for a month with such few (comparatively speaking) ill effects; and (2) the remarkable manner in which the injuries healed under appropriate treatment and the small amount of shortening that remained.

Medical Societies.

GLASGOW SOUTHERN MEDICAL SOCIETY.—The annual excursion of this society took place on June 12th to the town of Kinross in the East of Scotland. Through the kindness of Dr. Ebenezer Duncan a visit was paid to the new sanatorium in the Ochil Hills. Leaving Queen-street Station at 1.55 P.M. and detraining at Milnathort the party to the number of 27 were conveyed in brakes to the sanatorium. This building, situated in grounds extending to 460 acres abundantly wooded with pine trees, stands on a spur of the Ochil Hills at an altitude of 800 feet. There are 60 bedrooms arranged on three floors opening behind on a corridor 240 feet in length, while to the rear are found the executive rooms, bath-rooms, &c. In the electrical room a demonstration was given of some of the instruments used in the diagnosis and treatment of various forms of tuberculous disease—including the apparatus for supplying electrical currents of high frequency and high potential, the ultra-violet light, and the Roentgen rays. At some distance on the west of the sanatorium the sewage tank is situated, screened off by a belt of trees. The method adopted in the treatment of the sewage is by bacterial purification and the necessary provision in the form of a septic tank and four filter beds with automatic alternating gear was duly examined. After inspection of the sanatorium the party drove to Kinross, where dinner was served in the Green Hotel.

Reviews and Notices of Books.

Clinical Hematology: a Practical Guide to the Examination of the Blood with reference to Diagnosis. By JOHN C DA COSTA, Jun, M D, Assistant Demonstrator of Clinical Medicine, Jefferson Medical College. Containing eight full-page coloured Plates, three Charts, and 48 other Illustrations London: Rebman, Limited. 1902. Pp. 474 Price 22*s.* 6*d.*

THE systematic and complete investigations which have been made during recent years into the changes which occur in the blood in disease have developed an entirely new factor in diagnosis and prognosis. Even yet the value which may be placed on the examination of the blood has not been fully determined, but ample evidence has been adduced to prove that by skilled observance of the variation in form and number of the corpuscles of the blood great assistance is afforded to the physician and the surgeon. The value of such an examination is increased when the percentage of hæmoglobin is ascertained, and occasionally the estimation of the specific gravity and alkalinity of the blood may also be of use.

In the volume now before us Dr John C Da Costa, jun, has given an excellent account of "clinical hematology," which forms "a practical guide to the examination of the blood with reference to diagnosis." The author's aim has been to recount the salient facts of hæmatology as they are understood at the present time, to correlate certain of these facts with familiar pictures of disease, and to apply them to medical and surgical diagnosis. When new measures of clinical diagnosis are introduced there is often a great tendency to exaggerate their power and scope. Dr Da Costa, however, has simply endeavoured to interpret the "blood report" according to its true value as a clinical sign, neither exploiting it as a panacea for every diagnostic ill nor belittling it because of its failure consistently to give the sought-for clue in every instance. The book gains in value by the adoption of this form of procedure; it gives a confidence to the author's conclusions which a more exaggerated tone would fail to do Throughout the work a minimum amount of theoretical discussion has been introduced, so that the practical side of the subject is paramount.

Intimate familiarity with technique is an essential qualification for the comprehensive study of the work. No pains, therefore, have been spared in the first section of the book—Examination of the Blood by Clinical Methods—to render the directions as minute as possible. Certain apparatus is necessary. The various forms of instruments which have been introduced are described, but the author does not hesitate to name those which have given the best results in his hands. The description of the processes employed to count the erythrocytes and the leucocytes is very lucid "Durham's hæmocytometer" is highly spoken of In this device the principles of the older instruments are embodied, together with the substitution of a self measuring pipette designed to overcome the sources of error which may occur in making blood dilutions with a suction pipette. Dr. Da Costa prefers the use of diluting fluids which contain just a sufficient quantity of a basic aniline dye to stain the leucocytes, so that they may be readily differentiated from the erythrocytes.

Section II. is entitled "The Blood as a Whole" and is concerned with the general composition of the blood, its colour, odour, viscosity, reaction, and specific gravity An account is also given of various "blood states," such as plethora, hydræmia, lipæmia, melanæmia, cholæmia, uricacidæmia, and anæmia. A large amount of information not usually found in text-books will be found in the pages devoted to these subjects.

Section III. deals with separate elements of the blood—the hæmoglobin, the erythrocytes, and the blood plaques. Their physiological and pathological variations are duly described. With the advance in knowledge of the changes which the erythrocytes undergo in disease many new terms have been found to be necessary; such words as "normoblasts," "megaloblasts," and "microblasts" are fully explained and the occurrence of these cells in morbid conditions is discussed.

Equally important is the section on "The Leucocytes." The different varieties are explained and their general characteristics are illustrated. Some excellent plates aid in this description. The condition of leucocytosis has attracted much attention within recent years Its physiological and pathological significations are becoming better understood and many valuable deductions may be drawn from its nature and extent.

The section on "Diseases of the Blood" contains accounts of chlorosis, pernicious anæmia, splenic anæmia, leucæmia, and Hodgkin's disease, in addition to a consideration of "secondary anæmia." The diagnosis of these conditions depends to a great extent upon the microscopic examination of the blood. Dr Da Costa has given a full and instructive description of the nature of the blood changes found in each disease and the practitioner will find in these pages much that will be of value to him in actual practice The section on the "Anæmias of Infancy and Childhood" will also be found interesting

The last section of the book is the largest and is headed "General Hæmatology" In it are described the changes which occur in the blood in general and systemic diseases. We may draw especial attention to the remarks on appendicitis, enteric fever, malignant disease, and pneumonia. In all of these much valuable information may be derived from an examination of the blood, especially with regard to prognosis. An excellent account is given of the malarial parasite and the plates illustrating the various forms are some of the best that we have seen.

We can cordially recommend this book to those who desire information on a branch of medical science which is at present not widely known but which promises to be much more prominent in the near future than it has been in the past.

The Æstivo-Autumnal (Remittent) Malarial Fevers. By CHARLES F CRAIG, M.D Yale, Acting Assistant Surgeon, U S Army, Pathologist and Bacteriologist to the U S Army General Hospital, Presidio of San Francisco, Cal; late Director of the Bacteriological Laboratories of the Sternberg U S A General Hospital, Chickamauga Park, Ga., the Josiah Simpson U S A General Hospital, *Fortress Monroe*, Va., and the Camp Columbia U S A Hospital, Havana, Cuba, Member of the American Medical Association, the American Microscopical Society, &c. Illustrated by Two Coloured Plates and 21 Clinical Charts. *London* Baillière, Tindall, and Cox. 1901. *Pp* 221 Price 10*s* 6*d* net.

THERE are two questions which at once occur to the reader and reviewer of every book claiming to be of a scientific and practical, and not of a merely speculative, character—namely, whether its author has had a sufficient field for observation and such opportunities for studying a subject as to make what he has to say about it worth reading, and whether he has set forth the results at which he has arrived clearly, intelligibly, and with a definite end in view We may say at once that in these respects the reader of this book will not be disappointed. A glance at the title-page suffices to show that the official positions which the author has held and the special work on which he has been engaged afforded him a good field and excellent opportunities for observation and that he is consequently enabled from both a scientific and a practical point of view, to speak with some authority on the subject of which he treats. We quite agree, by the way, with the spirit of what Sir Frederick Treves said the other day in his address at Charing Cross Hospital about the romance of medicine. No better instance could be cited to illustrate this point of view than that of the modern history of malaria. Not only has the study of the parasitic cause of malaria in its cyclical phases in relation to man and mosquito afforded material of keen scientific interest to the microscopist, naturalist, and pathologist, but the knowledge that has been acquired has this great advantage, that it can be, as it has been, practically applied to the purposes of life with the prospect of being fruitful of present and prospective advantages to humanity. To take one practical point illustrative of the importance of a knowledge of malarial fevers, and especially of remittent malaria fever, we may refer to what occurred at Chickamauga Park camp. The author tells us that hundreds of cases of typhoid fever, pure and simple, were erroneously diagnosed and treated as remittent malarial fever at that camp and that it was largely owing to this mistake that the fever epidemic occurred which compelled the evacuation of the place as a camping-site for the troops in the late war with Spain. A microscope and Widal's test and the systematic application of them by those properly trained in their use, the author contends, constitute all that is necessary for the recognition of these two forms of fever—malaria and typhoid. He deals more especially with the æstivo-autumnal (remittent) malarial fevers; the subject of hæmoglobinuric fever is not considered. Chapter I. starts with the Definition and History of Æstivo-autumnal Fevers. Chapter II. describes the Parasites; Chapter III. deals with the Crescentic, Ovoid, and Flagellated Forms of Æstivo-autumnal Parasites, and this is well and interestingly done; and the same may be said of chapters numbered IV., V., and VI. In Chapter IV. on the Life-cycle of the Parasites within the Mosquito a brief summary is given (pp. 38, 39) of our knowledge of the life-cycle of the æstivo-malarial parasite in man and in the mosquitoes respectively and interdependently in their mutual relations to one another. The chapters dealing with Etiology, Pathology, Clinical History and Features, and Latent Masked Forms and Combined Infections, and those concluding the work on the Complications and Sequelæ, the Diagnosis and Prognosis, and the Prophylaxis and Treatment of Æstivo-autumnal Fevers, also strike us as being full and good. The author of this volume is well posted up in the literature of his subject and has evidently had ample opportunies for making microscopical examinations of the blood and a number of minute observations. It is a book that can be honestly recommended to medical officers of the public services and to all who may be called upon to treat malarial disease or are likely to practise their profession abroad.

Peru History of Coca. By W. GOLDEN MORTIMER, M.D., Fellow of the New York Academy of Medicine. With 178 Illustrations. New York: J. H. Vail and Co. 1901. Pp. 576. Price $5.

WE imagine that all that can be said about coca, "the divine plant of the Incas," has been said in this large volume and a good deal is written also about many other matters ranging from the anatomy of the vocal cords and voice production to gold-washing. Scientific literature would indeed be swelled enormously if treatises of the dimensions of this volume were written upon all the specific principles known of many other divine plants, for surely coca is not the only plant that has been called "divine." The book is dedicated to "Angelo Mariani, Paris, France, a recognised exponent of the divine plant and the first to render coca available to the world." Coca has undoubtedly yielded certain principles of value in medicine but hardly comparable in this regard, surely, with the value, say, of cinchona or nux vomica. Nevertheless, the history of coca as "the divine plant of the Incas" is interesting if it only gives one more illustration of the craving of man for a stimulant of some sort. Moreover, the Incas are an interesting race and the volume before us is more instructive in regard to anthropology than in regard to therapeutics. According to the author the use of the word "stimulant" is invariably misunderstood, most people taking the word to indicate something which arouses flagging energy, as the spur to the horse, only to be followed, however, by a reaction, a more lethargic condition than before. Whatever the strict meaning of stimulus may be taken to be, coca arouses energy without any tax upon the resources and without any despondency ensuing or diminution of activity resulting. At least, such is the view of Dr. Mortimer. The gentleman who has devoted his life-work to rendering the divine herb popular is M. Mariani of Paris, to whom coca is "a recreation, a relaxation, and a source of pleasure wholly removed from sordid commercial interest." *Vin Mariani* is, however, well known, we believe, and "eminent artists and sculptors have painted and chiseled some dainty examples which serve to typify their esteem for a modern elixir vitæ." Further, "famous musical composers have sung their hosannas in unique bars of manuscript melody," and "poets and writers have versed the qualities of the coca leaf," "royalty have set upon it their meritorious seal of patronage," and, lastly, "the modern church, more liberal than its edicts of long ago, has welcomed its use," for the Pope has approved it and "his Holiness has been supported in his ascetic retirement by a preparation of Mariani's coca, of which a flask, constantly worn, is, like the widow's cruse, never empty." Such rubbish is not creditable to a medical man.

Clinical Lectures on Neurasthenia. By THOMAS D. SAVILL, M.D. Lond., Physician to the West-end Hospital for Diseases of the Nervous System. Second edition. London: Henry J. Glaisher. 1902. Pp. 171. 5*s.* net.

THIS little work consists of five clinical lectures delivered at various times at the Paddington Union Infirmary and at the Welbeck-street Hospital for Diseases of the Nervous System. For the present edition the text of the first edition has been revised and a few alterations have been made. The first lecture deals with the different explanations put forward to explain the nature and cause of "functional" disorders of the nervous system—namely, those unattended by structural changes discoverable by the present means at our disposal. The second lecture defines neurasthenia and briefly describes the general symptoms. The next lecture deals with differential diagnosis and tabulates the differences between neurasthenia, hysteria, and hypochondriasis. Emphasis is laid on the relation of gastric disorders to neurasthenia and it is pointed out that in the majority (three-fourths) of cases of neurasthenia with gastric disorder the gastric trouble precedes the advent of neurasthenia. The fourth lecture refers briefly to neurasthenia which may follow influenza, fatigue, shock, and traumatism. Much needless repetition occurs in the chapters above referred to. The concluding lecture deals with neurasthenic insanity, the description being, however, sketchy and inadequate; while the single illustrative case cited of this form of insanity appears to be open to doubt as a genuine example of this affection. A small bibliography is appended to the work.

LIBRARY TABLE.

Regional Anatomy of the Head and Neck, for Students and Practitioners of Dentistry. By W. T. ECKLEY and C. B. ECKLEY. London: Henry Kimpton. 1902. Pp. 240.

86 Illustrations in the text and 20 Plates in black and colours. Price 12*s.* 6*d.* net.—This work is intended as a guide to those departments of anatomy with which the dental surgeon is particularly concerned. The authors state that they have endeavoured to keep practical applications in view and they certainly have succeeded in producing a most useful book for the student and practitioner. In addition to the more purely anatomical matter there is much useful information bearing on the practice of dental surgery. For example, there is a good account of the reflex pains in connexion with the trifacial nerve, including some valuable suggestions for carrying out a methodical examination of patients suffering from trigeminal neuralgia. In describing operations the authors indicate clearly the structures to be divided and the structures to be avoided. The text, which is throughout clear and concise, is accompanied by some excellent illustrations which are slightly diagrammatic.

The Essentials of Histology, Descriptive and Practical, for the Use of Students. By E. A. SCHÄFER, F.R.S. Sixth edition. London: Longmans, Green, and Co. 8vo, 1902. Pp. 416. Price 9*s.* net.—We have already had on several occasions to speak in high terms of approval of this work which has become a classic. Though it is not comparable with the great handbook of Histology of Professor Kölliker in fulness of detail it is far better adapted to the wants of the student, and it has the still greater merit of completeness, for whilst Professor Kölliker's treatise, commenced long before the date of 1889 on its title-page and promised to be completed, if health permitted, in 1890, is only about half finished in this year of grace 1902, Professor Schäfer's work after reaching its sixth edition is brought to a close and contains the results of all recent observations given in a very clear and instructive manner. It is rendered more instructive by the introduction into the text of a large number of excellent illustrations. Professor Schäfer, we are sure, would be the last to recommend the student to learn histology from its pages, but with a few instruments, solutions, and staining agents the "Essentials of Physiology" will enable the learner to acquire and to comprehend all that it is requisite for him to know in this department of medical education.

A Life Tragedy and other Verses. By WILLIAM TEUCER. London: John Bale, Sons, and Danielsson, Limited. 1902. Pp. 64. Price 2*s.* 6*d.* net.—Mr. Teucer intimates that "half the profits resulting from the sale of the first edition of this volume will be given to the King Edward's Hospital Fund." This being so, we desire to call attention to a bold figure which Mr. Teucer has, in the exercise of his poetic licence, employed with great effect. It occurs on page 58, in the last stanza of a poem addressed to two friends on the anniversary of their silver wedding:—

"Skipper and mate, they have sailed the deep
For twenty years and five—
May the days to be
Run peacefully,
And find them still alive,

And happy, when the log records
The fiftieth milestone gone—
And a favouring breeze,
And summer seas,
To waft them on and on."

JOURNALS.

The Practitioner.—The June number deals extensively with the subject of malignant disease of the uterus. Dr. Arthur H. N. Lewers contributes an article coping mainly with the treatment of this common and disastrous condition. Dr. Lewers has abandoned supra-vaginal amputation in favour of vaginal hysterectomy for cases of cancer of the cervix. He gives details of 61 cases—33 of supra-vaginal amputation and 28 of hysterectomy. 14 of the patients remained free from recurrence at periods of from four to 15 years after operation. Dr. C. Hubert Roberts supplies a comprehensive review of the present position of pathological knowledge regarding uterine malignant disease. He regards adeno-carcinoma as the most frequent type of malignant disease of the body of the uterus and includes adenoma malignum as a variety of this disorder. As regards deciduoma malignum Dr. Roberts seem to incline to the view that the growth may have different origin in different cases and that in some it may spring from fœtal tissues. A review of diseases of the kidneys includes the account of a most interesting case of double hydro-nephrosis in a child six months old.

Analytical Records

FROM

THE LANCET LABORATORY.

(1) TABLOID UREA; AND (2) TABLOID HYPODERMIC MERCURY SUCCINIMIDE.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, LONDON, E.C.)

(1) UREA in the treatment of tuberculosis has been brought into prominence during recent years. A quantity of from five to 20 grains three times a day has been administered according to the indications of the case. The tabloid is a convenient form for administration, each containing five grains of the pure carbamide. (2) Mercury succinimide appears to possess advantages over the better-known sorts of mercury for the preparation of a mercurial solution for intramuscular injection. It is said to produce no local irritation. The tabloid will be found very convenient and trustworthy as regards *dosage* in those cases where mercurial treatment by injection is desired.

VARIOUS SOAPS.

(PRICE'S PATENT CANDLE COMPANY LIMITED, BELMONT WORKS, BATTERSEA, LONDON, S.W.)

We have received no less than 12 varieties of soap from the above well-known firm as specimens made from the purest materials, and in those cases in which the soap is medicated the purest active ingredients are stated to have been employed. We have carefully submitted the toilet soaps to various tests relating chiefly to the question of the presence of alkali in excess, of irritants, and of the proportion of water. As a matter of fact, in no single instance was evidence gained of alkaline excess, while, as might be expected, since these soaps are submitted to a special milling and drying process, the moisture present was in minimal amount. It follows that the soaps are economical in use and the ingredients are well proportioned. For toilet purposes and in cases in which sensitive skins are concerned these soaps are just what they should be, free from irritants and bland in action. The samples examined comprised various toilet soaps agreeably scented in a variety of ways and some contained oatmeal. Others were for shaving purposes, as, for instance, the glycerine cream soap, while the medicated soaps contained coal tar, carbolic acid, and sulphur respectively.

ANTIPHLOGISTINE.

(THE DENVER CHEMICAL MANUFACTURING COMPANY, 451-455, WASHINGTON-STREET, NEW YORK; LONDON AGENCY, 18, JEFFREYS-ROAD, CLAPHAM-ROAD, S.W.)

Antiphlogistine is an advance on the ordinary cataplasm. It consists of a perfectly uniform yellowish paste smelling agreeably of well-known antiseptics The vehicle is a very pure clay or silicate according to our analysis. The preparation may be used with advantage as an external application in inflammatory conditions. Anti-phlogistine maintains a moist condition of the tissues and exerts a soothing effect, while on account of its marked antiseptic properties it may be used in the treatment of open wounds or ulcers.

PENFOLD'S PURE AUSTRALIAN WINES.

(J. G. THOMSON AND CO., LEITH, N.B., AND 17, FENCHURCH-STREET, LONDON, E.C.)

We have submitted to examination a number of these wines which are produced in the vineyards first planted in 1844 in South Australia by the late Dr. Penfold. The vineyards occur on slopes situated to the east of the city of Adelaide. The character and nature of the wines may be fairly well judged from the following figures of analysis which we have obtained. Mataro (port): extractives, 14·01 per cent.; mineral matter, 0·34 per cent.; alcohol, by weight 17·25 per cent., by volume 21·19 per cent., equal to proof spirit, 37·13 per cent.; fixed acids calculated as tartaric acid, 0·208 per cent.; volatile acids calculated as acetic acid, 0·09 per cent.; and sugar, 11 63 per cent. A sound wine of the character of port but very sweet. Carbinet: extractives, 2·83 per cent.; mineral matter, 0·19 per cent.; alcohol—by weight 13·15 per cent., by volume 16·24 per cent., equal to proof spirit 28·46 per cent.; fixed acids calculated as tartaric acid, 0·231 per cent.; volatile acids, 0·16 per cent.; and sugar, 0·29 per cent. A generous full-bodied wine with a Burgundy character. The amount of sugar is small. Grenache: extractives, 9·42 per cent.; mineral matter, 0·29 per cent.; alcohol, by weight 15·67 per cent, by volume 19·28 per cent., equal to proof spirit 33·79 per cent.; fixed acids reckoned as tartaric acid, 0·20 per cent.; volatile acids reckoned as acetic acid, 0·05 per cent.; and sugar, 7 58 per cent. A sound wine described as claret, but too sweet and alcoholic to belong properly to that class of wine. Tokay: extractives, 11·34 per cent.; mineral matter, 0·21 per cent.; alcohol, by weight 15·67 per cent., by volume 19·28 per cent., equal to proof spirit 33·79 per cent.; fixed acids reckoned as tartaric acid, 0·18 per cent.; volatile acids reckoned as acetic acid, 0·079 per cent.; and sugar, 10 per cent. An agreeable white wine, but heavy as regards both sugar and alcohol. Frontignac: extractives, 12·83 per cent.; mineral matter, 0·30 per cent.; alcohol, by weight 16 46 per cent., by volume 20·24 per cent., equal to proof spirit 35·47 per cent.; fixed acids reckoned as tartaric acid, 0·32 per cent.; volatile acids reckoned as acetic acid, 0 09 per cent; and sugar, 11·11 per cent. A powerful red wine with good fruity flavour. It may be said generally of these wines that they are genuine and wholesome, though on account of their big body and strength they are better adapted for invalid purposes in moderate quantities than for ordinary table use. Some of them are very strong and very sweet and may be diluted with water with advantage. As the above analyses show, having regard to the volatile acidity, the wines are sound but their high alcoholic strength is sufficient to protect them against deterioration.

BANQUET CREAM.

(HERBERT FRANCIS AND CO., 8, ARTHUR-STREET WEST, LONDON-BRIDGE, E.C.)

We published an analysis of this cream in our issue of May 24th, 1902, p. 1476, when the results were shown to be satisfactory except as regards the amount of fat. It has been pointed out to us that this result was abnormally low, arising probably from the fact that the amount of fat in cream is often apparently low owing to a want of uniformity in consistence. We have therefore selected for ourselves further samples with the result that as a mean amount of fat in three analyses the figures 33·34 per cent. were obtained. This is eminently satisfactory. The complete analysis was as follows: water, 60·90 per cent.; fat, 33·34 per cent.; curd, 5·24 per cent.; and mineral matter, 0·42 per cent. This cream has the advantage of being sterilised, whilst the characteristic qualities of fresh cream are present. As is well known, cream may be substituted with advantage for cod-liver oil and sterilised cream appears to be more digestible than raw cream.

CEYLON TEA.

(HENRY URQUHART, 16, WATER-LANE, GREAT TOWER-STREET, LONDON, E.C.)

This specimen is described as pure high grown Ceylon tea and it is well known that tea grown on high levels yields a less astringent liquor on infusion than that obtained from tea grown in the valley. This is not due apparently to any appreciable difference in the amount but probably in the kind of tannin, for there are many varieties of this acid. We found that this tea yielded an agreeable liquor free from the roughness and astringency of the strong Indian teas. Our analysis gave the following results: moisture, 4·70 per cent.; mineral matter, 5·23 per cent.; theine, 3·40 per cent.; tannin (by the acetate of copper method), 10·69 per cent.; alkalinity of the ash reckoned as potash, 1·35 per cent. These figures are consistent with the description "a genuine pure tea." Though the amount of the tannin is not notably low yet it would appear to exist in a form that is less astringent than that occurring in Indian tea. The tea is suitable when prepared in a proper manner for dyspeptics.

THALASAL.

(ARTHUR AND CO., 69, BERNERS-STREET, LONDON, W.)

The use of this solution is described as "not only far more economical and convenient than the immersion of a patient in a bath of salt water but is also more efficacious, as it may be allowed to dry on the affected part (e.g., in cases of spinal diseases, arthritis, &c.), which cannot well be done after complete immersion without risking a chill." The solution is an opalescent, colourless liquid smelling of oil of roses. Its density was 1061 which corresponds with a strength of 8·5 per cent. of common salt. Further, a mineral residue was obtained on evaporation and careful ignition amounting to 8·42 per cent. It consisted of common salt.

ORION RUBY WINE.

(SOUTH AUSTRALIAN GOVERNMENT BONDED DEPÔT, NORFOLK HOUSE, LAURENCE POUNTNEY-HILL, CANNON STREET, LONDON, E.C.)

The analysis of this red wine was as follows: extractives, 1·31 per cent.; mineral matter, 0 25 per cent.; alcohol, by weight 13·15 per cent., by volume 16 24 per cent., equal to proof spirit 28·46 per cent; fixed acids calculated as tartaric acid, 0 27 per cent.; volatile acids calculated as acetic acid, 0 067 per cent.; and sugar, 0 25 per cent. This is a sound and agreeable wine, possessing, however, a somewhat high alcoholic strength characteristic of imported Australian wines. It is a medium-bodied wine, without an appreciable amount of sugar, and suitable for use by invalids.

NATURAL HUNGARIAN BITTER WATER (LORD ROBERTS LABEL).

(KRONTHAL WATERS, LIMITED, 70, DEAN-STREET, OXFORD-STREET, LONDON, W.)

This is a good typical natural purgative water presenting constituents in kind and amount and in ratio to each other suitable for the specific purpose of a saline aperient. Our analysis gave the following results: in grammes per litre, magnesium sulphate, 23·62; sodium sulphate, 15·68; calcium sulphate, trace; sodium chloride, 2·10; and sodium carbonate, 0·62. The total saline contents are thus 42·02 grammes per litre. The density of the water was 1036. It will be seen that the amount of sulphate of magnesium preponderates somewhat over the amount of sulphate of sodium. According to some authorities the former sulphate is mild and painless, non-nauseating, and less drastic in action than sodium sulphate, while magnesium sulphate may be taken in larger quantities than the sodium salt. This water, therefore, presents the advantages just indicated, while the presence of an important amount of common salt and of an alkaline carbonate is calculated to modify favourably the purgative action of the water This water has been used extensively on the continent in gastric and intestinal catarrh and in obesity with good results. In spite of its comparatively high mineral strength the water is not so disagreeable to the taste as might be anticipated, which is an important advantage. The particular ratio of the purgative salines would seem to account for this fact. Moreover, the full dose is comparatively small. The water is clear and bright and free from organic matter.

MEDICAL AND ANTISEPTIC TABLETS

(ARTHUR H. COX AND CO., ST. MARTIN'S-PLACE, BRIGHTON.)

We have received specimens of tablets of various drugs and containing well known formulæ from the above firm. The tablets are well made and with special care directed towards accuracy of dosage. Amongst those submitted were cascara extract, phenacetin with caffeine, chlorate of potash, with borax and cocaine, potassium permanganate, quinine bisulphate, and trinitin. Very convenient for use also are the antiseptic tablets containing carbolic acid, corrosive sublimate, and mercuric iodide. The antiseptic tablets are prepared with an innocuous colouring matter, so that the stock solution of antiseptic fluid obtained may be distinguished from other solutions by its colour

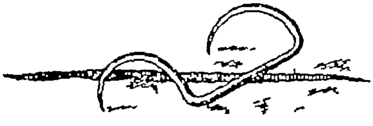
New Inventions.

A NEW METHOD OF KEEPING IN APPOSITION THE EDGES OF SURGICAL INCISIONS AND WOUNDS IN ORDER TO PROMOTE UNION

HAVING for the past three years taken a spare-time interest in the question of surgical suturing I have all along been of opinion that it was possible to devise some method which could take the place of that which has been adopted from time immemorial, notwithstanding the apparently insurmountable difficulties one met at every turn on making an attempt to solve the problem. After devising many different methods and making experiments with almost every conceivable kind of appliance I have selected that hereafter described as being by far the most effectual and practicable. The results which I have obtained from its use and the practically unanimously favourable opinions that have been given to me by surgeons of the highest rank who have investigated it are my apologies for introducing it to the profession by means of THE LANCET.

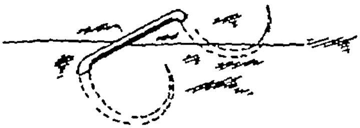
Fig 1 is a *steel* clamp consisting of a cross bar and two pointed prongs represented as lying across the edges of an incision. These prongs are curved as semicircular arcs and the plane of both is set at right angles to the cross-bar. The size of the appliance varies according to the depth of the incision dealt with but I may give three eighths of an inch for the cross bar as being about the suitable size for ordinary cuts and scalp wounds such as the general practitioner often meets. In the case of hare lip a rather smaller size is better, while a much larger size will be required for abdominal operations. These appliances are fixed in position by means of a specially designed holder which ensures a proper grip being given so that the clamp can be easily and properly placed in position. Some operators are tempted to make use of ordinary needle holders and they fail or bungle in consequence. *Once* the idea is grasped and the purport of the appliance is understood its application is perfectly simple if the right holder is used. In order to insert the clamp the holder should be gripped by the handles in the right hand, the jaws being horizontal and pointing to the left. The clamp is then placed between the jaws so that the cross-bar lies lengthwise while the points are directed to the right and downwards. Then the lower edge of the lower jaw of the holder is rested upon the skin so that the cross bar lies at right angles to the edges of the incisions, which have been brought together, and it assumes the position seen in Fig 1. Gripped and held in this position the appliance is turned round upon the imaginary axis lying between the centres of the semicircular *prongs* the result being that the points enter the flesh and the prongs are buried up to the cross-bar, as seen in Fig 2, the appliance having become inverted. A depth of tissue is thus commanded which is the measure of the radius of the semicircular prongs. The shape of the prongs and their position with regard to the cross-bar enable them to enter the flesh with the greatest ease, provided the appliance is turned round as near as possible upon the axis between the semicircular prongs. Although a very rough guess will be found quite sufficient for all ordinary purposes, it will be easily understood that the more *perfectly* this axis is judged the more perfect will be the application and results. A reverse movement (see Fig 3) will, of course, withdraw the clamp when union has taken place. The prongs having rectangular planes to the cross-bar act as powerful resistants in keeping together the edges of an incision. The curved form of the prongs gives three particular advantages: it facilitates application, it spreads resisting force over a space the measure of the diameter, and it causes the appliance to maintain its proper position.

FIG 1.



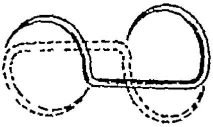
The clamp in position for insertion (enlarged)

FIG 2.



The clamp in position after insertion (enlarged) The drawing gives the effect of the prongs coming out through the skin. In practice this is not the case, the points being completely buried

FIG 3.



Showing how the clamp turns upon an imaginary axis (enlarged).

I sum up the following advantages for this new appliance: It is absolutely effectual and practicable for the main purpose required of sutures. It is more easily made perfectly and reliably sterile. It is far less irritating than an ordinary suture, not pinching the flesh together too tightly, hindering circulation. It can be applied and removed in a fraction of the time that it takes to complete the application of an ordinary suture and with much greater ease. It is suitable for practically all depths of incisions. It can be used over and over again. Instead of its being less useful in the case of opposed parts that need a good deal of drawing together, as some surgeons have at first thought, it happens to be far more advantageous in such cases by reason of the fact that the pull is not upon a single point as would be the case with an ordinary suture but upon a space the size of the diameter of the prongs. Thus in cases where stitches might pull out this appliance will hold very firmly—one of the smaller sizes will be found particularly useful in hare lip cases for instance.

The clamps and holders are made for me by the "Improvements" Supply Association, 16, Eden-street, Kingston-on-Thames.

HAYDN BROWN, L.R.C.P. Edin., &c.

Surbiton.

THE LANCET.

LONDON: SATURDAY, JUNE 28, 1902.

The Illness of His Majesty the King.

To the great grief of all his subjects it became known in London early on Tuesday morning that His Majesty the King was seriously ill.

We are able to state that an abdominal operation was successfully performed on His Majesty by Sir Frederick Treves on Tuesday morning. The anæsthetic was administered by Dr. Frederic Hewitt and was borne well, His Majesty recovering consciousness without any ill-effects whatever. The operation was attended by no complications; a large abscess was found and evacuated.

The present number of The Lancet, although it will bear the date of the 28th of June, will be in the hands of our readers some three days before that time, as we arranged for its publication before the ceremonies of the coronation. But now the royal processions through the streets of London, to which hundreds of thousands of the subjects of King Edward and Queen Alexandra, hailing from all parts of the world, have so long looked forward with eager anticipation, have been indefinitely postponed. The solemn and magnificent rite at Westminster Abbey which was to set the symbol of sovereignty over a vast empire upon the brow of one whose career as Heir Apparent had fully qualified him for the higher dignity and responsibility of kingship cannot, alas, at present be performed, for the central figure in the ritual lies upon a grievous bed of sickness. The deep anxiety of his subjects in the critical position in which their ruler is now placed is marked on every face. He has convinced his people of his zeal for their welfare and of his ability worthily to uphold the traditions of the throne. Throughout his life he has not only performed with exactness and willingness the duties that came in his way as the natural consequence of his position, but he has sought work and done it in many directions for the good of those whom he was to reign over. This is known to all, and as we acknowledge the influence of the powerful and practical sympathy which has ever been displayed by His Majesty with sickness and suffering our hearts go out to him on his bed of pain. We need hardly remind our readers of such recent incidents as his presiding at Marlborough House over the foundation of the National Association for the Prevention of Consumption in July, 1898, or of the keen interest which he has evinced in the investigation into the causes and possible prevention of the dreaded scourge of cancer. In such matters as these his has not been the perfunctory intervention of an exalted personage; his grasp of the subject has been real and his action judicious and effective. He has acted obviously upon deeply moved feelings and we may be sure that in his turn, now that he has been struck down by illness, he is receiving from his people no mere loyalty of lip-service but the truest and most affectionate sympathy.

King Edward's fellow-invalids of all sorts and conditions have particular reason to bless his name and to pray earnestly for him in his hour of trouble. In 1897 Her Majesty Queen Victoria celebrated her Diamond Jubilee, when her eldest son found himself called upon to assist the decision of her subjects as to how they might best commemorate the occasion. On the 6th of February the newspapers contained a letter signed by His Royal Highness which inaugurated the Prince of Wales's Hospital Fund for London. King Edward in that letter exhibited the warm-hearted feeling for the needs of his poor subjects, the appreciation of the demands of the occasion, and the business-like grasp of detail that have always been prominent in his actions and utterances. He showed that he knew well that the fittest object on earth for assistance of every sort—ungrudging, open-handed, and immediate—is the sick man whose purse cannot command adequate medical attention, suitable diet, or a proper environment. By his prompt recognition that the sick poor of the metropolis constituted a class with paramount claims upon him, as the figurehead of the kingdom, he proved himself to be at the same time observant, practical, and tender-hearted. It is not only, moreover, with his more conspicuous actions that the medical profession associates the zeal of King Edward in the cause of the sick and the suffering. Over and above aid given in the raising of funds on behalf of individual hospitals or by ready participation in the opening ceremonies that inaugurate new buildings, new wings, and new wards,—besides all these, there have been acts of kindness and individual sympathy that have won hearts even more completely because fewer have known of them. There have been visits to hospitals without ceremonial accompaniment, informal inspection of organisation and detail, kind words spontaneously spoken but ever remembered by those whose claim upon royal attention lay only in the fact that they were poor and in pain. Instances of unpretending kindliness such as these show that amid the conventional surroundings of royalty the King, and here we should include also the Queen of this great realm, are endowed with a human sympathy that holds nothing human alien to it. To the sweet lady whose smile has inspirited and whose voice has cheered so many of her humble subjects the heart of those subjects goes out to-day in her sore trial.

The King is no stranger to illness and suffering. The deep anxiety felt by this country when he lay upon a bed of sickness more than 30 years ago will still be remembered, as well as the gloom that overshadowed the British dominions when the grave relapse of Dec. 8th, 1871, was made known. Eagerly every symptom of recovery was noted in the constantly issued bulletins throughout the world and great was the rejoicing that celebrated the PRINCE of WALES's restoration to health The country must be prepared to go through a similar period of sickening apprehension. We do not belittle the gravity of His Majesty's condition when we urge that it is quite a common one, relieved daily in our hospitals by just such an operation as has been successfully performed upon him, nor do we magnify its gravity when we say that until convalescence is established every symptom must be watched with the deepest solicitude. In the circumstances Sir FREDERICK TREVES's address on appendicitis which is published in our columns this week will have an absorbing interest for our readers. All our surgical records serve to show that much apprehension of evil sequelæ cannot be justified. In GOD's hand is the issue.

Neither the King nor the Queen requires any further proof of the love of their subjects, but had this been needed the heartfelt outburst of grief at the tidings of His Majesty's illness would have furnished it. No one who has witnessed the preparations for the present week in London, or in the country, or throughout the colonies and dependencies of the mother country will have failed to note the spontaneity and zeal which have distinguished everything that has been done In the metropolis, to which hundreds of thousands have flocked to witness the coronation processions, the outward manifestations of loyalty have by no means been confined to the routes to be traversed or to the organised efforts of municipalities or of groups of wealthy citizens. London has been decorated throughout, in the humblest streets and houses as well as in the most important squares and thoroughfares. And similarly the sadness of the tidings of his grave illness has affected the palace and the cottage, the spacious squares and the narrow slums. Before we again have an opportunity of addressing our readers fuller details of his illness will be forthcoming, while a stage in his recovery will have been reached, at which it is reasonable to hope, our apprehensions will be greatly allayed. Writing as we do within an hour of the performance of the operation upon His Majesty it would be idle to speculate further than this.

But to one point in the first bulletin we must draw attention. It is evident that the KING fought with the utmost gallantry to fulfil his great engagement, an engagement the constitutional importance of which is enhanced by its sanctity Indeed, it is possible that had he not resisted so strenuously the idea of a postponement of the Coronation ceremonies he might have escaped the ordeal of the surgeon's knife The ceremonies of the Coronation could hardly fail to prove exhausting, even to a vigorous physique. Yet, despite his pain, the KING had braced himself to go through with them at all cost, until, fortunately in time to avert a tragedy, nature proved too strong for him. Men of our nation cannot fail to recognise and admire the courage which fought so nearly to the end and despite all risks that the people might not be disappointed. We all love a brave man, and when His Majesty King EDWARD VII. resumes his place among his people he will find them moved to the depths of their heart in gratitude for his restoration to them

Musolino the Brigand.

AFTER a trial of well nigh three months' duration at the Lucca Assizes the "ROBIN HOOD of Calabria" has been condemned to penal servitude for life, the first eight years of that term to take the form of "carcere cellulare"—that is, of solitary confinement. The proceedings were instructive and interesting from many points of view—judicial, medical, and social. Tedious at all times, Italian forensic procedure is trebly so in criminal cases when counsel for the prosecution and the defence outvie each other in a discursive loquacity, encouraged rather than checked by the presiding judge. Every circumstance affecting MUSOLINO conspired to accentuate this phenomenon. He was the popular idol of a region where law is traditionally more honoured in the breach than in the observance, and witnesses in his behalf were as formidable in number as they were prolific in evidence, exculpatory or palliative Was he not a self constituted redresser of social inequalities, "rectifying the financial *frontier*" by a free handed bestowal on the poor of the money he extorted from the rich? Was he not "agin the Government," defying the police so successfully that the military had to take the field against him? Did he not for years outmanœuvre regiment after regiment, discrediting their commandants and digging the grave of many a professional reputation? Had he not the makings in him of a guerilla leader, prompt to utilise every local advantage? That with such a career he should have been defended by criminologists of the LOMBROSO school as little better than an anthropoid ape or pithecoid man is barely credible, but such is the fact. The public prosecutor and his adjutants had seriously to rebut plea after plea as to his being a "criminal nó" or an "epileptoid" or a "tuberculotic imbecile," to quote a little from the terminology of LOMBROSO or FERRI, but, to do him justice they were spared a good deal of trouble in this direction by MUSOLINO himself who indignantly resented the pseudo-scientific "attenuanti" set up in his defence and sought to vindicate his conduct and career on the Baconian plea of the "wild justice of revenge." That there were features intellectual and moral in his nature on which psychiatry and sociology would do well to ponder is undoubted, and accordingly we are promised an elaborate study of his case by two of the first medico-psychologists of Italy in the forthcoming "GIUSEPPE MUSOLINO di Fronte alla Psichiatria ed alla Sociologia Rapporti e Considerazioni dei Professori E. MORSELLI e S. DE SANCTIS"—the former director of clinical psychiatry in the University of Genoa, the latter lecturer on medico-psychology in the University of Rome. Till this authoritative treatise is made *publici juris* it would be idle to plunge into the "hideous welter" of expert evidence adduced by counsel for the defence, but meanwhile, as preparative to its perusal, it may be well to consider the atmosphere, social and traditional, in which MUSOLINO and thousands like him are born and developed. In Calabria, more perhaps than in any Italian province, life is cheap, even the ties of parental love being elastic enough to admit of the annual sale of children to itinerant "impresarii," by whom again they are sold to organ-grinders and strolling mountebanks in the capitals of Europe. Laws prohibitive of this nefarious traffic are evaded with a success that proves the discredit into which legal authority of every kind has fallen, particularly in Southern Italy. Not to the judicial tribunals, too often venal, invariably so blocked by cases remanded or awaiting trial that years elapse before justice can be pronounced,—not to such tribunals does the victim of wrong or injury look for redress but rather to private *vendetta* aided by sympathising relatives or friends. Add to this that hardness of living as to food and shelter robs the prison of its terrors and that the abolition of capital punishment still further minimises deterrents and we are in a position to understand the great criminal statistician Baron GAROFALO when he says: "Take Europe, *minus* Spain and Portugal (the Iberian peninsula), and you will find more murders committed year by year in Italy than in all the other European countries put together." In fact, as the same eminent authority pointed out in a memorable "conferenza" held in Rome some years ago, "an Italian kills an Italian every two hours," the homicides throughout the kingdom being seldom below 4000 annually, and in the year before the said "conferenza" amounting to the ghastly total of 4380. As a contributor to these figures MUSOLINO is only some units in advance of contemporary brigands in Sicily and Sardinia, while every youth who carries the prohibited "coltello"—the "accursed knife," as ANTONIO GALLENGA called it—is a potential homicide, under the all too frequent provocation of vinous excess or that master demon of the Italian proletariat—jealousy or disappointed love. Well may Italy feel mortified at the sinister priority she maintains in "*fatti di sangue*." Well may she take it to heart that the anarchist, in precept and in practice, finds so many exemplars among her sons.

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On the Treatment of Early Mental Cases in General Hospitals.

A FEW weeks ago we commented in a leading article on what may be considered the burning question of the moment in the subject of insanity—viz., the treatment of early cases of mental derangement in general hospitals. Two papers bearing on this subject have recently been read, one by Dr. J. W. SPRINGTHORPE at the April meeting of the Medical Society of Victoria, the other by Dr. NATHAN RAW before the Liverpool Medical Institution in February of this year, and both were published in THE LANCET of June 14th. We commend their perusal to our readers, for the question with which they deal is of great importance to all medical men. Though Dr. RAW'S paper deals essentially with the correlation between mental and bodily diseases (and this part of his paper we do not now discuss) he declares towards the end of it his sense of the advantages to be derived from the treatment of most cases of early mental disease in reception-houses. Dr. SPRINGTHORPE also advocates the erection of reception-houses thoroughly equipped and managed by a scientific staff. All this is in the direction which we have indicated, and it is satisfactory to note that the scheme which we advocated for the metropolis appears to coincide with the views of colonial and provincial experts. A great number of early mental cases are at the present moment treated in the out-patient rooms of general hospitals, and among these we may specify St. Thomas's Hospital in London and the General Hospital at Sheffield; and it would, we think, be well that other hospitals should establish clinics of this kind to be conducted by the lecturers on psychological medicine. A certain proportion of these out-patients will, perhaps, be found to require more special treatment and as they will usually be unsuitable for the wards of the general hospital (at any rate in London) they can be sent to reception-houses for detention until it is seen how the disease develops At the same time it seems to us that there is some tendency to optimism in the present rush to treat all acute mental disease in general hospitals. Whilst agreeing with the principle of dealing with cases of this sort in general hospitals as much as possible, it must not be forgotten that the asylum must still remain a necessary fact for many persons and that the less that is said about the "stigma of certified insanity" the better it will be for those who have to go through asylum treatment. Whatever "stigma" there is will be much more accentuated if it appears that a person fails to pass the test first of the out-patient room and then of the hospital or reception-house. It is greatly to be regretted that the fact that an individual has to be placed under certificates for his own protection, or more often for that of his property, should be deemed discreditable or opprobrious. The bugbear is more in the minds of others than in that of the patient himself, and it should no more be esteemed a disgrace that a person has had to be treated in a hospital for mental disease than it should be that he has had to be treated for any other complaint in the wards of a general or special hospital. Another point to be remembered is that certificates of lunacy are not so often meant for the protection of society from the lunatic as for the safety of the patient from the machinations of his friends. The lunacy laws were framed for the protection of people against evils some of which apparently are in the near possibility of a revival—we refer to the increasing fashion of treating in "homes" people who are undoubtedly insane. These "homes" are not under supervision of any kind and there seems to be no guarantee that abuses of the very sort that certificates were devised to render impossible may not re-arise because of the shrinking of over-sensitive people from the term "certificate of lunacy." It is of good augury that such enlightened and new measures as treatment in or by general hospitals should be strongly advocated, but it is simply self-deception and false kindness to assume that it is always possible to dispense with certificates. Whether the cause of the insanity be central or bodily the symptoms may

CASE 34.—A single woman, aged 28 years, whom I saw with Dr. J. Altham and Dr. J. Graham of Cockermouth, had suffered from spasms for years. For 25 weeks colic and jaundice had been present. On July 24th, 1900, duodeno-choledochotomy had been performed, when three stones were removed. The wound healed, but it reopened after an attack of pain followed by rigor. The patient returned on July 6th, 1901, suffering from jaundice, and there were a biliary fistula and infective cholangitis. Choledochotomy was performed on this date, one gall-stone being removed. The biliary fistula was excised and a good recovery ensued, the patient being well in November, 1901, except for a small sinus, not biliary.

CASE 35.—A woman, aged 30 years, was seen by me with Dr. F. C. Sprawson of Blackpool. Cholecystotomy for gall-stone colic followed by jaundice had been performed in February, 1900, by a surgeon since deceased. There was a biliary fistula, with jaundice if the fistula was not kept patent. Choledochotomy was performed on July 20th, 1901, when one stone was removed from the common duct. Cholecystotomy was also carried out, the case ending in a good recovery, and the patient was well in November, 1901.

CASE 36.—The patient, a woman, aged 38 years, had a history of spasms, infective cholangitis, and jaundice extending over some years. There were high temperature and incessant vomiting for a week before operation. The patient was extremely feeble. There were infective cholangitis, vomiting, heart disease, and deep jaundice. Choledochotomy was performed on July 21st, 1901, and several stones were removed from the common duct, but death from shock and heart failure resulted. The patient took ether badly, becoming very livid and almost pulseless.

CASE 37.—A man, aged 40 years, whom I saw with Dr. C. H. Taylor of Derby, had had indigestion and pain for a year. There had been loss of weight and deep jaundice for five weeks. There were five stones in the common duct and 35 in the gall-bladder. Choledochotomy and cholecystotomy were carried out on July 30th, 1901. Lumbar drainage was employed. The patient went home with a small tube in the sinus. He had lost his jaundice and otherwise was well in January, 1902.

CASE 38.—The patient, a single woman, aged 45 years, was seen by me with Dr. N. Williams of Harrogate. There had been gastric ulcer for two years. Colic and jaundice were present. There was loss of weight and of strength. There was pyloric stenosis with dilatation of the stomach. There were 20 gall-stones in the gall-bladder and two in the common duct. Choledochotomy, cholecystotomy, partial cholecystectomy, and pyloroplasty, which were carried out on August 5th, 1901, resulted in a good recovery, and the patient was well in November, 1901.

CASE 39.—A man, aged 46 years, was seen by me with Dr. R. H. Luce of Derby. For four months colic and jaundice had been present and there was loss of weight. The jaundice was very deep indeed. There were one stone in the common duct and two stones in the gall-bladder. The pancreas was swollen. Choledochotomy and cholecystotomy were performed on August 8th, 1901. Lumbar drainage was employed. The patient was well in November, 1901.

CASE 40.—I saw this patient, a man, aged 62 years, with Dr. J. Lawrence of Darlington. For two years colic had persisted and for a year jaundice had been present. Loss of weight to the amount of five stones was complained of. Cholecystenterostomy had been performed previously by another surgeon with temporary improvement. Relapse and recurrence of jaundice with great loss of flesh and of strength had taken place. Jaundice was present; there were three stones in the common duct and many in the gall-bladder, and there was cancer of the head of the pancreas. Choledochotomy and cholecystotomy were performed on August 8th, 1901. Anterior drainage was adopted. The patient was relieved of the pain and jaundice and he returned home within the month. Gradual loss of strength due to cancer of the pancreas ended in death in October, 1901.

CASE 41.—A single woman, aged 50 years, seen by me with Mr. J. C. Wilson of Haworth, had had spasms and jaundice for years. There were ague-like attacks, loss of flesh, infective cholangitis, and jaundice. There were one stone in the gall-bladder and five stones in the common duct. Choledochotomy and cholecystotomy were proceeded with on Sept. 1st, 1901. Lumbar drainage was employed. The patient was well in November, 1901.

CASE 42.—The patient, a woman, aged 47 years, was seen by me at the General Infirmary. For five years she had suffered from colic and jaundice with ague-like seizures. The jaundice was intensified after each attack. Choledochotomy and cholecystotomy, performed on Sept. 17th, 1901, resulted in a good recovery and the patient was well in December.

CASE 43.—A married woman, aged 38 years, was seen by me at the General Infirmary. She had suffered from colic from February to June, 1900, with jaundice and signs of suppuration. Cholecystotomy and draining the abscess between the gall-bladder and the intestine had been carried out. Some gall-stones had worked back from the common duct. There was colic again two months later, with persistent jaundice and infective cholangitis. Choledochotomy and cholecystotomy were performed on Sept. 27th, 1901. One stone was removed. A good recovery followed and the patient was well in December, 1901.

CASE 44.—I saw the patient, a man, aged 51 years, with Mr. W. C. D. Hills of Upwell, Wisbech. There had been slight colic but deep jaundice for a year and great wasting. There was infective cholangitis. There were five stones in the common duct. Choledochotomy was performed on Sept. 29th, 1901. The duct was drained and a lumbar drain was also used. There was chronic pancreatitis. The patient was very well and he had gained one stone and three pounds in weight in November, 1901.

CASE 45.—The patient, a man, aged 53 years, who was seen by me at the General Infirmary, had had colic for 12 years and jaundice for two years. There was deep jaundice. On Oct. 10th, 1901, choledochotomy was performed and a stone was removed. The patient was well in December, 1901.

CASE 46.—A man, aged 58 years, was seen by me with Dr. C. S. A. Rigby of Preston. He had had very deep jaundice for three years. Biliary cirrhosis and ascites as well as jaundice were present. There was a stone in the common duct. There were cirrhosis of the liver and ascites. On Oct. 21st, 1901, choledochotomy was performed. The omentum was fixed to the anterior abdominal wall. Anterior drainage was employed. In December, 1901, I had a letter to say that he was regaining strength and feeling well.

CASE 47.—The patient, a woman, aged 46 years, was seen by me at the General Infirmary. There was a history of spasms years before, and for the last eight months there had been very little pain but the temperature rose to from 103° to 105° F. every night. Jaundice and infective cholangitis were present. Choledochotomy was performed on Nov. 7th, 1901. The temperature dropped to normal on the day of operation and remained normal. The patient is now well.

CASE 48.—The patient, a single woman, aged 52 years, was seen by me with Mr. C. Brook of Lincoln. There had been spasms for years and jaundice for four months. The pancreas was large. There were 65 calculi, including 18 in the common duct. Choledochotomy and cholecystotomy, performed on Nov. 30th, 1901, resulted in a good recovery.

CASE 49.—I saw the patient, a man, aged 48 years, at the General Infirmary. He was a stout, unhealthy subject, with a history of former intemperance. He had suffered from gall-stones for 20 years and from jaundice with infective cholangitis since May, 1901. On Dec. 7th, 1901, choledochotomy was performed. 126 gall-stones were removed from the gall-bladder and 88 from the common and hepatic ducts. Recovery was retarded by bronchitis, but the patient was discharged well in five weeks.

Duodeno-choledochotomies.—Seven cases (Cases 50 to 56, inclusive) operated upon before 1900 with five recoveries have been previously reported.

CASE 57.—A married woman, aged 34 years, was seen by me with Mr. G. E. Coleman of Hemsworth. For many years she had had colic. There was intermittent jaundice. Cholelithotrity had been performed in February, 1891, and the patient was well in 1896. Then came recurrence of pain with jaundice and ague-like attacks. Dense adhesions rendered operation very difficult. Only débris came away. The pancreas was large. On July 23rd, 1900, duodeno-choledochotomy was performed. The gall-bladder was drained, but no lumbar drain was used. The patient died on the sixteenth day from exhaustion due to a leaking duodenum.

CASE 58.—I saw this patient, a single woman, aged 28 years, with Dr. Altham and Dr. J. Graham of Cockermouth. She had suffered for 25 weeks from colic and for 14 weeks jaundice had been present. The gall-bladder was distended and there was one stone in the cystic duct, while two were removed from the common duct by the duodenal route. The wound healed, but it reopened upon an attack of pain be the same both in intensity and duration; and we are at one with Dr. CHARLES MERCIER in his letter which we published last week, wherein he protests against "the view that insanity is a thing apart, a specific entity," having no community of nature with what Dr. RAW classifies as temporary aberration of mind. And although insanity due to bodily causes may not be so detrimental to the prestige of the family as when the cause is due to breakdown in the central system, it is nothing but a sickly sentimentalism that would refuse to extend to the former the security afforded by the law. The present outcry against certificates is partly the result of reaction against a process which has been too freely resorted to and partly follows on a better appreciation of the pathology of insanity; but there are occasions when asylum treatment under certificates is a blessing and not a curse. It ought to be regarded as a sanitary quarantine in the interests of all parties.

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The Seed and the Soil.

WITH the discovery of pathogenic micro-organisms the views with regard to infection and intoxication which had previously been held underwent very considerable changes. Formerly, the term "infective diseases" was understood to denote those maladies which were caused by certain poisons or noxious bodies which either entered the body from without or were manufactured in, or by, the tissues of the diseased person. The investigations which have been made as to the properties and mode of action of the bacillus of tuberculosis offer a good example of the influence which has been exerted on the minds of medical men by the discovery that certain diseases are caused by living germs. The description of that bacillus by Professor KOCH in 1882 and the proof of its causal relationship to the disease naturally led to great modifications in the treatment of pulmonary tuberculosis, the object of the many investigators, who at once set to work, being to search for means to destroy the bacilli which were causing the destruction of pulmonary tissue. Although 20 years have elapsed since that time no direct germicide has been found which will destroy the germs within the lungs without injury to the host. Nevertheless, a form of treatment has been introduced which promises hope of success, not by directly killing the bacilli but by rendering the tissues unfavourable to their growth. In other words, since bacteriology has become a recognised branch of medical science too much attention has been directed to the germs themselves and not sufficient to the soil in which they grow.

To this aspect of diseases caused by micro-organisms attention has been prominently called by two addresses which have been published in our columns. Dr W. HOWSHIP DICKINSON, in delivering the Baillie Lecture at St. George's Hospital, gave an eloquent address with the "parable of the sower" as a text.[1] He reminded his hearers that the distribution of plants within the range of the seed is regulated by the local conditions which the seed meets with—soil, moisture, temperature, light, and what not. Of course there is no growth without the seed and an infectious disease cannot attack an individual without the pathogenic organism becoming engrafted in his tissues. "*Omne vivum ex ovo* holds good now as in the time of HARVEY. But the seed may be indiscriminately and widely spread; within certain wide boundaries it may often be said to be ubiquitous, so that the whole question of distribution turns not upon the seed but the soil, not upon the germ but its reception." Dr. DICKINSON also instanced the resistance to infection as shown by medical men when he remarked, "Many of us—I may even say most of us—are frequently exposed to infection without being infected in virtue of the unproductiveness of the soil in which the seed falls. Some persons are prone to succumb as others are to resist." There are undoubtedly conditions of the body, both of blood and of tissue, which predispose to the entertainment or to the rejection of certain infective diseases. These conditions, which are sometimes included in the term "second etiological factor," have not been fully ascertained and considerable diversity of opinion exists in regard to them. There has been recently a marked tendency to discount the power of heredity; for example, in reference to tuberculosis the importance of family history is seen to have been much exaggerated. Certain authorities maintain that infection exerts a much stronger influence than does heredity, and modern research tends to confirm this view. Certainly heredity alone cannot cause the disease but the same is the case with the pathogenic bacillus, otherwise the human species would long ago have become extinct. But heredity prepares the soil for the favourable reception of the seed. Dr. STEPHEN MACKENZIE in the annual oration of the Medical Society of London delivered in May of this year[2] also dwelt upon the same subject and maintained that there was no doubt that the progeny of the tuberculous are much more liable to tuberculosis than are those in whose family no such strains run. On what conditions that predisposition depends there is no absolute knowledge. It is also a fact, however, that if every means is taken to improve the general condition of individuals thus weakened by inheritance—that is to say, if healthy surroundings are provided and measures for developing the chest and increasing the expansion of the lungs are adopted—the resistance against the inroads of the bacillus may be greatly strengthened. Dr. MACKENZIE extended his remarks to a consideration of the natural resistance to influenza, rheumatic fever, and appendicitis. With regard to the last-named disease, much information has been obtained within recent years. Peculiarities of position and anatomical formation of the appendix and its mesentery tend to produce contortions and contractions and interference with the circulation in the appendix which prevent the discharge of its secretions, favour the formation of fæcal concretions, and check the expulsion of foreign bodies accidentally entering its canal. In one of these ways the vitality of this portion of the intestinal tract becomes impaired. The organisms in the appendix find a medium which enables them to grow and to multiply, so producing inflammation and its attendant results. The soil is pathologically prepared for the virulent growth of the seed; examples of analogous conditions will occur to all our readers.

In dealing with diseases caused by micro-organisms there has been a tendency to overrate the power of the infective agency. This tendency in the routine of modern medicine, which most of us admit to be unfortunate, can be mentioned without belittling the faithful and splendid work of bacteriologists who number among them some of the foremost scientific men of the day. Indeed, we may say that it is the excellence of their achievements that has led to the position, for their aid has been so powerful that an inclination has been created to leave everything to them. But bacteriologists naturally regard disease mainly from a laboratory standpoint. Their investigations have produced results which can scarcely be over-estimated, especially in regard to prophylaxis, but it is for the medical practitioner to regard the natural resistance against disease, possessed by every human being to a greater or less extent, as of equal or even greater importance than the infective agents. It is the physician's duty to heal and as we have shown, for purposes of treatment, the care of the soil has very often a more practical result than the attempted destruction of the seeds.

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[1] THE LANCET, May 10th, 1902, p. 1297.

[2] THE LANCET, May 31st, 1902, p. 1511.

Annotations.

"Ne quid nimis."

THE KILLED AND WOUNDED IN CIVIL LIFE.

IN spite of several Acts of Parliament, each one more or less admirably drafted, accidents in British factories and workshops are of hourly occurrence. It is probable that the man in the street has no notion of this. He possibly imagines vaguely that now and again an employé may meet with an injury but were he to be told that during each hour of every working day about 12 people engaged in the production of trade material sustain injuries of one sort or another it would, no doubt, shock him considerably. That soldiers should be killed or suffer wounds in battle is inevitable, yet after each publication of casualty lists the national heart bleeds afresh. Casualty lists of the killed and wounded in civil life are published only once a year, in the annual report of the Chief Inspector of Factories and Workshops. Last year there were 83,760 non-fatal accidents and 1035 accidents which ended fatally. In 1900 the numbers respectively were 77,975 and 1045. It is not too much to say that the whole of these so-called accidents are avoidable. No doubt many of them are due to carelessness or negligence on the part of the victims, but it cannot be denied that some are caused by defective or worn-out machinery and appliances.

OPHTHALMOLOGY AT OXFORD.

OUR readers will find in our columns this week another example of the good fortune that is at present attending Oxford. Its time-honoured university has scarcely recovered from the shock of the noble gift of the Rhodes scholarships before a benefactor, Mrs. Margaret Ogilvie, who in after years will be styled "of pious and blessed memory" but who is at the present moment fortunately able to see and to appreciate the good results of her liberality, has presented to it a sum of money yielding a yearly income of £200 at least for the maintenance of a readership in Ophthalmology. This gift the University has accepted with great alacrity and gratitude, especially as it is weighted with few conditions and will draw nothing from the University chest. The intention of the generous donor is primarily to encourage the prosecution of original research in the department of ophthalmology and secondarily to provide instruction in diseases and defects of the eyes and their treatment for members of the University of Oxford and for legall qualified members of the medical profession. With this en in view systematic and clinical lectures as well as demonstrations are to be given. The reader is to be chose by a board of eight members most of whom occupy a official position in the University, whilst others are connected with the Oxford Eye Hospital, and one is th President of the Royal College of Surgeons of England The duties with which the Margaret Ogilvie's Reade in Ophthalmology, as he is to be termed, is intereste are to deliver without fee 12 lectures during the University academical year to all legally qualified medica men, at least six of which shall be systematic, whils the remainder may at his option be clinical. He i to devote himself to, and to conduct original researc upon, the pathology and therapy of diseases of the eye an to furnish a yearly report to the Board of the Facult of Medicine giving in detail the result of his investigations. He must retire at the age of 60 years except by the special grace of the electoral board which is empowered to grant him five years' additiona tenure of the office and no more. He must be honorary su geon to the Oxford Eye Hospital, and if the honorary surgeo declines to accept the readership no appointment is to b made, but the yearly interest is to be added to the capita sum. Finally, he must reside for 30 weeks in each year i Oxford or within a mile and a half of its centre, Carfa For his salary he is to receive three-fourths of the interes on the capital sum and the proceeds of a capitation fe of £2 on the medical students whom he can attract t his lectures. The remaining fourth of the interest i to be spent on supplying apparatus, diagrams, and othe requisites for research in ophthalmology and for pu poses of instruction. The first holder of the office the Margaret Ogilvie Readership in Ophthalmology is M Robert Walter Doyne, F.R.C.S. Eng., of Keble Colleg We congratulate Mr. Doyne on his appointment an trust that he may long retain it. He has distinguishe himself in various ways and is a man endowed wit much originality and power of research. He must, are sure, feel that his labours will constitute a precedent f his successors and that he should spare no effort to rend the office worthy of the place it will hold, both at home a abroad, as a great centre of ophthalmological research England. On the physical side of optics he has the adva tage of easy communication with the most learned a experienced physicists, whilst in the Oxford Eye Hospital has abundance of material ready to his hand for investig tion. Many points in the pathology and treatment the diseases of the eyes are uncertain and obscure a it is only by the patient observation and the leisure th can be obtained in such a university as Oxford that some these problems can be elucidated. In the meanwhile shall watch with interest the results that will be obtain from Mrs. Margaret Ogilvie's generous effort to establi ophthalmology on a sound and broad basis in Oxford and take the opportunity of recommending her action to othe who are possessed of large or small accumulations of weal as one that is highly commendable and worthy of imitation

THE DEPTH OF SLEEP.

AN interesting communication on the depth of sleep normal individuals and in psychopathic persons is co tributed by Dr. Sante de Sanctis and Dr. U. Neyroz to t *Psychological Review* for May last. Previous observers had made use of auditory stimuli or sounds of definite degrees of loudness to determine the depth of sleep from which the sleeper could just be awakened and this was the method adopted by Kohlschütter, Michelson, and others. Dr. de Sanctis and Dr. Neyroz adopted the method of tactile and pressure stimuli, using for this purpose æsthesiometers with both sharp and blunt points, the pressure of which could be nicely regulated to a degree just sufficient to cause awakening. The experiments made on any one person lasted over a period of about six consecutive months and were carried out at different hours on successive or irregularly alternating nights. Four of the persons studied were normal subjects and five were psychopathics affected with some form of nervous disorder. As the result of many thousands of separate observations made and carefully collated and plotted into the form of "curves of sleep" it appeared that the maximum depth of sleep was attained within one and a half hours of falling asleep and generally in the third half-hour, after which the curve of sleep became shallower. Hourly oscillations in the depth of sleep occurred thereafter with a maximum and a minimum for each hour, the curve, however, descending on the whole for a while until a second deepening of sleep occurred. This "secondary deepening" lasted about one and a half hours and occurred during the middle period of the total duration of sleep. In all the five pathological subjects the depth of sleep was far greater than in normal persons. These included three epileptics, one paralytic, and one "degenerate" or feeble-minded patient. It was also found—contrary to the common belief that neuropathics and epileptics were light and restless sleepers—that sleep was very deep in the majority of cases (60 per cent.) of epilepsy with the classical symptoms of *haut mal*. The curves of sleep, however, differed much more among abnormal than normal subjects. In the course of the investigation it was also found that dreams occurred in every period of sleep and even in the earlier hours when the depth of sleep was greatest, but they were more frequent and more vivid in the later hours of sleep, especially towards morning. The "dream activity" of psychopathic persons was slight as compared with normal subjects and the memory of them was also less marked or definite.

LUNACY IN SCOTLAND.

THE forty-fourth annual report of the Commissioners in Lunacy for Scotland states that the number of insane persons in Scotland under official cognisance was 16,288 on Jan. 1st, 1902, as compared with 15,899, which was the corresponding figure for the previous year. An increase is thus apparent of 389 insane persons during the year 1901. These figures do not take account of insane persons maintained at home by their natural guardians, as no official returns are made of such persons. Since 1858 the number of lunatics under the jurisdiction of the Board of Commissioners has increased 180 per cent., whereas the increase of the population of Scotland during the same period has been 49 per cent. The proportion of lunatics to the general population shows that the increase has been a steady one. Thus for every 100,000 of the general population there were 302 lunatics in 1890, 324 in 1895, 347 in 1900, 349 in 1901, and 353 in January, 1902, and this increase seems to hold good for both private and pauper patients. The number of patients admitted during the year to all institutions amounted to 3500, comprising 538 private and 2962 pauper patients. Of this total 1771 were males and 1729 were females. The number of patients discharged as recovered during the year amounted to 1495, or 11·5 per cent. of the average number resident in all establishments. The deaths during the year amounted to 1087, or 8·4 per cent. as calculated on the same basis. Of the deaths 20 were due to suicides and accidents, 63 to epilepsy and convulsions, 84 to apoplexy and paralysis, 95 to senile decay, 137 to phthisis, 147 to cardiac disease and its complications, 167 to general paralysis of the insane, and the rest to other causes. Among the cases of general paralysis which ended fatally during the year 136 patients were males and 31 were females. The various institutions for patients include seven Royal or chartered asylums established prior to the Lunacy Act of 1857, 16 district asylums created under the provisions of the said Act, three private asylums, lunatic wards licensed by the board to receive pauper patients and forming part of 15 poorhouses, two institutions for imbecile children, and the lunatic department of the General Prison at Perth for the accommodation of insane prisoners and convicts. In connexion with the subject of the increase of pauper lunacy during the past two decades, a point to which attention had been from time to time directed in former reports, the Commissioners publish a detailed account of the conditions prevailing in the island of Lewis in Ross-shire, a district which does not form part of any great commercial or industrial area and is not much affected by such disturbing factors as immigration or emigration. The statistics of this locality for the past 20 years show a very considerable increase of pauper lunacy, apparently *pari passu* with a corresponding growth of pauperism in the district. The Commissioners are of opinion that many persons in the district referred to are now recognised as lunatics and sent to the asylum for treatment who would not have been so recognised and treated 20 years ago. This change, though it has been in operation longer in other parts of Scotland than in Lewis, is "believed by the board to account for the general growth of pauper-lunacy in Scotland. It has its chief source primarily in the more widely-spread desire to look to the parish as bound to provide for the mentally defective members of a family and in the increased willingness of parish councils to recognise such claims." Regarding the cost of maintenance and other expenses connected with the reception and care of patients, it appears that the average annual cost per head was £43 4*s*. 9*d*. for all district asylums. The expenditure per head on pauper lunatics is recognised as having steadily increased since 1895 owing to increased cost of maintenance and of land and buildings. A supplementary report on the dieting of pauper lunatics in Scotland by Dr. J. C. Dunlop has also been issued by the board, and an account of it appeared in THE LANCET recently.[1]

CANCER RESEARCH IN THE UNITED STATES.

THE second annual report of the Cancer Committee to the Surgical Department of the Harvard Medical School was published in a series of articles in the *Journal of Medical Research* for May. The findings of the committee, which were the results of painstaking investigations of a year's duration, were decidedly antagonistic to the parasitic theory of the origin of cancer. The conclusions reached were summarised by Dr. Edward H. Nichols, demonstrator of surgical pathology at the Harvard Medical School, as follows. It has been claimed by the adherents of the theory of the parasitic origin of cancer that (1) a proliferation of epithelial cells analogous to the lesions seen in cancerous *tumours* can be produced by certain well-known protozoa (nodules caused by the coccidium oviforme), (2) certain skin lesions characterised by epithelial cell proliferation are due to the action of a so-called protozoon (molluscum *contagiosum*); (3) blastomycetes are constantly present in human cancers and are the cause of the lesion; (4) by experimental inoculations of animals with "blastomycetes" true epithelial or cancerous nodules can be produced, and (5) finally, the well-known endocellular bodies seen in the protoplasm of cancer cells have a definite morphology; these are the "parasites" and the supposed cause of cancer. The results of the work pursued by the investigators lead them to these conclusions: (1) the lesion produced by the coccidium oviforme is essentially a process of chronic inflammation and is not analogous to the lesion seen in cancer; (2) the lesion in molluscum contagiosum is characterised by certain changes in the epidermis, is not due to the action of a protozoon, and is not analogous to cancer; (3) the so-called "blastomycetes" ("saccharomycetes") of Sanfelice and Plimmer are torulæ; (4) the lesions produced by these "blastomycetes" (torulæ) are essentially nodules of peculiar granulation tissue, and are not cancerous or in any sense true "tumours"; (5) blastomycetes are not constantly present in human cancers; and (6) the peculiar bodies seen in the protoplasm of cancer cells are not parasites or the cause of the lesions, but probably are in part at least atypical stages of the process of secretion by glandular epithelium.

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[1] THE LANCET, May 31st, 1902, p. [illegible].

THE METROPOLITAN WATER-SUPPLY.

THE report on the condition of the Metropolitan Water-supply during the month of April last has recently been issued by the Water Examiner appointed by the Local Government Board. The Thames water at the intakes of the companies was in good condition during the whole of the month. The height of the Thames varied from three inches above to nine inches below the average summer level. The average daily amount of water abstracted from the Thames was 117,263,936 gallons, from the Lee 44,641,921 gallons, and from springs and wells 44,266,786 gallons. The daily total amount of water distributed was 206,428,613 gallons for an estimated population of 6,349,333, and this represents a daily consumption per head of 32·51 gallons. This estimate, it may be remarked, entirely ignores the quantity of water used for manufacturing and other trade purposes. So that the daily consumption per head is really considerably less than the amount stated in the report of the Water Examiner. According to the calculation of the engineer to the East London Waterworks Company, the approximate amount of water used for other than domestic purposes is no less than 30 per cent. of the total quantity delivered. During the month of April last three of the metropolitan companies—the Chelsea, the East London, and the Kent—distributed a smaller quantity per head to their customers than they did during the corresponding month of the year 1901. The other five companies distributed a greater quantity. The metropolitan company which during April, 1902, gave the largest average daily supply per head was the Chelsea Company (39·63 gallons) and the company which gave the smallest average daily supply per head was the East London Company (26·93 gallons). The amount of water which is now obtained from wells is considerable. Of the total quantity distributed during the month that derived from springs and wells was no less than 21·444 per cent. The Chelsea, the Grand Junction, the Lambeth, and the West Middlesex companies have no wells. The East London Company on an average pumped daily 8,455,000 gallons from wells and 1,372,000 from Hanworth "springs." The Kent Company pumped daily an average quantity of 18,079,701 gallons from wells. It would be instructive to know the amount obtained from each well, but we are not aware that the Water Examiner has ever made any attempt to obtain this information. The New River Company distributed daily an average amount of 14,131,353 gallons of filtered water derived from springs and wells, 913,732 gallons of unfiltered spring and well-water, and 255,970 gallons derived from the Hampstead and Highgate ponds. The Southwark Company pumped daily from their Streatham well an average quantity of 1,297,000 gallons. Dr. T. E. Thorpe, F.R.S., the analyst appointed by the Local Government Board, reports that organic carbon was present in the samples of water analysed by him in proportions ranging from 0·040 to 0·225 units in every 100,000 units of the water distributed by the companies. The proportions of brown tint observed in a two-foot tube, ascertained by their comparison with the standard tint usually employed, ranged from three degrees to 20 degrees. The water supplied by the Lambeth Company exhibited the deepest average tint of brown. The Water Examiner states that "all the samples of water collected at the works of the companies were efficiently filtered." He, however, gives no authority for this statement, nor is there any evidence in the report to show that the Government analyst has ever at any time made any analysis of water collected at the works of any company. The following table, which corresponds with some of those recently published, gives the most important results of the full analyses made by Dr. Thorpe of one specimen of water distributed by each of the metropolitan companies:—

Results of Analysis expressed in Parts per 100,000.

Company.	Date and place of collection of the specimen.	Organic carbon.	Organic nitrogen.	Nitrogen as nitrates and nitrites	Total combined nitrogen.	Chlorine.
Chelsea	April 14th.—Cab-rank, Victoria-street.	0·217	0·018	0·197	0·215	1·9
West Middlesex	April 14th.—Cab-rank, Earl's Court-gardens.	0·225	0·018	0·195	0·213	1·9
Southwark ...	April 14th.—Cab-rank, near the "Swan," Stockwell road.	0·182	0·015	0·189	0·204	1·95
Grand Junction	April 14th.—Cab-rank, Pickering place, Westbourne-grove.	0·189	0·014	0·187	0·201	1·85
Lambeth	April 14th.—Cab-rank. St George's-road, Southwark.	0·176	0·015	0·206	0·221	1·9
New River ...	April 14th.—Cab-rank by St. Clement Dane's Church, Strand.	0·070	0·009	0·194	0·203	1·55
East London ...	April 14th.—Police-station, Poplar.	0·182	0·016	0·206	0·222	2·5
Kent	April 14th.—Cab-rank, New Cross Station, opposite Jermingham-road.	0·040	0·003	0·476	0·479	2·0

RELIGION AND QUACKERY.

WE have before us a singular advertisement which has been forwarded by a correspondent who has taken it from the *Catholic Times*. It emanates apparently from Buckfast Abbey, Buckfastleigh, in the county of Devon, an institution which the "Catholic Directory" shows to have been founded within the last 20 years and to be under the charge of a prior and nine or 10 members of the Order of St. Benedict who mostly bear foreign names. The advertisement in question proclaims the merits of the "Buckfast Abbey Remedies, all prepared by the Benedictine Monks of Buckfast Abbey, Devon," and in no way differs in language and appearance from other advertisements of quack medicines that are put forth in newspapers for the attraction, rather than for the benefit, of the credulous. Our surprise at its appearance is caused by its purporting to emanate from a body which professes to be formed of religious men whose care for the souls of their fellow-men should not be adulterated with the desire to make money out of their bodily ailments. We recommend the Bishop of Plymouth, in whose diocese the "Abbey" in question is presumably situated, to consider whether its monks are consulting the dignity of their order and their religion in their laudation of the "Buckfast Abbey Tonic," the "Buckfast Abbey Tonic Pills," the "Buckfast Abbey Salve," the "Buckfast Abbey Antibilious Pills," and the "Buckfast Abbey Antipyretic Liniment." To criticise a single "remedy" only in detail, we may point out that the salve is declared to "cure" among other things "cancerous wounds, carbuncles, tumours, scrofulous sores, and similar diseases." Cancer and tumours, if they exist, are not things to be played with, and one of the worst of the many bad results that attend the unrestricted sale of quack nostrums is that they cause delay in the seeking of surgical and medical aid. We invite the bishop to whom we have referred and the heads of the order which seems to be responsible for these paragraphs to inquire carefully whether the terms in which the goods offered are recommended are justified by the nature of the goods themselves. If not the buyers are deceived and the sale becomes a questionable transaction in which more than dignity and decency is involved. Public opinion may to some extent excuse the advertisement of the ordinary quack as venial puffery of his wares. We regret that it should do so but the ordinary quack does not advertise pills and liniments, salves and tonics with notice that they can be obtained from a "Reverend Procurator" at an abbey. If the Benedictine order really sanctions the appearance of advertisements of this class we can only say that it would do better to confine its commercial dealings to the manufacture and sale of its well-known and highly-esteemed liqueur.

UNILATERAL OCCURRENCE OF KERNIG'S SIGN AS A SYMPTOM OF BRAIN DISEASE.

IN 1883 Kernig described a sign of meningitis which has been named after him: when the thigh is extended the hamstring tendons are relaxed, but when the thigh is flexed the leg cannot be extended beyond 135° in consequence of rigidity of the hamstring muscles. The frequency of Kernig's sign in meningitis has been confirmed by many observers. Dr. Roglet[1] found that it could be elicited easily in 85 per cent. of the cases, whether the meningitis was meningococcic, pneumococcic, streptococcic, or staphylococcic. In tuberculous meningitis it is less frequently found. Spinal meningitis is not necessary for its production. But it may occur in other cerebral affections—e.g., hæmorrhage.[2] Several explanations of the mechanism of Kernig's sign have been put forward. The most satisfactory of these seems to be Chauffard's view that the rigidity is due to an exaggeration of the normal tonicity of the hamstring muscles and is analogous to retraction of the head in meningitis. In the *American Journal of the Medical Sciences* for May Dr. Joseph Sailer has recorded a case in which Kernig's sign was unilateral and which so far appears to be unique. A male, aged 20 years, was admitted to hospital on Sept. 16th, 1901. He was partially delirious and complained of severe headache and pains all over the body. For two weeks he had had pain in the side, backache, and headache. On Sept. 14th he went home from work complaining of intense headache and soon became delirious. Next day he was acutely delirious and the head was retracted. The temperature was 104° F. The left arm was strongly flexed and rigid. The reflexes were not exaggerated. Kernig's sign was readily elicited in the left leg. The right leg could be extended in an almost straight line with the thigh when the latter was fixed at right angles to the abdomen. There were numerous subcrepitant râles at the bases of both lungs and slight increase in vocal resonance at the left base. The urine contained albumin and blood and granular casts. On Sept. 18th he was worse. When roused there was lagging of the movements of the left upper eyelid. The mouth was drawn to the right and the right side of the face was wrinkled while the left was smooth. Next day the head was turned to the left and the left pupil was smaller than was the right. There was marked flexor spasm in the left arm which seemed to be paretic. The knee-jerks were slightly increased and Kernig's sign was found in the left leg. On the 20th the head was turned strongly to the left and the left arm was firmly flexed. The right leg was not moved voluntarily. In the left leg occasional irregular movements occurred and Kernig's and Babinski's signs were both obtained. A systolic murmur was heard most distinctly at the cardiac apex. A purpuric eruption appeared all over the body and involved the conjunctivæ and mucous membrane of the mouth. The staphylococcus aureus was found in the blood in pure culture. Death occurred on the 21st. The necropsy showed ulcerative endocarditis of the aortic valves, cloudy swelling of the kidneys, congestion of the cerebral meninges and a softened area in the left motor region, and old osteomyelitis of the left tibia. The staphylococcus aureus was cultivated from the brain. Dr. Sailer suggests that the staphylococcus was latent in the tibia and thence invaded the body. In this case there was unilateral spastic paresis from the cerebral softening. The spasticity did not produce rigidity of the hamstring muscles when the thigh was extended but did when the thigh was flexed, giving rise to Kernig's sign.

A MEDICAL STAFF COLLEGE.

IT will be remembered that the last of the general recommendations of the report of Mr. Brodrick's committee, appointed to consider the reorganisation of the Army Medical Service, strongly suggested the establishment of a military hospital and medical staff college for the training of officers of the Royal Army Medical Corps. The report recommended that steps should be taken by the Advisory Board as soon as it was constituted to present a detailed scheme for the establishment of such a hospital and staff college for the consideration of the Secretary of State. No time has been lost in commencing this reform, though necessarily an interval must elapse before the arrangements are completed. We are informed by the War Office that the next session of the Army Medical School will be held in London and it is understood that the laboratories of the Royal Colleges on the Embankment will be temporarily at the disposal of the Royal Army Medical Corps.

SCLEROSIS OF THE SUPERFICIAL VEINS OF THE LIMBS.

WIDESPREAD sclerosis of veins at all comparable to arterio-sclerosis appears to be unknown; but a few cases of sclerosis of the superficial veins of the limbs have been described by French writers. At the meeting of the Société Médicale des Hôpitaux of Paris on May 9th M. A. Souques and M. Janvier described the following typical case of the latter condition. A labourer, aged 40 years, who had not suffered from syphilis but was addicted to alcohol, came under observation. There was incipient bilateral pulmonary tuberculosis. The superficial veins of the lower limbs were symmetrically indurated. The internal saphenous vein could be palpated from the internal malleolus to the groin, and the external saphenous from the ankle to the thigh. These veins were smaller than normal, hard and resistant, and rolled under the finger like a cord. They were uniformly indurated without any nodulation. In the upper limbs the condition was also symmetrical. Almost all the superficial veins of the arms and forearms were indurated and presented the same characteristics as those of the lower limbs. The veins of the trunk, the neck, and the head were not affected. The induration appeared to have come on gradually and the patient was not aware of its existence. It had not caused any appreciable symptoms. The radial arteries were hard but the temporal arteries were not tortuous. The heart was normal and the urine did not contain albumin or sugar. This case is remarkable in consequence of the extent of the venous induration, its perfect symmetry, its localisation in the superficial veins of the limbs, its latent character, and the obscurity of the etiology. M. Letulle, who has studied the anatomy of venous sclerosis in two cases, points out that the lesions differ from those of chronic phlebitis. The indurated vein is like a contracted artery, its lumen is narrowed and scalloped, and the folds formed by the thickened intima are free from clots. The pathology of venous sclerosis is obscure; some have suggested that it is similar to that of arterio-sclerosis.

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[1] Thèse de Paris, 1900, and THE LANCET, Dec. 1st, 1900, p. 1594.
[2] THE LANCET, Jan. 6th, 1900, p. 47, and Feb. 9th, 1901, p. 397.

A MARRED LANDSCAPE AND A SULLIED AIR.

Cement works in many parts of our most picturesque country—for they are necessarily situated in river valleys—are defiling the air to an appalling extent. Plant life is suffering, tree foliage is being blighted, and the formerly charming vistas of vale and down are now frequently heavily curtained with a malodorous and noxious fume. The best examples of this vandalism occur perhaps along the valley of the Medway in one of the most delightful parts of the county of Kent and that part of it which was so dear to the author of the "Pickwick Papers." The locality of the mischief and offence is, of course, dependent upon the direction in which the wind is blowing. If there is little or no movement in the air the works themselves are buried in a sickly gloom. We cannot believe that this evil, which is assuming very wide-spread dimensions, is inseparable from the process or that it is not amenable to treatment. It used to be said that the smoky chimney of the factory was something that admitted of no remedy. We now know that by bringing a little pressure to bear upon the offenders the smoke nuisance has been very considerably diminished. We urge that similar pressure should be brought to bear upon the manufacturers of cement, for we are convinced that, like the smoke nuisance, the offensive fumes of the cement works chimney could also be effectually dealt with. Moreover, there is a provisional order in the Alkali Works Regulation Act of 1881 to the effect that an inspector may from time to time inquire whether in any works in which aluminous deposits are treated for the purpose of making cement—i.e., cement works—means can be adopted at a reasonable expense for preventing the discharge from the furnaces or chimneys of such works into the atmosphere of noxious or offensive gases. Judging from the numerous cement works throughout the country, all of which belch forth unchecked huge volumes of offensive fumes, it is evident that the provisions of this Act are not carried out, because, most probably, the manufacturer has persuaded the authorities that the expense of abolishing the nuisance would not be "reasonable." As is well known, cement is generally made by heating together lime and the mud of river estuaries. In this process there is, as might be expected, a considerable escape of malodorous organic fumes, besides sulphur dioxide and carbon monoxide arising from the coke, and immense quantities of coke are consumed for the purpose. Very definite and concerted action is wanted in this matter in order that this tremendous defilement and disfigurement may be stopped. It is only by vigorous action that manufacturers will be roused to give any attention to the possibility of providing means of abating the nuisance, but we feel sure that chemical engineering is not so backward as to be unable to afford a simple and comparatively inexpensive method of prevention.

A VOYAGE OF EXPLORATION.

In a contribution to the *Archiv für Schiffs- und Tropen-Hygiene* Dr. F. Plehn relates his observations during a recent holiday trip through German East Africa. Owing to a famine which had been raging for three years the districts to the east and north of Tanga, towards Kilimandjaro, were almost entirely depopulated, the greater part of the villages being abandoned. The inhabitants were either dead or had fled for refuge to the coast. It would seem that famines are of frequent occurrence in German East Africa, but Dr. Plehn nevertheless believes in a prosperous future for the colony. What is needed is a system of artificial irrigation. In the elevated hinterland the vegetables of Europe all thrive wonderfully, producing several crops each year. The climate is highly salubrious, malaria being almost entirely unknown. Sites suitable for sanatoriums abound in every direction. Infectious diseases are seldom met with, always excepting small-pox which is endemic, affording a fine field for vaccination. In order to stamp out the disease Dr. Plehn recommends that regular supplies of lymph should be procured from the Hygienic Institute at Cairo, which is under the direction of a German—Professor Bitter. On his return journey Dr. Plehn halted for a time in Egypt in order to investigate the plague. At Alexandria he received valuable information from another German in Government employ—Dr. Gottschlich. According to this observer the mortality from plague is lower in Egypt than in India, not having exceeded 50 per cent. of cases treated. The pneumonic variety is much less fatal than elsewhere, fully one-third of the patients who suffered from it at Alexandria having recovered. Dr. Gottschlich succeeded in communicating plague to mice and rats by means of sputa taken from convalescent plague patients 70 days after their recovery. Dr. Plehn was greatly impressed by the zeal, activity, and intelligence of the medical officers belonging to the Egyptian sanitary department, most of whom, he says, are Germans or Swiss. It was owing to their untiring labours that the plague was prevented from spreading. Finally Dr. Plehn went to Rome to investigate malaria. Here he met Dr. Patrick Manson and became a convert to the mosquito theory. The objections to it which formerly seemed to him so fatal fell to the ground as though by magic before the explanations furnished by his English and Italian *confrères*.

WASTE WATER AND SEWAGE DISPOSAL IN JOHANNESBURG.

A report has recently been presented to the municipality of Johannesburg by Dr. Charles Porter, the medical officer of health, detailing a temporary sewerage scheme for the disposal of slops, bath-water, and the like. There are in Johannesburg 9974 houses, nearly all of which are provided with some kind of receptacle into which slops are thrown and the bath-water is removed from 5900 houses. There appear to be no drain connexions to any dwelling-houses, but the receptacles are emptied and the bath-water is removed three times weekly into two- and four-wheeled tanks holding 400 and 600 gallons respectively, which are drawn by mules in some instances as far as two and a half miles to be emptied into a six-inch sewer which discharges some three and a half miles to the west of the town. There are at present carted daily in this manner about 55,000 gallons of slop-water and 36,000 gallons of bath-water at an approximate cost of nearly £50 or over £15,000 yearly. In addition some 75,000 gallons of waste water enter the main sewer by gravitation or by pumping from the hospital, gaol, and breweries. Dr. Porter estimates that within the next two years there will be about 212,000 gallons of waste water to be dealt with daily, and until a comprehensive system of sewerage is established he recommends the laying down of additional six-inch and twelve-inch sewers with a large number of depositing inlets constructed as lamp-holes or manholes and provided with tightly fitting covers perforated by a pipe with a stop-cock and a coupling to which a hose from the slop tank could be readily attached, thus allowing the contents of the tank to be easily discharged into the sewer without any nuisance being created. The treatment of the sewage advised is by sedimentation in a tank of a capacity of 500,000 gallons, the effluent being treated either by irrigation or over bacterial contact beds. The total cost of the scheme is estimated by the acting town engineer at £50,000 and it could be completed in about nine months.

WE deeply regret to announce the death at the early age of 38 years of Dr. John Wichenford Washbourn, C.M.G., physician to, and lecturer on physiology and bacteriology at, Guy's Hospital. Dr. Washbourn was recently decorated for his services as consulting physician at the Imperial Yeomanry Hospital at Deelfontein and Pretoria. He was one of the most brilliant of the younger generation of London physicians and death cuts short a career of exceptional promise.

THE Midwives Bill was read for the second time in the House of Lords on Friday last, June 20th. Somewhat serious exception to the measure was taken by the Lord Chancellor and other peers, as will be seen from our report of the proceedings. It is probable, therefore, when the Committee stage is reached that efforts will be made to alter the Bill.

SANITATION AT THE COLONIAL NATIVES' CAMP, ALEXANDRA PARK.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE establishment of a camp for the colonial contingents on the grounds that surround the Alexandra Palace has given rise to sanitary difficulties presenting special and unusual features. So far as the Europeans are concerned, whether they come from Australia or Canada, their habits and customs are much the same and it is comparatively easy to provide for their needs. But with regard to the coloured natives of the various colonies very unusual requirements have had to be supplied. Thus the Mahomedans will not eat meat unless they have themselves killed the animal to be consumed. With the Indians they must not only kill, they must also themselves cook their food. But the slaughtering of cattle, especially in large towns, is of necessity subjected to certain sanitary regulations. Therefore it has been necessary to build two small slaughter-houses in the grounds. These consist of concrete flooring surrounded by a roofless wooded palisade. The floor is not level but slopes to the centre. After an animal has been slaughtered the concrete floor is scrubbed and washed and the blood and water gravitating to the centre drains into a corrugated iron tank which is sunk into the ground close to, but outside, the palisade. After these operations are terminated a portable pump is brought to the spot and the blood and water are pumped out of the tanks and conveyed away from the palace grounds. Near at hand there is another wooden shanty where the Indians cook the meat in artistically shaped brass saucepans which they place on small and slow fires lighted on the ground, thus preparing their food in their own manner. Very strict orders have to be given to prevent anyone entering, for the Indian will not eat food on which the shadow of the European has fallen. The Mahomedan is not so strict. He only insists on killing the sheep and allows the contractor to cook the meat; but a soldier accompanies the carcass to the kitchen and the cooks have to give their word of honour that they will not change the meat in the process of cooking. All this may seem peculiar, but from the sanitary point of view who shall say that it is not justifiable? Have not the discoveries of modern science, and especially of bacteriology, demonstrated the necessity of a strict inspection of our meat-supply? The Eastern peoples and the inhabitants of the desert have, in this respect, preceded us, and by many centuries.

Again, these coloured people give us a splendid example in respect to personal cleanliness. The Mahomedan may not pray unless he first washes himself, and the greater part of the coloured races, whether Mahomedan or otherwise, are very fond of a good sluice down. But here another difficulty has arisen. Many of these children of the forest or of the desert have no conception of a washing basin. A running brook or a pool of water is their nearest approach to a lavatory, and the idea of contenting themselves with a little water confined within the narrow limits of a basin is quite foreign to their nature. So it was necessary to imitate a running stream with a broad expanse of embankment where any amount of splashing could be allowed. Therefore first an open drain some 30 or 40 feet long was constructed, with a platform about five feet broad gradually sloping towards the drain. Above the drain there are numerous water-taps and tin pails. These latter are big enough for a man to stand in and have water over his ankles just as if he were bathing in a shallow brook. Then he can splash the water over himself and make a splutter to his heart's content. There are several such lavatories in the camp for the coloured contingents and their use has to be divided between the two great parties distinguishing one portion of the native contingents from the other. The first or most highly civilised section is known as the toothbrush party, the other section ignores this symbol of civilisation and does not wash its teeth. We have heard of Whigs and Tories; this, however, is our first introduction to the Toothbrush party.

The greatest difficulty of all, however, has been the providing of closets for the coloured contingent; and as they number some 550 men this was a serious matter. Being unfamiliar with so simple an article of toilette as the washing basin it would have been folly to expect them to understand the intricacies of a water closet with its two-gallon flush, its syphon water seal, and its tendency to get blocked when improperly treated. Therefore, Moule's patent hopper earth closets were provided. But this apparatus possessed all the attractions of a new-found toy. The simple and ingenious mechanism by which a handful of earth is made to fall into the pail was too much for the coloured contingent. Their zeal and love of cleanliness were so keen that they never left the closet till by repeatedly pulling the handle they had emptied out all the reserve of dry earth that the apparatus contained. Thus there was no more earth remaining for the next comer, and soon a nuisance was created. Ultimately the Moule's patent hopper closets had to be removed and they are now to be seen lying disused on the grass in rows like soldiers drilling. A simple metallic pail has been substituted and twice a day a fatigue party goes round and throws lime into all the pails. Once a day these pails are emptied out into larger iron tubs and carted away. This is not satisfactory. The iron tubs have been knocked out of shape and the lids no longer fit properly, so that the lighter particles may be shaken out of them in the course of removal. Proper pails are in use in many parts of the country, particularly for typhoid fever patients, to prevent their contaminating the closets, drains, and sewers. In Manchester, notably, the pail system used to be applied to the greater part of the houses. Over the lid of the pail there should be a bar fitting into a groove and on giving this bar a twist round the edge of the lid would be jammed down on to an indiarubber flange and thus the pail would be rendered air tight. Such pails were in use in Manchester and could be conveyed through the streets without any risk or nuisance whatsoever. Then, again, the pail itself should be removed instead of being emptied on the spot into a larger receptacle. Every time this is done a certain amount of dust must be liberated and blown over the camp. It will be said that this is the fault of the contractor who has undertaken to do the work, but the British taxpayer pays for a sanitary military service which should attend to such matters instead of trusting to some outside contractor. How can a London contractor be expected to know what is necessary for a camp of coloured troops? Some of the military authorities would have preferred trough closets with water constantly running through. As it was necessary to lay a drain through the camp to carry away the slop water such closets might have been connected with this drain. It was, however, perhaps fortunate that this was not done, for the drain was at an early stage blocked and had to be dug up and relaid

The greater part of the coloured contingent sleep in the banqueting hall. They have been amply provided with blankets so as to contend against a coldness of climate to which they are not accustomed. Their beds are certainly too close to each other, but this evil is perhaps sufficiently mitigated by the fact that the hall is some 40 feet high and the louvre windows in the roof are left open at night. Though their health has so far been well maintained.

still there have been some severe colds and there is one case of double pneumonia. Perhaps instruction should be given to the coloured men not to lie about on the grass; for in spite of fitful outbursts of sunshine the earth must retain much of the damp due to the recent heavy rains. Accustomed to hot climates these coloured men are in the habit of lying down on the ground and in the sun whenever they have any leisure. But in a damp, cold country and on a clay soil this practice is accompanied by a certain obvious risk. Notwithstanding, however, the bad weather prevailing during the earlier portion of the visit the coloured contingent seem in any case well satisfied with the attention and the compliments that they have received. It is true that Major E. Atkin, who helped very efficiently to organise their camp, has been a host in himself. His practical knowledge of native life in some of our colonies has stood him in good stead. He has ingratiated himself with the coloured races, knowing how to command and yet how to treat them as fellow-men and brothers. He is ever on the look-out to protect them from the gaping and ignorant rudeness of the Cockney sightseer and seeks to devise contrivances that shall satisfy their wants and harmonise with their customs. If from the political point of view it is important that these coloured fellow subjects should return to their native lands fully satisfied with the attention paid to them in this country, with the comforts they have enjoyed, and with the welcome that they have received, it is also quite clear that any great change in their mode of life and the accompanying dissatisfaction which it might cause would have a depressing effect and would render them all the more likely to contract those diseases incidental to their long journey and the rigour of our northern climate. Therefore it has been necessary to display more than usual organising faculty and forethought so as to prepare a suitable camp where men belonging to a great variety of races could live very much in their own way and yet not transgress any of the essential sanitary laws of this country. That this has been on the whole satisfactorily achieved speaks well for the tact and ingenuity of all concerned.

OBSERVATIONS ON DIET.

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IV.[1]—Animal *versus* Vegetable Diet.

Animal food is practically confined in this country to eggs, milk (with its derivatives cheese and butter), the flesh of certain mammals (e.g., the ox, sheep, pig, and rabbit), birds and fish (shellfish constitute quite a subsidiary source of food with us). Vegetable foods consist of the cereals (wheat, maize, rice, &c.), the pulses (peas, beans, &c.), the roots and tubers (carrots, potatoes, &c.), green vegetables and fruits (including nuts), and such derivatives of the vegetable kingdom as cane sugar and starch (in the form of sago, tapioca, &c.).

The Composition of Animal and Vegetable Food Compared.

All the nutritive ingredients which go to make up a complete dietary—proteids, fats, saccharides,[2] extractives, and salts—are to be found both in the animal and the vegetable kingdoms; they differ, however, somewhat in the two kingdoms both in their composition and relative proportions, and I shall now consider some of the more important of these differences.

Proteids.—Vegetable proteids contain more carbon and less nitrogen than do animal proteids, and of them "nucleo-proteids," now known to be a source of uric acid, constitute but a small proportion, a fact to be taken account of in connexion with the uric acid diathesis. But while differences undoubtedly exist between the proteids of the two great kingdoms, just as differences exist between the proteids of different foods belonging to the same kingdom (such as those of meat and fish), there is no reason to believe that vegetable proteids are, from the nutritive standpoint, in any way inferior to animal proteids. Nitrogenous equilibrium can be maintained as well on the one as on the other; nor should we expect to find it otherwise, since the vast majority of animals—many, of them endowed with great vitality—are dependent for their proteids upon the vegetable world, while the earliest and most primitive forms of animal life must have derived their proteids from this source alone. Vegetable proteids, at all events when taken in their natural associations, are, however, not so completely absorbed as are animal proteids, and therefore, if all the proteid is to be derived from the vegetable kingdom, need to be taken in larger amount. Thus it has been shown that while only 2 3 per cent. of the proteids in meat escape absorption, no less than 30 per cent. of those in lentils fail to be absorbed.[3] This defective absorption of the vegetable proteids may possibly be due to their large admixture with starch, cellulose, and such-like substances; whether they are more readily absorbed when separated from their natural associations has not, so far as I know, been tested.

Animal and vegetable foods differ greatly in regard to the relative amount of proteid which they contain, the former being much the richer in this ingredient. Thus about one-third of cooked meat and one-third of cheese consist of proteid, the proportion in fish being somewhat less; eggs contain about 13 per cent. On the other hand, vegetable substances, if we except nuts which contain from 15 per cent. to 20 per cent., contain a comparatively small percentage. Bread, e.g., which for a vegetable food is rich in this substance, contains only 6 5 per cent., while green vegetables and fresh fruits are almost devoid of it. The following gives the percentages of proteid in some of the commoner varieties of vegetable foods: Nuts, from 15 to 20; bread, 6·5; boiled rice, 5; dried figs, 5; dried dates, 4 4; cooked haricots, 4·4 (uncooked haricots, 23); peas, 4; prunes and raisins, from 2 to 5; boiled artichoke, 2 3; bananas, from 1 to 5; boiled scarlet runners, 1·7; boiled potatoes, 1; fresh fruits, 0 5; green vegetables, less than 1; cooked beetroot, 0 44; boiled turnips, 0·32; and boiled parsnips, 0·22.

By artificial means both vegetable and animal proteid can be obtained in a concentrated form. Thus aleuronat contains 80 per cent. of the vegetable proteid gluten, and plasmon 70 per cent. of the animal proteid casein.

Fats.—Vegetable fats, in the form of "albene," "nucolene," and olive oil, are as nutritious as butter and other animal fats; but though fat is abundant in such articles as nuts, olives, and oats, vegetable food is, on the whole, comparatively poor in it, many vegetable foods—e.g., rice, potatoes, the pulses, fruit, and green vegetables—being practically devoid of it. We, indeed, depend chiefly upon the animal kingdom for this important constituent of our diet, though one does not see why vegetable fats should not be more employed in the future than they have hitherto been. Various preparations of fats are made from nuts, some of which are said to afford good and cheap substitutes for cooking-butter. When we reflect that sweet almonds contain 54 per cent. of fat, dried walnuts 62 per cent., and dried filberts actually 66 per cent., it is obvious that the vegetable kingdom contains vast stores of fat; and, inasmuch as vegetable fat is cheaper than animal fat and equally nutritious, it is to be hoped that these may be drawn upon in the future more than they have been in the past.

Saccharides.—Under this term I include both starch and sugar. These substances are very sparingly represented in the animal kingdom. Saccharide is present in milk in the form of milk sugar, of which cow's milk contains some 4·5 per cent., and in the flesh of animals, as glycogen, but in quantities so small as to be practically negligible; vegetable foods, on the other hand, are rich in saccharide and constitute the essential source whence we derive it. The following gives the percentages of saccharide in some of the more important vegetable foods: Bread, 51; boiled rice, 41; banana, 22; cooked haricots, 21; boiled potato, 19; nuts, 10; and fresh fruits, from 5 to 10 Such artificial foods as tapioca, sago, arrowroot, cornflower, and mazena may be regarded as saccharide pure and simple.

Extractives.—Extractives are abundant in both animal and vegetable foods, but especially in the former, the extractives and the salts in the lean of meat constituting by weight as much as one quarter that of the proteids present. Fish, on the other hand, is comparatively poor in extractives. Of the exact nature of these substances little is known. We know, however, that animal extractives are largely made up of broken-down proteid—that they are nitrogenous waste products, in fact. Both classes are stimulating alike to gastric digestion and the nervous system generally, but this is especially true of the extractives of meat, which not only constitute the most powerful known excitants to gastric secretion but may so act upon the brain as to cause actual intoxication. The different stimulating power of such foods as butcher's meat, fish, cheese, oats, maize, hay, though partly due to the varying amount of proteid which they contain, is, I believe, chiefly to be explained by reference to the kind and quantity of their extractives, for it varies quite irrespectively of the amount of proteid present in them Fish and cheese, which are poor in extractives, are much less stimulating than is meat; oats have, as is well known a peculiarly stimulating effect on horses.

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[1] Nos. I., II., and III. were published in The Lancet of May 24th (p. 1486) and 31st (p. 1554), and June 14th (p. 1712), 1902, respectively.

[2] I use the term "saccharide" synonymously with "carbohydrate."

[3] Robert Hutchison: Food and Dietetics, p. 164.

Salts.—Vegetable foods contain more alkali than do animal foods and are especially rich in potassium; animal foods, on the other hand, contain more sodium and lime. It is especially in green vegetables, potatoes, and fruit that potassium is found; it is less abundant in the cereals and the pulses, both of which are, however, rich in lime. Vegetable foods are abundantly supplied with vegetable acids, all of which are oxidised in the body into carbonates, and these, uniting with an alkaline base, pass out by the kidneys, thus rendering the urine alkaline. This is the effect of most vegetable foods, animal food, on the contrary, tending to increase the acidity of this excretion. The cereals and pulses, owing to their deficiency in vegetable acids and their richness in lime, tend to act like animal food in this respect and to increase acidity. Acids develop in meat on hanging and are abundant in the flesh of hunted animals. These acids, like the extractives of meat, stimulate gastric digestion.

Not only do vegetable foods differ from animal foods in regard to the nature and proportion of their nutritive constituents but also in being more bulky. This bulkiness of vegetable food is partly due to its waterness, which is still further increased by cooking; partly to the fact that saccharide, of which vegetable food is chiefly composed, is two or three times more bulky than its dynamical equivalent of proteid or fat; and partly to the presence of undigestible cellulose. This substance is itself a saccharide and, unlike the herbivora which are provided with special means for converting it into soluble saccharide, man has no power of digesting it, such disintegration as it suffers in his alimentary tract being brought about by bacterial action with the formation of simple chemical substances having no nutrient value.[2] Some vegetables, such as cabbage, consist of little more than cellulose, water, and salts, and are practically valueless as sources of energy. Now the vast stores of starch contained in the vegetable kingdom are all imprisoned in cellulose compartments, and for this reason the starch in raw vegetable food, unless this is subjected to prolonged mastication, so as to break up the cellulose framework, is of little nutritive value to man. Judge, then, how greatly he increased his supply of nutriment by the discovery of cooking, for by its means the starch granules are made to swell up and burst their cellulose prisons, the starch thus liberated being freely digestible by man.

The Effect of Animal and Vegetable Foods Broadly Contrasted

Though "animal food" includes fish, fowl, eggs, and milk, as well as butcher's meat, many when told not to eat too much of it think it sufficient merely to curtail their allowance of "meat," an entirely inadequate measure and founded on an erroneous idea of what animal food includes, seeing that an excess of fish, or fowl, may be quite as injurious as an excess of meat. In what follows "animal food" must be taken to include fish, flesh, and fowl, but especially the latter two, milk and eggs being left out of consideration. On the other hand, vegetable food must be taken to mean the ordinary vegetable produce consumed by the strict vegetarian, and not this diet fortified by vegetable proteid artificially isolated.

Vegetable food by reason of its bulkiness is apt to distend and permanently to dilate and lengthen the alimentary canal; it also puts more work upon the digestive organs than does animal food, and diverts a corresponding amount of blood and energy from other parts whose efficiency is to this extent impaired. This is one reason why the vegetarian is apt to show less energy than the animal feeder or the mixed feeder. The bulkiness of a purely vegetarian diet, its comparative non absorbability, and the presence in it of the highly fermentable ingredients have the further effect of stimulating peristalsis and of causing the fæces to be far more abundant than is the case with a purely animal diet. Vegetable food is more liable to ferment and produce flatulence than is animal food, an additional reason why it should cause distension of the primæ viæ; on the other hand, vegetable food, unlike animal food, is incapable of undergoing putrefaction. Animal food, while putting less mechanical work upon the stomach than vegetable food, is at the same time far more stimulating to the gastric glands, owing to its richness in proteids, acid salts, and energising extractives, and it is largely owing to this local effect on the stomach that it is more satisfying and stimulating than vegetable food.

We have thus far dealt with the local effects on the alimentary canal of the two classes of diet, let us now compare their effects after absorption.

Animal food, containing as it does more proteid than does vegetable food, is more stimulating to metabolism, for not only are proteids rapidly katabolised, but they cause a sympathetic augmentation in the katabolism of saccharides and fats.[3] It is for this reason that an animal diet makes for leanness; vegetable food, on the other hand, owing to its richness in saccharides favours the deposit of fat and, unlike animal food, causes a wateriness of the tissues, so that while animal feeders tend to be lean and hard, vegetable feeders are apt to be fat and flabby Animal food, possibly owing to the large amount of urea to which it gives rise, causes an abundant flow of urine; vegetable diet has the opposite effect, and this probably explains why the tissues are drier on the former than on the latter diet, animal food promotes the acidity of the urine, while most vegetable foods tend to render this fluid alkaline, the exceptions being the cereals and pulses which have rather the opposite effect.

The nervous system appears to need for its highest manifestations a rich supply of proteid, this withheld, "nervous energy" or "go" flags. After a meal of meat an individual is more lively than after one of vegetable food in which there is a dearth of proteid, the stimulating effect of the proteids of the meat being further enhanced by the similar effect on gastric digestion and on the system generally of the extractives in which meat abounds, I would suggest that the waste products of proteid katabolism have also a stimulating action Vegetable food, on the other hand, is not only apt to be deficient in proteid but contains comparatively few stimulating extractives; the large demands its bulk makes upon the digestive organs tend, moreover, to induce lethargy.

Hutchison[4] lays stress upon the difference in energy shown by the animal and vegetable feeder, comparing the restless tiger, ever ready to pounce upon its prey, with the placid ruminant dreamily chewing the cud Nevertheless, the purely vegetable feeding animal is by no means always lacking in nervous energy Witness the fierce energy displayed by the wild boar and the gamecock even though confined to a strictly vegetable diet, again, what animal shows more "nervous energy" than a thorough-bred, which, moreover, is probably capable of greater endurance than any of the carnivora. In fact, the herbivora are, on the whole, far more enduring than the carnivora by reason of the large amount of food they consume in the form of saccharide. Nor must the energetic nature of the carnivora be attributed solely to their diet; living, as they do, on other animals they are compelled to hunt and fight and kill, and thus by the survival of the fittest the fiercest and most aggressive tend to survive. I do not, of course, contend that a diet of flesh, especially butcher's-meat and bird, does not tend to excite the nervous system, there can be no doubt that it does; dogs fed on meat only are fiercer than are those which are mixed feeders. In irritable states of the nervous system much good may often be done by de-animalising the diet, and it is certain that flesh eating communities display more energy than do those which are wholly, or almost wholly, vegetarian. I merely wish to emphasise the fact that a high degree of energy is not the exclusive prerogative of the flesh eater

The Comparative Suitability of Animal and Vegetable Diet

How far is man adaptable to an animal, a vegetable, or a mixed diet? It is needful for the physician to study the question in all its bearings. Some have argued that man is by nature essentially a vegetable feeder on the ground that he is descended from an ape-like creature and that all apes are vegetable feeders. But, as a matter of fact, the anthropoid apes, man's nearest relatives, are by no means wholly vegetarian; they devour many kinds of animals and subsist largely on birds and bird's eggs. Moreover, the digestive system of man, including his teeth, to say nothing of his instinct to kill, proclaims him to be largely carnivorous; and, in fact, all the evidence goes to show that he is naturally more of a carnivorous than a vegetable feeder. As one writer puts it: "Man is carnivorous. It is his misfortune, but it is so." One would willingly think otherwise, for who can contemplate with equanimity the wholesale slaughter of animals, with all its gruesome accompaniments, in order that we may feed on their flesh? But facts have to be recognised.

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[2] The latest investigations tend to show that man is incapable of deriving any nutriment from cellulose.

[3] Physiologists do not appear to offer any explanation of this.

[4] Op cit., p. [illegible]

But while man is carnivorous he is also herbivorous—i.e., he is by nature omnivorous, a mixed feeder. Some races subsist solely on animal, others solely on vegetable, food, but taking the whole world over it is found that man thrives best on a mixed diet—i.e., experience, which is in the last resort the only reliable test, confirms the conclusion derived from ancestral and anatomical considerations, and the accumulated experience of many countries through many ages goes to show that man thrives best on a dietary in which proteids, fats, and saccharides bear a certain proportion to one another. Now this proportion cannot be obtained on a purely animal diet or on a purely vegetable one unless fortified in a manner to be referred to presently. In the former case a quantity of proteid greatly in excess of his requirements has to be consumed in order to secure the necessary quantity of carbon, and in the latter the needful quantity of nitrogen can only be obtained by consuming an excess of saccharides and cumbering the alimentary tract with a large mass of food, which is objectionable not only for mere mechanical reasons but on account of the enormous demands it makes upon the digestive system, to which it diverts a large amount of blood and energy which might be employed elsewhere. These difficulties are got rid of by combining animal and vegetable food so as to secure a proper proportion of the various nutritive ingredients, that proportion being obtained by taking about one of the former to two of the latter. If the diet be either too much animal or too much vegetable certain evils result. These we will now consider.

Evils resulting from a too highly Animal Diet.

In the following remarks I shall exclude from consideration milk, butter, cheese, and eggs, all of which, however, strictly speaking, come under the category of animal food.

The evils resulting from a dietary containing an excess of fish are not so pronounced as are those resulting from one comprising too much "meat" or bird, and in practice we are much more concerned to keep down the consumption of these than of fish. This suggests that it is not so much an excess of proteid which is injurious as of the associated extractives, a conclusion which is supported by the fact that the troubles which result from an excess of bird are not quite the same as those resulting from an excess of meat. Nevertheless, there can be no doubt that an excess of the proteids themselves, especially, perhaps, of the nucleo-proteids, causes injury by casting an abundance of nitrogenous waste products upon the circulation.

The effect of a highly animal diet depends among other things upon idiosyncrasy, age, and habit of life. Some are by nature so constituted that they can consume an abundance of animal food—meat, for instance—without apparent harm, while others become gouty and "rheumatic" on a comparatively small quantity of it. Age has a decided influence. Thus a superabundance of meat is perhaps apt to disagree during the early years of life; during the subsequent years of growth and development a highly animalised diet is better borne than at any other period; after middle life the evils resulting from consuming an excess of animal food, especially meat, increase year by year and it is certain that the aged should partake of it very sparingly. Nothing, indeed, better attests the evil effect of an excessive meat diet than its influence upon length of life. Butchers are as a class short-lived, and Humphry has shown that the majority of centenarians are moderate meat-eaters.

But the effect of a highly animalised diet depends more than anything else upon whether a sedentary or an active life is being led; the more active the life the larger is the amount of animal food that can be taken with impunity, an active life promoting oxidation and the elimination of waste products. It should be remembered that all the purely carnivorous animals are necessarily highly active, since they have to hunt for their prey, and it is a noteworthy fact that such races among men as are purely carnivorous lead highly active lives. Thus the Pampas Indians, who subsist for months together entirely on flesh, spend most of their time in the saddle, and it is only under conditions of this kind that a purely animal diet can be tolerated. Those leading inactive lives are necessarily injured by such a diet, a statement which is true of carnivorous animals as well as of men; it is well known that a dog that is kept about the house and not allowed plenty of exercise gets ill if its diet is restricted to meat.

The moral of all this is that the inactive should not allow the proportion of animal food which they consume to be too high; though curiously enough they are less able to tolerate a purely (unfortified) vegetable diet than are those leading active and laborious lives, it being more difficult for them to burn off the large amount of saccharide which such a diet must necessarily contain if they are to secure the proper proportion of proteids. It is true that a person may for a time thrive on a purely meat diet even while resting in bed, especially if a large quantity of water be taken with it so as to aid the elimination of the extractives and waste products; the digestive system, relieved of the necessity of coping with the starchy and other ingredients which a mixed diet entails, may be benefited by this plan of treatment. But such a diet can rarely be continued beyond a few weeks without doing injury unless a highly active life be led.

In this country most people except the poor tend to eat too much animal food.

The Evils of a Diet which is too purely Vegetable.

While it is certain that health can be maintained on a purely vegetable diet it is very doubtful whether such a diet unless selected upon a special plan will allow of the attainment of the fullest vigour of mind and body. Unless most carefully chosen it is apt to be unduly bulky and so to make an undue demand on the digestive powers, thereby diverting to them too large a proportion of the total energy of the organism. When we add to this the facts that a vegetable diet is apt to be deficient in proteid and that stimulating extractives are poorly represented in it, it is not surprising that the pure vegetarian is apt to lack energy; he is, moreover, prone to obesity and apt to offer a low resistance to disease.

Vegetable food has, further, a tendency to ferment and thus to add to the distension caused by mere bulk. This is especially the case with the potato, green vegetables, and pulses; the large starch granules of the potato appear to be very susceptible of fermentation, while the sulphur which is abundant in the pulses, especially beans, predisposes to the formation of SH_2; peas contain less sulphur and are less apt to cause flatulence, and lentils still less so. In regard to green vegetables it should be remembered that the fresher they are the less are they liable to ferment; hence the great importance of eating them fresh; unfortunately the early stages of decomposition are not so evident in the case of vegetable as of animal matter. Some have contended that the pulses, containing as they do a large quantity of lime, predispose to atheroma and that communities that subsist largely on them are especially prone to this disease, but the evidence in favour of this statement is slender.

Inasmuch as the cereals and the pulses, unlike other vegetable foods, tend to increase urinary acidity and to conduce to general acidity they may favour gout and "rheumatism." Haig traces the rheumatism met with among the natives of India to the fact that they live largely on these articles of diet. Acid fruits, such as strawberries, may set up joint-pains in the rheumatic and gouty, but all vegetable acids are oxidised in their course through the body into carbonates, which after uniting with potassium and sodium are secreted by the kidneys, thus tending to diminish the acidity of the urine. Again, sugar is in some prone to undergo acid fermentation in the stomach and, like acid fruits, is by some physicians proscribed in rheumatism and gout, but the acidity produced by acid fruits and sugar is less apt to arise on a purely vegetable than on a mixed diet, and it is chiefly, therefore, as part of this latter diet that we need to proscribe them.

followed by jaundice. The biliary fistula which followed was subsequently cured by the removal of another gall-stone from the common duct by choledochotomy. The patient is now well

CASE 59.—The patient, a woman, aged 38 years, was seen by me at the General Infirmary. There had been colic and jaundice for six months with loss of weight and of strength. Deep jaundice was present. There were gall-stones in the common duct. Duodeno-choledochotomy performed on Jan. 31st, 1901, resulted in a good recovery and the patient was well some months later.

CASE 60.—The patient was a woman, aged 49 years She was seen by me at the General Infirmary. For six years colic had persisted with varying jaundice. There were eight large stones and some small ones in the common duct. On March 22nd, 1901, duodeno-choledochotomy was performed, a good recovery ensuing, and the patient was well some months later.

P.S. (March 21st, 1902) —Since handing in my paper to the secretary of the society I have had eight additional cases of choledochotomy, all of which have recovered. It may interest the Fellows of the society to note that the final paragraph of the paper was a forecast; fortunately, the unavoidable postponement of the communication has enabled me to prove that a 5 per cent. mortality was a reasonable estimate, for it will be seen that of the cases—21 in number—operated on since July of last year all have recovered; and that including all my cases of choledochotomy since June, 1900, there has only been a mortality of 5 5 per cent.

Leeds

ON A CASE OF PNEUMOCOCCIC GASTRITIS AND GENERAL INFECTION,

WITH SOME REMARKS ON THE INFECTION OF MUCOUS MEMBRANES BY DIPLOCOCCUS PNEUMONIÆ.[1]

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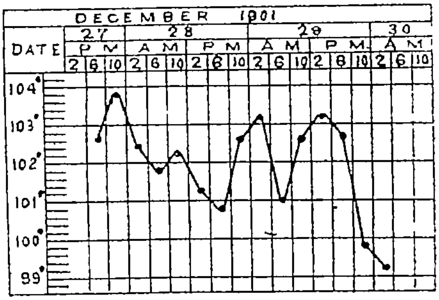
WHEN dealing lately with the pathology of pneumococcic infection as a whole[2] it was not possible for want of time to refer otherwise than briefly to the lesions of mucous membranes which may be caused by diplococcus pneumoniæ. Such lesions have attracted *comparatively little* attention from pathologists, partly because their importance has been overshadowed to some extent by other more conspicuous results of pneumococcic infection—such as pneumonia, peritonitis, meningitis, and arthritis—and partly because of some technical difficulty in the isolation of this particular organism when it occurs in lesions of *mucous surfaces which will frequently* be so contaminated with other bacteria that the primary causative agent may be difficult of identification. A considerable number of writers have, however, referred more or less casually to various morbid conditions of mucous membranes, such as laryngitis and enteritis, occurring in fatal cases of pneumonia; and it is probable that pneumococcic lesions of mucous membranes are of much more frequent occurrence than the number of recorded cases in which a satisfactory bacteriological examination has been made would indicate.

The case of acute membranous gastritis due to pneumococcic infection which will be next referred to is of interest as being, so far as I can ascertain, the first case of the sort recorded.

The patient, aged 26 years, was admitted into Dr. W Pasteur's wards at the Middlesex Hospital under the care of Dr. F. J. Wethered, and I have to thank both these gentlemen for their permission to make use of the clinical notes of the case. The patient was admitted on Dec. 27th and the following history was obtained. A fortnight previously he came under treatment for a "quinsy" and had remained ill ever since. Three days before admission a free attack of epistaxis came on whilst he was blowing his nose and since then there had been an almost continuous oozing of blood from the nostrils. On the day before his admission he had brought up by the mouth a quantity of dark-coloured matter which had a very disagreeable smell. On admission the patient was anæmic to an extreme degree. His lips were swollen and in the skin of the back, around the lips, and on the cheeks there were a number of petechial hæmorrhages. There was coagulated blood in the nostrils, on the lips, and on the gums round the teeth. The breath was very offensive and the tongue was dry and covered by a dark grey fur. The pulse was frequent, small, and soft. On the 28th the oozing of blood from the nostrils continued and no further change of any importance in the symptoms was noted On the 29th the patient was restless, the respiration-rate was hurried, and the pulse was frequent, very small, and of low tension. The temperature began to fall towards the evening and the patient died early the next morning with signs of urgent dyspnœa. It must be noted that throughout the illness there had been no indications in the way of local pain or vomiting which would have suggested any gastric disturbance.



The examination of the body was made about seven hours after death on a cold day Rigor mortis was present and the body appeared to be well-nourished generally. The skin had a blanched appearance and there were numerous petechial hæmorrhages scattered over its surface; there were several "mulberry spots" on the chin and on the cheeks. There was a deepish, ragged ulcer in the right tonsil and a large blood-clot occupied the upper part of the pharynx. The œsophagus was of natural appearance. The stomach was of normal size and contained some dark-coloured fluid matter which had an extremely offensive "cheesy" smell The viscus was lined from end to end with a roughish exudation membrane which towards the cardiac extremity was of an almost black colour and was intimately *attached to the underlying mucous membrane, and towards* the pylorus was of a greyish colour and less closely attached, so that here it could be peeled off in small flakes from the mucous membrane underneath in which there were numerous petechial hæmorrhages. The rugæ of the stomach were swollen and stood out prominently. The wall of the stomach as a whole was slightly thickened but the increase appeared to be due mainly to the new membranous formation. The exudation membrane terminated abruptly at the cardiac and pyloric openings The general appearance of the stomach was striking and bore some superficial resemblance to what is seen in a severe case of poisoning by a mineral acid. The serous coat of the stomach was somewhat congested, and the peritoneal sac contained a few ounces of slightly turbid fluid. There were small, petechial hæmorrhages on the pulmonary pleuræ, on the epicardium, and on the surface of the liver and kidneys. There was an interstitial hæmorrhage, of an area of about the size of a shilling-piece close to the surface of the right lung and there was a small excess of blood-stained fluid in the pericardial sac. Beyond these lesions nothing of importance was noted at the examination.

Bacteriological examination.—Various culture tubes were inoculated (1) from the spleen juice, (2) from the blood of the femoral vein, (3) from the substance of the exudation membrane on the surface of the stomach, (4) from the juice of the hæmorrhagic area in the right lung, and (5) from the juice of one of the "mulberry spots" on the face. From the blood of the femoral vein, from the mulberry spot, and from the hæmorrhagic area in the lung pure cultures of diplococcus pneumoniæ were obtained. From the tubes inoculated from the exudation membrane from the stomach two species of bacteria were isolated—diplococcus pneumoniæ and a

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[1] A paper read at a meeting of the Pathological Society of London on Jan. 21st 1902.

[2] Foulerton: The Pathology of Pneumococcic Infection, THE LANCET, August 17th, 1901, p 472.

Vegetable Diet fortified by Vegetable Proteid.

When we reflect that the vegetable kingdom contains all the individual food-ingredients needful for life, and that the inferiority of a purely vegetable dietary is essentially due to its bulkiness and lack of proteids, the question naturally occurs whether it would not be possible to isolate a pure vegetable proteid (just as we separate casein from milk) and by adding it to vegetable food—e.g., wheaten flour—secure a food which should contain proteid in the needful proportion and at the same time not be too bulky. This would dispense with the necessity of overloading the system with saccharide. Such a substance has been prepared from the gluten of wheat, and is known as "aleuronat," and by fortifying wheaten flour with it a bread can be obtained which, with the addition in proper proportion of vegetable fat, constitutes a diet in which all the foodstuffs are presented in the needful proportions. This is the direction in which the consistent vegetarian must look, and I personally can see no reason why his dream should not be realised. Another way of obtaining the necessary proteid in a compact form is by means of preparations obtained from nuts. Thus Fromm's Extract, obtained by crushing nuts and removing the excess of cellulose and oil, contains 22 per cent. of proteid, 31 6 per cent. of fat, 8 per cent. of saccharide, and 12 8 per cent. of mineral matter.[7] I do not see why food of this description should not have a great future before it.

There are those who make light of vegetarianism and regard its votaries as mere cranks, they point scoffingly to the great difference between the stomach of the ox and of man, and say that it is absurd to suppose that man, like that animal, can subsist on a vegetable diet; but no reasonable person has ever contended that man can subsist on the diet of the ox; this is manifestly impossible since he is, as we have seen, incapable of digesting cellulose. They conveniently ignore the fact that the vegetable food which man consumes is totally unlike that which forms the food of the ruminant: in the first place, man has by cultivation profoundly modified vegetable food, such as wheat, rice, beans, the potato, the date, and the fig, for his own use, and thus has obtained the food ingredients in a concentrative form; and this concentration he has carried a step farther by milling, grinding, and other means whereby the indigestible portions are separated from the digestible. Nay, more than this, he has actually wrested from the vegetable kingdom the various nutritive ingredients—starch, sugar, fat and proteid, in their pure, or almost pure, form; and when to these facts is added the further one that he has been able greatly to increase the digestibility of vegetable substances by cooking and artificial digestion the speciousness of the comparison between man and the ruminant becomes apparent. Even the carnivorous dog, which is totally incapable of subsisting on the food of the horse or the ox, can freely digest sugar, starch, and other food ingredients which man has cunningly extracted from the vegetable world.

Vegetable Diet fortified by Eggs and Milk.

Hitherto the so-called vegetarian has obtained the needful supply of proteid from milk and eggs; cheese contains, weight for weight, more proteid than meat; from the casein, moreover, plasmon and protene, now largely used in the sick room, are prepared; the latter is sold as protene flour from which protene bread is made, a food which with the proper proportion of butter, another derivative of milk may to made to contain the three great food-stuffs, proteids, fats, and saccharides, in the proportions needful for health. Fat being a highly concentrated form of food, and the vegetable world yielding few fats, such as olive-oil, which can be taken with relish in any quantity, the butter, like the cheese obtained from milk, enables the bulk of vegetable food greatly to be reduced.

Milk and eggs, however, are animal foods and the same sentimental objection which attaches to the eating of flesh attaches to their consumption also. I am not going to advance in support of this statement the spurious argument put forward by some to the effect that those who object to kill in order to obtain food should not, to be consistent, eat eggs, on the ground that they are really alive and are capable of developing into individuals. The subject should not be approached in any narrow, carping spirit, but seriously, reverently. The vegetarian is against killing something which has *lived and felt*. The argument I am going to use is a much more weighty one—i e., that the consumption of milk and eggs necessitates a wholesale killing, for in order that a farmer may get a profit on his eggs and milk, he has to kill off a large number of cocks which yield no eggs and bulls which give no milk. If he reared them all and allowed them to die a natural death, not only would his farmyard be a perfect pandemonium, but his expenses would be such that in order to sell his eggs and milk at a profit he would need to demand a prohibitive price. It follows that those who consume these articles, though they do not eat flesh, are yet accessory to the slaughter of animals.

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[7] Hutchison, op. cit., p. 231.

UNIVERSITY OF OXFORD: DECREE AND REGULATIONS FOR THE READERSHIP IN OPHTHALMOLOGY.

IN a Convocation holden on Tuesday, June 17th, 1902, the following decree and egulations were approved:—

DECREE AS TO READERSHIP IN OPHTHALMOLOGY.

Whereas Margaret Ogilvie, widow, has offered to the University a capital sum which will provide not less than £200 a year for the endowment of a university reader in ophthalmology;

And whereas it is the intention of the said Margaret Ogilvie, primarily to encourage the prosecution of original research in ophthalmology, and, secondarily, to provide instruction—by means of lectures (clinical and systematic) and demonstrations—in diseases and defects of the eyes and their treatment, for members of the University and for legally qualified members of the medical profession;

The University accepts the offer, approves of the regulations made in that behalf, and hereby records its gratitude for Mrs. Ogilvie's munificence.

REGULATIONS FOR THE READERSHIP IN OPHTHALMOLOGY.

1. The annual income of the readership endowment shall be applied in and for the encouragement of original research in ophthalmology and also for providing at the Oxford Eye Hospital ordinarily, and elsewhere in Oxford when expedient, instruction in the nature and treatment of eye diseases and defects for members of the University and for members of the medical profession

2. If and so long as the Hebdomadal Council shall be allowed to nominate three members of the board constituted for electing the senior honorary surgeon to the Oxford Eye Hospital, the said surgeon shall be appointed and designated the Margaret Ogilvie's Reader in Ophthalmology. Three-fourths of the net annual income from the endowment shall be paid to the reader; and one-fourth shall to applied under his direction in providing such assistance in the pathological department of the hospital and such apparatus and museum requisites as he may consider necessary.

3. The electoral board hereinbefore referred to shall consist of—(*a*) The vice-chancellor; (*b*) the chairman and the vice-chairman of the Oxford Eye Hospital; (*c*) the treasurer of the Radcliffe Infirmary; (*d*) the regius professor of medicine in the *University of Oxford*; (*e*) the President of the Royal College of Surgeons; (*f*, *g*, *h*) three members nominated by the Hebdomadal Council on each occasion.

4. The lectures to be delivered by the reader shall not be less than 12 during the University academical year; that is to say, *four in each* term (Easter and *Trinity terms* being counted as one); at least six of the lectures shall be systematic and the remainder may be clinical.

5. If during any year that shall expire on the first day of September the reader shall have failed to reside 30 weeks *within one mile* and a half of Carfax, he shall cease to hold his readership, but shall not on that ground be incapable of re-election

6. If the reader ceases to hold the appointment of honorary surgeon to the Oxford Eye Hospital he shall thereupon cease to hold the readership

7. A reader who has reached the age of 60 years shall cease to hold *the readership*. But the electoral board shall have power to re-elect him, if they think fit for a further period not exceeding five years

8. If the senior honorary surgeon to the Oxford Eye Hospital ceases to hold the readership, no election of a reader shall be held so long as he shall be surgeon, and the income arising from the trust fund during the vacancy of the readership shall be invested in augmentation of the capital of the trust.

9. The amount which may accrue from the accumulation of income during any abeyance of the readership shall be invested, and the annual *income thereof* shall be applied to the furnishing of apparatus and diagrams and other requisites for research in ophthalmology and for purposes of instruction.

10. The reader shall be entitled to require from medical students a fee not exceeding two pounds for any University term, but no fee shall be payable by any registered member of the medical profession.

11. The reader shall submit annually at the commencement of the University academical year to the board of the Faculty of Medicine a *brief report detailing* the original research conducted by him during the 12 months immediately preceding.

12. The reader shall be subject to the jurisdiction of the visitatorial board

13. Robert Walter Doyne of Keble College, F.R.C.S., honorary surgeon to the Oxford Eye Hospital and honorary consulting ophthalmic surgeon to the *Radcliffe Infirmary*, shall during his tenure of the first-named appointment be constituted the first Margaret Ogilvie's reader in ophthalmology.

14 The collection of preparations and drawings illustrating the pathology of the eye, presented by Mr. Doyne as a further endowment of the readership shall, together with any future additions thereto, be under the charge of the reader. This collection, together with all collections, preparations, drawings, and apparatus purchased out of the

income of the Ogilvie Trust Fund, shall be the property of the University. The expenses connected with the maintenance thereof shall be defrayed out of the income of the trust fund.

15. The trust fund shall be transferred to the curators of the University chest and the capital thereof invested by them in the name of the chancellor, masters, and scholars of the University.

16. These regulations shall be subject to alteration by Convocation at any time with the consent of the donor during her lifetime; provided that the main object of the foundress as set forth in the decree be always had regard to.

CHARING CROSS HOSPITAL: MASONIC CEREMONIAL.

ON Friday, June 20th, the foundation-stone of the addition to Charing Cross Hospital was laid by H.R.H. the Duke of Connaught, K.G., Most Worshipful Grand Master of the United Grand Lodge of England, with full Masonic ceremony in the presence of H.R.H. Princess Louise, Duchess of Argyll, President of the hospital, and a large and distinguished company of guests.

On arrival His Royal Highness was received by the President of the hospital and a deputation of grand officers. A deputation of the Council of the hospital was then presented to His Royal Highness. After the presentation the Grand Master and the grand officers in attendance, wearing their Masonic clothing, entered the pavilion in procession in the following order: the Deputy Grand Director of Ceremonies (Mr. E. Armitage), three Masters of Lodges (including Dr. John Abercrombie, Master of the Chère Reine Lodge) bearing the cornucopia and ewers with wine and oil, two Grand Deacons (Mr. Thomas Wakley, jun., and Mr. Henry Grey), the Grand Superintendent of Works (Mr. H. L. Florence) with the mallet, the President of the Board of Benevolence (Mr. J. H. Matthews), the Grand Secretary (Mr. E. Letchworth) with the plate, the President of the Board of General Purposes (Mr. R. Loveland Loveland, K.C.), the Grand Registrar (Mr. J. Strachan, K.C.) bearing the great seal, the Grand Treasurer (Captain J. Barlow) bearing a phial containing the coin to be deposited in the stone, the Junior Grand Warden (Major-General the Hon. H. F. Eaton, C.B.) with the plumb rule, the Senior Grand Warden (the Earl of Donoughmore) with the level, the Grand Chaplain (Canon Quennell) bearing the Sacred Law on a cushion, the Deputy Grand Master (the Earl of Warwick) with the square, the Grand Sword Bearer (Major-General Astley Terry), the Most Worshipful the Grand Master H.R.H. the Duke of Connaught, K.G., and two Senior Grand Deacons (Mr. C. N. P. Phipps and Dr. A. E. Sansom). Her Royal Highness the Princess Louise, Duchess of Argyll, President of the hospital, then addressed the Grand Master and requested His Royal Highness to lay the foundation-stone according to Masonic form. The Grand Master said he would be happy to comply with Her Royal Highness's request; the vessels of corn, wine, and oil were deposited on a pedestal placed for their reception, and the upper stone having been raised and the lower one adjusted the Grand Master addressed the assembly, after which the Grand Chaplain offered a prayer. The Grand Secretary next read the inscription on the plate and the Grand Treasurer deposited the phial containing the coins. The cement was spread on the upper face of the lower stone and the M.W. the Grand Master adjusted the same with a trowel handed to him for the purpose, after which the upper stone was slowly lowered with three distinct stops. The Grand Master then proved the just position and form of the stone by the plumb rule, level, and square, which were successively delivered to him by the Junior Grand Warden, the Senior Grand Warden, and the Deputy Grand Master. Being satisfied in these particulars His Royal Highness gave the stone three knocks with the mallet which was handed to him, saying: "I find this stone to be plumb, level, and square, and I declare it to be duly prepared and truly laid and that the craftsmen have worked well." The cornucopia containing the corn and the ewers with the wine and the oil were next handed to him and the Grand Master strewed the corn and poured the wine and the oil over the stone with the accustomed ceremonies. The architect was presented to the Grand Master and delivered to His Royal Highness the plan of the intended building. The Grand Master having inspected the plan returned the same to the architect, together with the several tools used in proving the position of the stone, and desired him to proceed to the completion of the work in conformity with the plan, after which the Grand Chaplain pronounced a blessing.

Mr. DRUMMOND, the treasurer of the hospital, in moving a vote of thanks to His Royal Highness, referred to the facts that some 70 years ago the foundation-stone of the old building was laid with a similar ceremony by the late Duke of Sussex, that the late beloved Queen Victoria throughout her long life had shown a deep interest in the hospital (in fact, they possessed the first Victoria Ward of any hospital), and that for about 20 years the late Duke of Edinburgh had been their President, and by his efforts in promoting the success of the bazaar at the Albert Hall had enabled the committee to commence the new building. They required £80,000 to complete the work. As treasurer he was bound to make the customary appeal, but the public having been so generous to them in the past he and the rest of the committee looked forward to the future with the greatest confidence. In commemoration of that day they asked His Royal Highness graciously to be pleased to name one of the new wards.

Sir JOSEPH FAYRER, in seconding the motion on behalf of the medical staff, referred to the vast benefits that were conferred by hospitals on every member of the community, from His Majesty the King on the throne down to his meanest subject, and touched on the special service rendered by Charing Cross Hospital.

The DUKE OF CONNAUGHT, who was received with enthusiasm, said that he was indeed very sensible of the kind words which had fallen from Mr. Drummond and Sir Joseph Fayrer and that it required no vote of thanks for him to assure them of the very great pleasure with which he attended that day in compliance with the wishes of his beloved sister, their President, to lay the foundation-stone of the new buildings with full Masonic honours. Speaking in the name of the Grand Lodge and of all Masons—a large and influential body of His Majesty's subjects—he assured them that they very much appreciated the opportunity of performing the ceremony and of, if possible, raising their opinion of Freemasons and enabling them to see what a loyal body of men English Freemasons were. He trusted that the ceremony had interested those who perhaps for the first time had witnessed it. He alluded to the close connexion which members of his family had had with Charing Cross Hospital and hoped and believed that now, under the presidency of his sister, Princess Louise, it would flourish in the manner they would all wish it to do. Their beloved Sovereign the King had for many years taken a deep interest in everything connected with the hospitals of this metropolis and had made every endeavour to promote and to increase the funds necessary for the working of these most important but very expensive institutions. His Royal Highness concluded by saying that he hoped that the new extension, the foundation-stone of which he had that day had the great pleasure of laying, when completed would make Charing Cross Hospital one of the finest and most complete of the splendid hospitals of which they were all so proud in this great city. He thanked them for their kind vote of thanks.

The M.W. Grand Master then said that he should like to name the new ward the "Alfred Ward" in memory of his dear brother, but on being subsequently informed that there was already an Alfred Ward in the hospital he rose again and said that in that case, although it had been suggested that it might be called the "Duke of Edinburgh Ward," he thought that everyone present would agree that there could be no more appropriate name than the "Louise Ward"—a pronouncement which was received with much applause.

It may be interesting to record that the mallet used by His Royal Highness in the ceremony was the one used by Charles II. in laying the foundation-stone of St. Paul's Cathedral. It was subsequently presented by Sir Christopher Wren to the Lodge of Antiquity, of which he was Worshipful Master. On the present occasion it was specially lent by the Lodge of Antiquity for use by the M.W. Grand Master. Before and after the ceremony the band of the Royal Marine Light Infantry supplied a pleasing programme of music.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. von Boehm, formerly Director of the General Hospital, Vienna, at the age of 75 years.—Dr. Polaillon, the well-known surgeon of the Hôtel Dieu in Paris, at the age of 66 years.—Dr. Ferdinand Sommer, formerly Professor of Anatomy in the University of Greifswald. His published papers dealt mainly with zoological matters and the anatomy of the lower animals.

Looking Back.

FROM

THE LANCET, *SATURDAY, JUNE 26*, 1824.

ARTIFICIAL CASTOR OIL.

One drop of the oil of Croton, mixed with an ounce of the Oleum Papaveris forms a preparation very nearly resembling castor oil, and a table-spoonful of one will produce the same effects as a *table-spoonful of* the other The mixture has been used with great success in our hospitals, and, as castor oil is so dear, we strongly recommend the general adoption of this substitute.—*Hufeland's Journal der Practischen Heilkunde*

Vaccination.—On the 14th ult. the physicians of Berlin celebrated, as they have done for these fourteen years past, Dr Jenner's grand discovery of vaccination. From the lists sent to the Society from all parts of the kingdom, it appears that the number *of* individuals vaccinated last year was 330 905.—The number would probably have been 360,000 if the lists had been complete

The newly invented apparatus kept at the infirmary for extracting poisons from the stomach, was used for the first time in this town on Friday last. Laudanum had been taken, for the purpose of self destruction , the usual emetics had been administered without any effect, as is frequently the case under similar circumstances in consequence *of the* insensibility produced by the poison. The laudanum was extracted, by first forcing a quantity of warm water into the stomach, and then immediately withdrawing the whole contents by means of the new instrument.—*Derby Reporter*

At a meeting of the Philosophical Society, on Monday se'nnight, a paper was read by the President, Dr HAVILAND, on the cases of secondary small-pox, and of small pox after vaccination, which had occurred amongst members of the University of Cambridge during the last year, out of twenty seven cases, five only were severe, and three of those, which were cases of secondary small pox were much more so than the *two others*, which occurred *after vaccination.*—*Norwich Mercury*

LORD NORBURY'S NEWEST.—His Lordship while lately indisposed, was threatened with a determination of blood in the head. Surgeon C—l accordingly opened the temporal artery; and whilst attending to the operation, his Lordship said to him, in his usual quick manner, "C—l, I believe, you were never called to the Bar?" "No, my Lord, I never was," replied the Surgeon "Well, I am sure, Doctor, I can safely say, *you have cut a figure* IN THE TEMPLE."

THE METROPOLITAN WATER-SUPPLY. THE LONDON WATER BILL.

AT the sitting of the Joint Committee which was held on June 12th Lord BALFOUR of BURLEIGH presided.

On behalf of the Corporation of the City of London Lord ROBERT CECIL, K.C , was allowed to state the well known contention of that body, that it would be more just if payment for the supply of water were made by meter

Mr PEMBER, K.C., on behalf of the water companies, proposed that a schedule should be added to Clause 13 of the Bill to define the conditions under which the debenture holders of the companies were to be paid in water stock. The Committee rejected the proposed schedule but required that definite provision should be made as to the period of redemption of the water stock issued to the debenture holders and to the shareholders respectively, the period of redemption being fixed at 60 years in the case of the former and 30 years in the case of the latter

In regard to the matter of appeals from the arbitrators to the House of Lords—a matter which was considered at one of the earlier sittings—the Committee decided that an appeal should be allowed on a question of law should such leave be granted by the Court of Appeal, but not otherwise. The Committee further decided that "the Court of Arbitration should act in accordance with the decision arrived at in any such case." It was further provided that the Court of Appeal should have power to decide as to which party should pay the costs. On these points the decision of the Committee was unanimous, in spite of strong protests by Mr Pember who argued that the effect would be that the Court of Appeal would thereby be allowed to stereotype its own decision as the law of the land.

One of the water company directors succeeded in obtaining the insertion into the Bill of a special provision to the effect that he should on his retirement receive a pension equivalent *to two-thirds of the salary and emoluments received by him* during the two years next before the passing of the Act.

On June 13th the Committee finished their consideration of the Bill Lord BALFOUR of BURLEIGH again presided. A new clause was accepted to compel the Water Board to take over from the companies two chemists who are at present in their employ and that "for purposes of compensation" they should be deemed "*existing officers*" within the meaning of the Act.

A new clause was proposed by the Local Government Board to compel the Water Board to make provision for the chemical and bacteriological examinations of the water supplied and, further, to compel the Board to supply the necessary buildings, apparatus, plant, and staff to carry on such examinations efficiently

The clause was, after a division, accepted by the Committee, some less important amendments were dealt with, and finally it was ordered that the Bill should be reported to the two Houses of Parliament.

METROPOLITAN HOSPITAL SUNDAY FUND

THE following is a continued record of some of the principal amounts which have been received in aid of the Fund up to the time of going to press on Tuesday The total sum then amounted to about £28,000.

	£	s.	d
	1628	0	0
Christ Church Lancaster-gate	267	0	0
Holy Trinity Tulse-hill	232	0	0
St. Mark's, Hamilton-terrace	220	0	0
St. Luke's Redcliffe-square	171	0	0
St. Columba's Church of Scotland	153	0	0
Christ Church Chislehurst	150	0	0
St. Bartholomew's, Sydenham	133	0	0
Highgate Parish Church	142	0	0
Brompton Parish Church	120	0	0
Immanuel and St. John's Streatham	109	0	0
Emmanuel, Wimbledon	104	0	0
St Saviour's, Chelsea	50	0	0
All Saints, Notting hill	64	0	0
Addenham Parish Church	57	0	0
St German's, Blackheath	70	0	0
St Mary's Stoke Newington	74	0	0
Bromley Congregational Church Kent	96	0	0
St. Mary Aldermary, &c.	65	0	0
St Andrew's Whitehall park	60	0	0
Acton Parish Church and Mission Church	86	0	0
Clapham Parish Church	60	0	0
Miss M. E Druce	51	0	0
Holy Trinity Eltham	66	0	0
St. John's Notting hill	76	0	0
St Saviour's Paddington			

ASYLUM REPORTS

Cumberland and Westmorland Asylum (Annual Report for 1901).—The average number of patients resident during the year was 667, comprising 341 *males* and 326 females The admissions during the year amounted to 175—viz 100 males and 75 females Of these, 132 were first admissions Dr W F Farquharson the medical superintendent, states in his report that of the 175 patients admitted 155 were chargeable to the rates, 19 were private patients, and one was a criminal. The admissions included five cases of congenital imbecility, nine cases of epilepsy, five cases of general paralysis four chronic cases transferred from other asylums, and 10 patients who were over 70 years of age. In 27 cases among the admissions the attack of insanity had lasted over a year before the patient was brought to the asylum. "The great majority of the cases enumerated were incurable. More than one-half of the patients admitted came here in a feeble state of health; eight of these were extremely weak and exhausted and several died very shortly after admission." 50 of the patients admitted had suicidal tendencies and 24 of these had made actual attempts at suicide before admission. Hereditary predisposition to insanity was ascertained to have existed in 48 patients, or 27·4 per cent. of the admissions, and 31 cases, or 17·7 per cent., were attributable to alcoholic intemperance. "Where definite exciting causes of the attacks could be traced, there were in the great majority of instances diseases or disorders affecting the bodily health, mental shock being responsible for only a very small proportion of cases." The number of patients discharged as recovered during the year amounted to 96, or 14·5 per cent. of the average number resident. The deaths during the year amounted to 44, or 6·5 per cent. as calculated on the same basis. This death-rate was one of the lowest recorded in the history of the asylum. The mean age at death was 51·7 years. Of the deaths two were due to cerebral hæmorrhage, two to cancer of the uterus, four to organic dementia, four to pneumonia, four to senile decay, four to tuberculosis, six to general paralysis of the insane, nine to cardiac disease and its complications, and the rest to other causes. The cause of death was ascertained by post-mortem examination in every case. In five cases where the deaths were not attributable to tuberculosis evidence of tubercle was found post mortem. The general health of the patients throughout the year was good, epidemic or zymotic diseases having been absent. With the exception of three cases of fracture of bones, accidentally sustained, there were no serious casualties. The Commissioners in Lunacy state in their report that the patients were for the most part neatly clothed, contented, and orderly in behaviour, and that the medical case-books were kept in a manner creditable to the medical staff. The committee of management states in its report that a plan for the further purification of sewage by bacteria beds and earth filtration has been adopted, and that additional exits for escape in case of fire have been put up at the top of the main staircase and also on the first floor of Cumberland House which is a part of the asylum.

Leicester Borough Asylum (Annual Report for 1901).—The average number of patients resident during the year was 722, comprising 308 males and 414 females. The admissions during the year amounted to 408—viz., 118 males and 290 females. Of these 347 were first admissions. Dr. J. E. Montague Finch, the medical superintendent, states in his report that of the total number of patients remaining in the asylums at the end of the year—viz., 797—12 men and 17 women were deemed curable. "The health of the patients on admission in a great many cases was extremely enfeebled, many being brought to the asylum on an ambulance and requiring to be carried to bed, and no less than 10 died before they had been in the asylum a month." Of those admitted 22 were between the ages of 70 and 80 years and four were between 80 and 90 years of age. Among the chief causes of insanity in those admitted were hereditary influences in 35 instances, congenital defect in 10, alcoholic intemperance in 24, mental worry and adverse circumstances in 24, and old age in 10. The number of persons discharged as recovered during the year amounted to 72—viz., 28 males and 44 females, or 10·0 per cent. of the average number resident. The deaths during the year amounted to 54—viz., 33 males and 21 females, or 7·5 per cent. as calculated on the same basis. Of the deaths two were due to cerebral softening, three each to apoplexy and pneumonia, five each to congestion of the lungs and phthisis, eight to epilepsy, 13 to general paralysis of the insane, and the rest to other causes. Two cases of suicide occurred during the year, one from strangulation and the other from poisoning by corrosive sublimate taken before admission. A married woman was confined after admission and another married woman among the admissions was delivered of twins. The institution has been free from any disease of an epidemic nature during the year. A new extension of the building has been completed and the new wards were opened for male patients who were removed thither. The old male wards were altered and renovated in order to render them available for female patients, and they were all occupied before the middle of the year. The work of the nurses has been, adds Dr. Finch, exceptionally trying and arduous owing to the large number of admissions on the female side and the reorganisation of the wards. The Commissioners in Lunacy state in their report that the day-rooms were bright and comfortable and afforded ample accommodation, that the dormitories were well arranged and ventilated, and that the medical case-books were very well kept. The visiting committee of the asylum states in its report that in consequence of the increase in the number of female patients in the borough notice will be given to the proper authorities for the removal of a certain number of out-county patients. The expenditure on additions, alterations, and improvements cost £392 and on ordinary repairs £1200.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL R. H. QUILL joins at Dover and takes up the duties of Principal Medical Officer of the South-Eastern district. Deputy Surgeon-General Don relinquishes his appointment as Medical Examiner of Recruits at St. George's Barracks in October next. Lieutenant-Colonel R. G. Thomsett takes up duty at Portsmouth. Surgeon-Lieutenant Taylor, A.M.R., is appointed to the medical charge of the Militia encamped on Middlewick, Colchester.

INDIAN MEDICAL SERVICE.

The King has approved of the following promotions among officers of the Indian Medical Service:—Majors to be Lieutenant-Colonels (dated April 1st, 1902): *Bengal Establishment:* Richard Havelock Charles, George Duncan, and William Ainley Sykes, D.S.O. *Madras Establishment:* Edwin William Reilly and James Scott. *Bombay Establishment:* Robert William Steele Lyons, John Patrick Barry, and Alexander Vass Anderson. Captains to be Majors (dated March 31st, 1902): *Bengal Establishment:* Allan James Macnab, Henry Smith, Charles Neil Campbell Wimberley, and Ernest Wickham-Hore. *Madras Establishment:* William Dunbar Sutherland, Percy Carr-White, Edmund Hassell Wright, William Molesworth, Clarence Forbes Fearnside, Charles Arthur Johnston, and Gerard Godfray Giffard. *Bombay Establishment:* James Jackson, Ashton Street, and John Bland Jameson.

The King has also approved of the retirement from the service of the undermentioned officers:—*Bengal Establishment:* Lieutenant-Colonel James Young (dated March 31st, 1902) and Lieutenant-Colonel Charles William Owen, C.I.E., C.M.G. (dated March 15th, 1902).

The above notification supersedes that of the retirement of Lieutenant-Colonel William Owen made in the *London Gazette* of March 20th, 1902.

ARMY MEDICAL RESERVE OF OFFICERS.

To be Surgeon-Majors (dated June 21st, 1902):—Surgeon-Captain W. B. Macdonald and Surgeon-Captain W. B. Mackay.

ROYAL NAVAL HOSPITAL, HASLAR.

The session of special instruction at the Royal Naval Hospital, Haslar, terminated on June 20th, when the following surgeons received appointments to His Majesty's ships. Two prizes—viz., the gold medal and microscope—were awarded to Surgeon Oswald Mills, R.N., late of St. Thomas's Hospital, and one—viz., the silver medal and £10 worth of books—to Surgeon Leslie M. Morris, R.N., late of St. Bartholomew's Hospital. Surgeons in order of seniority:—

Name.	Marks.	Name.	Marks.
Oswald Mills	5562	William N. L. Cherry ...	3863
Leslie M. Morris	5185	John G. Peebles	3790
Alexander K. Smith-Shand	4321	Thomas W. Myles	3788
Norman H. Mummery ...	4278	Elijah R. L. Thomas ...	3444
John Fullarton	4245		

THE WESTERN COUNTIES SOLDIERS' CONVALESCENT HOME, BATH.

The Duchess of Somerset has issued an urgent appeal for this excellent institution, which is situated at Combe Down, Bath. The home has now been in existence for two years and 170 patients have already been admitted. It appears that unless more funds are forthcoming the home is to be shortly closed. The authorities are anxious to keep it open until the end of the present year and for this purpose about £500 are required. The Soldiers' Aid Society has promised £200 on the condition that the remaining £300 are raised. The Duchess of Somerset has subscribed £100 and on

June 8th some of the Bath churches had collections for the fund.

Sir Joseph Dalton Hooker, G C S.I, C B, Surgeon R.N (retired) late Director of the Royal Botanic Gardens, Kew, has been presented by the German Emperor with the Order Pour le Mérite for his distinguished research in science and art.

Correspondence.

"Audi alteram partem."

THE DESTRUCTOR NUISANCE AT TORQUAY

To the Editors of THE LANCET.

SIRS,—It might have been thought that the frequent appeals for the establishment of open air sanatoriums would have gradually brought people to see that foul air is as great a menace to health as foul water or adulterated food Here, however, in a "health resort," where the only industry, as the Duke of Argyll once said, is "the manufacture of health"; the breezes which used to make the summer climate on the higher levels delightful now carry with them and cause to impinge upon various parts of the town the fumes from a refuse destructor, and in spite of all the representations made to the authorities, including those of the Special Commissioner of THE LANCET, no intelligent efforts have been made to deal with the cause of the nuisance which has just now entered upon its fourth summer Noxious matters issuing from the chimney of the destructor are weighed in the mental balance of the town councillors against noxious matters issuing from the kitchen chimney of a cottage and they find that the latter weigh the heavier When we consider that a cottage chimney would burn only a few pounds of coal, whereas the destructor burns some tons of refuse, we see that such a state inverts the arithmetical relations.

If we look at the chimneys under varying conditions we shall find the same singular inversion of facts On Sunday, for instance, the destructor does not work, whil t for the cottage chimney it is the busiest day of the week. Sunday, according to this proposition ought to be the day when the air is foulest. As an actual fact, it is the day which brings complete relief from the nuisance. Again, when the destructor is working but the atmospheric conditions permit of the ascent of the fumes, we complain of no pollution of the air This is notably the case in winter, the ascent being favoured by the greater difference which prevails at that season between the temperature of the fumes and that of the outside air In winter the cottage chimneys are active, in summer they are less so. In winter the destructor gives but little annoyance, in summer it is an abomination. Here, again, then, the facts of the case are turned upside down in the proposition. I do not know what the chairman puts into the scale against this and other facts. We have seen in Torquay some very striking effects of coal smoke, but they came from the town council's electric station, and happily they have now been completely remedied by the adoption of smokeless coal.

It has been suggested that potassium cyanide or arsenical fumes are present in the destructor products in appreciable quantities, but whether they are or not, the evils caused by the gases paraffins, and slags blown upon us produce effects which are unsatisfactory by products for a place whose object is "to manufacture health" Many of the inhabitants like myself, came down here to live as much as possible in the open air But in the summer time it is often impossible for us to remain in the garden—rather we are compelled to take refuge in the house and shut the windows. In former times the summers here were particularly cool and enjoyable. Now we are glad to spend as much of the summer as we can away from Torquay, even in places where the natural advantages are incomparably less favourable But all might be put right, as your Commissioner has clearly shown, and I feel that ultimately all must be put right. Should, however, the nuisance remain unmitigated through the present summer those interested in the great questions of the pollution of town air should not miss the opportunity of paying a visit to Torquay, when they will find an instructive object-lesson as to the results of placing the top of a chimney of a refuse destructor in the wrong place.—I am, Sirs, yours faithfully,

HENRY HUMPHREYS, M.A., M.D, Cantab.,
M R.C P Lond

Torquay June 14th 1902.

*** Owing to the great length of Dr Humphreys's letter we have been compelled to reduce it. The chemical considerations into which he enters in regard to kitchen chimney and destructor smoke are omitted. Obviously the two kinds of emanation show sharp differences in physical character and chemical composition which Dr Humphreys points out.—ED. L.

THE MEDICAL SERVICE OF THE MERCHANT MARINE

To the Editors of THE LANCET

SIRS,—I address to you this communication for the purpose of calling to the attention of my colleagues the present condition and prospects of seafaring physicians—ships' doctors of the merchant marine. In these days of keen competition and plethoric supply of medical men, who must consequently see their field of opportunity and financial prospects lessened, it seems only rational and business like that we should stand together and demand proper recognition and remuneration commensurate with the outlay of time and money which is necessary to fit us for professional duties. Physicians in private practice are repaid according to their skill and industry, and often by good fortune. Army and navy medical men receive fair recompense for their services, good social position, and prospects of advancement Too many physicians, however, all qualified, are giving their valuable time to hospitals, sanatoriums, and asylums for the niggardly salary of £50 to £150 per annum, which institutions carry heavy financial burdens but do not enable their medical officers to support a family The physicians, it must be admitted, have in some cases chance of advancement, which cannot be said of that most abject class of practitioners—steamship doctors.

Nearly every international passenger-carrying steamer of certain capacity is *compelled* to carry an officer, who is bluffed by the company into accepting for his services the pittance of £8 to £12 per month on English and American ships, £5 to £10 on German boats, and about the same amount when sailing under other flags, and as they are seldom allowed *to charge* a fee for their services their pay barely covers the cost of uniforms and other items of expense On American *ships their* position is humiliating as the engineers, dock officers as well as freight clerks receive better wages and are judged accordingly Unfortunately most steam-ship companies, *only* wishing to comply with law, are satisfied with any so-called doctor and there are always numbers of *professional* "scabs" who rent themselves out for a flunkey's salary It seems to me a disgrace that any qualified man should consider his services worth less than a guinea a day and I believe that if individuals and medical organisations *would* maintain their self respect and assert their rights by demanding that no position in a steam ship company, corporation, or institution of any kind be filled under £30 per month (which would support a family decently), they would soon gain their point and at the same time command the *respect* that educated physicians deserve They would be received at their own estimate and not ranked with "*unskilled* labour" It is well known that many young men go to sea merely for travel, but they should not give their time away any more than in civil practice for the physician's *time*, as well as actual services rendered must be considered.

The Spanish American doctors, although wanting in some respects, uphold their rights and refuse to accept less *than* £15 a month and a free hand in practice and *get it*, because they hold together and are difficult *to get at the* price mentioned, as they realise that their salary should be £30 instead of one-half of that amount. I trust that this subject will receive from the profession the attention that it deserves.

I am, Sirs, yours faithfully,
W T BURRES M D

R M.S. *Peru*, Panama, Colombia, May 1st 1902.

TUMOURS OF THE STOMACH

To the Editors of THE LANCET

SIRS,—I have read the brief account in THE LANCET of June 21st, p. 1763, *of* the case under the care of

Mr. Mayo Collier, which is described as a "large malignant growth of the pylorus" treated by gastro-jejunostomy. May I venture to predict—and I think there is little hazard in the venture—that the case will prove to be, not one of malignant disease, but of chronic ulcer, of the stomach? As is well known, it is quite impossible to determine the character of any tumour in the stomach by inspection and palpation alone. The extraordinary accuracy with which the tumour resulting from chronic ulceration with induration may mimic the appearances in malignant disease has deceived such experts as Czerny and Kocher. Both these surgeons have removed portions of the stomach for supposed cancer and found on examination of the specimen nothing more than chronic ulceration and thickening. The history of Mr. Mayo Collier's case certainly gives support to my prediction. It is now three and three-quarter years since the onset of symptoms and the patient is in good and improving health. Five years before the operation the patient suffered from "peritonitis and inflammation of the bowels." May this not have been due to the perforation of a gastric ulcer causing peritonitis? At the operation "the pylorus with growth was firmly adherent to the liver and gall-bladder and the whole of the structures were matted together by old adhesions," precisely the condition that one would expect to find if perforation had occurred. Mr. Mayo Collier does not make mention of the chemical examination of the stomach contents, as to the presence or absence of free hydrochloric acid, or of lactic acid.

I have had under my care three cases considered to be malignant at the time of the operation but proved by the subsequent history to be instances of chronic ulcer with massive induration. The third case was sent to me in June, 1901, by Dr. Crawford Watson of Harrogate. A tumour of the size of a fist was felt in the abdomen; at the time of the operation a dense hard mass four inches in diameter occupied the isthmus of an hour-glass stomach. The tumour was firmly welded to the pancreas, was adherent to the liver and abdominal wall, and was therefore irremoveable. The cardiac loculus could not be reached because of the adhesions and I was therefore prevented from performing a gastro-enterostomy. I was compelled to be content with a retrograde dilatation of the stricture between the two sacs. With difficulty I passed my little finger through the centre of the supposed growth, then my index finger, and finally three fingers. The patient rapidly recovered from the operation and vomiting which had been the chief, and a most distressing, symptom entirely ceased. Before the operation the patient looked haggard, worn, and ill; she is now ruddy and plump; before the operation she weighed 4 stones 13½ pounds; she weighed when last seen 7 stones 7 pounds; before the operation she vomited after all food; now she can take any food in any quantity. I think that no one seeing the tumour when the abdomen was opened could have doubted its malignancy. Yet there is no trace of any tumour now I do not touch upon the question, which seems to be settled in the affirmative, as to whether veritable malignant growths in the abdomen or elsewhere are capable of spontaneous and complete disappearance. I am, Sirs, yours faithfully,

Leeds, June 21st, 1902. B. G. A. MOYNIHAN.

THE FEES OF MEDICAL WITNESSES.

To the Editors of THE LANCET.

SIRS,—Perhaps you will kindly allow me, as a near relation of Judge Greenhow, to make a few remarks on your leading article on "The Fees of Medical Witnesses" in THE LANCET of June 14th, p. 1702. In the first place you seem to me to err in thinking that the judge meant that the witness should give his evidence "gratis" or that there was any question of "gratuitous" services in the court; it was simply a matter of prepayment of the fee, as is plain from the expressions that he used: "It presses hardly upon poor people who have not several guineas to put down"; "You still persist in your intention of having the money laid down before you give evidence in this poor person's case?" "It seems to me an extraordinary line for gentlemen of the medical profession to take up, that they should require the money down." If, in the next sentence, as it is reported, the expression "decline to give evidence without fees" is made use of, it is plainly intended to be qualified by the same words with regard to fees as were used above—viz., "put down," "laid down," "money down." There may, no doubt, be solicitors who are given to "speculative" litigation or who refuse to pay their fees to medical and other witnesses, but that is no valid reason why the poor should be denied fair facilities for recovering, in the vast majority of cases quite legitimately, compensation for injuries; and, as the resident medical officers of our hospitals and dispensaries must from the circumstances of the case be almost always the principal witnesses, it would be practically a denial of justice if their evidence were permitted to be for any reason excluded.

Supposing the case of an accident to a workman occurring in the road through the mismanagement of a motor-car, the only witness of which is some gentleman other than a medical man. An action is brought by the injured man and the witness, who may be an engineer engaged in large practice, declines to take the oath or to give evidence till his fee is paid. That which he would say, if he chose, would certainly get a verdict for the workman, as the engineer happens to have practical experience in motoring and has formed a definite opinion on this particular case; what would be thought of his conduct if he refused to speak till his fee was given to him?

I entirely agree with you that when patients are too poor to pay the medical profession gives its aid ungrudgingly, and, I would add, with absolute unselfishness. I can therefore hardly believe that the medical witness depends, as a rule, for his fee on the success of the party on whose behalf he gives evidence. It may be so now and then, but probably only in very exceptional cases; whereas it is undoubtedly a constant thing that the resident medical officers of charitable institutions in our large towns are summoned in a perfectly honest way by poor litigants to speak in the court as to the facts connected with their injuries, and to throw obstacles in the way of such evidence being given appear highly undesirable.—I am, Sirs, yours faithfully,

H. M. GREENHOW.

Scotswood, Esher, Surrey, June 18th, 1902.

⁂ We maintain our views. Our leading article took int consideration all the circumstances which bring medical me into the witness-box in civil actions. These are entirel different to the imaginary case of the engineer witnessing a street accident which Mr. Greenhow suggests as a parallel Few are called upon to give evidence in such a case more than once or twice in a lifetime and their evidence is that o the ordinary citizen who by chance sees an occurrence ou of which a cause of action arises and is in a position to form an opinion as to the existence of the cause of action The medical man, on the other hand, by the nature of his profession, is constantly brought in contact with injured persons and his evidence has nothing or little to do with the cause o action if the injured person chooses to make his injuries the subject of litigation. There is absolutely no reason why th medical man should insist on prepayment for his services as a witness if he prefers not to do so, but there can be no jus reason for blaming him if he does so insist. He has as much right to decline to give evidence without prepayment, in ou opinion at all events, as a solicitor has to decline to accept the instructions of a client under the same conditions. The case of a medical witness may be better compared to that of an engineer, if we imagine the engineer to have had a complicated piece of machinery brought to him in order that he may advise upon its reconstruction after an accident or who has had an invention submitted to him by a stranger for advice as to its manufacture. If the engineer is subsequently asked to give evidence in an action to recover damages on the ground that someone had negligently injured the machine or in a lawsuit to determine the ownership of the inventor's patent, let him do so by all means if, and on what terms, he chooses. Let him, however, be at liberty to say: "My time is valuable, I prefer that it should be paid for, and I prefer the certainty of prepayment to the uncertainty of waiting, particularly in a case the merits of which I know nothing about." Mr. Greenhow has not, perhaps, had the same opportunities as ourselves of learning how hardly the present inadequate scale of remuneration presses upon medical witnesses and how often the medical witness is not paid for his services.—ED. L.

PINEAPPLE AS A DIGESTIVE AID.

To the Editors of THE LANCET.

SIRS,—The value of the pineapple as a proteid digestive I can fully confirm, not only from personal experience at the table but also from experiments in vitro. Its active principle, bromoline, has long been used in the preparation of Mosquera's beef jelly, a most satisfactory extract, but, unlike most ferments, owing to its instability the commercial preparation of bromoline has, I believe, so far proved unsuccessful. The reputation of the pineapple has suffered for many reasons; far too much is eaten at a time and the fibrous part is swallowed as well as the juice. To obtain its full digestive value one quadrant of a moderately (say half an inch) thick slice is ample for one meal; it should be well masticated and the fibrous part rejected. As justly remarked it must not be cooked and it should be just ripe. My experience is that the preserved form has practically no digestive power.

Apart from its being an aid to digestion it has a powerfully solvent *action upon plastic exudation*—e.g., diphtheria membrane. This is easily demonstrated by exposing a portion of the membrane or some white blood clot to the action of the juice in a flask, when under favourable conditions of temperature and movement it will soon be dissolved. When, however, *applied to the throat*, either as a "swab" or spray, in a case of diphtheria, the contact is so short that one cannot expect extensive solution, but it will be found to exert a decidedly softening effect on the sticky and stringy exudation so as to admit of its easy *detachment*. Again, too, its solvent power is well shown upon thick and horny epidermis in a manner similar to salicylic acid, although *somewhat slower in action*. If a thin slice of fresh pineapple be kept in close contact with a corn for eight hours it is so softened as to admit of ready removal. Likewise it softens the horny papillæ in keratosis of the tonsil and rapidly relieves the "pricking sensation." Pineapple juice has evidently wide therapeutic possibilities but for whatever purpose employed it must be borne in mind that the fresh juice alone can be relied upon.

I am, Sirs, yours faithfully,

WYATT WINGRAVE, M.D. Durh.

Devonshire-street, W., June 7th, 1902.

CANNABIS INDICA IN CHOREA AND PERTUSSIS.

To the Editors of THE LANCET.

SIRS,—Early this year I was called to see a—to me—record case of chorea. The patient, a bright girl, aged 11 years, was suffering from her third attack in five years. I tried increasing doses of Fowler's solution with apparent success, but in a fortnight she was frightened by a steam fire-engine dashing past the house at night and the next morning I found her flinging her arms and legs about with such violence that they were severely bruised against the back and legs of the couch on which she lay. Fearing death from exhaustion I put her on opium, of which it required from three to four grains a day to control the muscles. Then the appetite failed and she had in addition a severe attack of toothache, necessitating the removal of an upper molar under gas, which was only administered with great difficulty. This operation again intensified the movements and I resorted to Indian hemp, giving her seven and a half minims of the tincture made from Parke, Davis and Co.'s fluid extract every four hours. The effect was magical. Next morning she was lying composed on the couch, looking perfectly happy, with only slight muscular twitching and appetite improving. In three weeks she could dress and feed herself without much assistance and has now been for over two months strong and well. While attending this case I was called to one of pertussis in a boy, aged 22 months. The cough was almost incessant and accompanied with vomiting. I gave him two minims of the tincture of cannabis indica every three hours. The next day I was told he had a very good night, coughing only three times. On the third day the cough had almost ceased and by the end of a week had disappeared. In a second case shortly after, that of a girl, aged five years, I gave five-minim doses every four hours. After the second four-ounce mixture had been finished the mother told me the girl only coughed slightly about once a day. She took no more medicine and is quite well. In all three cases the following points were noticeable: (1) direct relief to spasm, (2) absence of any head symptoms, and (3) non-interference with appetite or digestion. I may add that only a little chloroform water was added to the tincture to conceal the slightly unpleasant taste and that the mixture was well taken in each case.

I am, Sirs, yours faithfully,

Birmingham, June 20th, 1902. E. T. BURTON.

INSANITY AND THE DEATH PENALTY.

To the Editors of THE LANCET.

SIRS,—I think that the above subject is one of great importance and I agree with most of the remarks in the leading article in your issue of June 21st, p. 1782. I wish, however, that you had more strongly condemned the practice adopted at some of these trials—i.e., to consider a criminal insane because the court shrinks from the capital sentence. By all means, if the public conscience is averse to capital punishment, let it be abolished, but it is not right that some murderers should suffer the penalty of the law and others get off on the score of insanity who, in the eyes of all except certain "experts," are fully as sane as the former. At the present time it might be fairly argued that all murderers are insane at the time they commit their crimes. In the majority of criminals of the more brutal type, by examining their past history it is not unlikely that a condition of "minor epilepsy" might be diagnosed. This may be all very well from a psychological point of view, but it is questionable whether it tends to the public safety. I cannot help thinking that the law, as laid down in the McNaughton case, and which is still the law, was far sounder for protecting the public than that inspired by "the tendency towards mercy natural to advancing civilisation." A man makes improper proposals to a barmaid, accompanied by a pecuniary bribe, and on her refusal shoots her. He is exonerated on the ground of "minor epilepsy." A few years ago a girl, aged 19 years, was convicted of murder at the Hertford Assizes and executed. Her crime was the sending poison to an imbecile sister at a public asylum, which the latter unfortunately partook of, and was apparently prompted by an idea that she would obtain by her sister's death a small sum of money in the Savings Bank. Surely, as good a case of insanity might have been made out there. It is more than likely that during the last two years criminals have been executed in this country quite as insane as Simmons.

The object of all punishment is to deter. If it has not this effect it is useless. In the case of an undoubted lunatic it can have no deterrent effect and no good is gained by its infliction. But can it be affirmed with any certainty that punishment would have no deterrent effect on criminals whose insanity depends on the niceties of expert evidence? Might not the punishment of criminals like Simmons tend to make others of his class keep their illicit passions more under control? I cannot help thinking that the safety of the public lies more in that direction than in striving on humanitarian principles to prove every murderer insane in order to escape the penalty of the law.

I am, Sirs, yours faithfully,

M. GREENWOOD, M.D. Brux., LL.B. Lond.,

Hackney-road, N.E., June 21st, 1902. Barrister-at-Law.

THE LONG FOX MEMORIAL.

To the Editors of THE LANCET.

SIRS,—At a meeting held in the Chapter House of Bristol Cathedral on May 29th the following resolution was unanimously adopted:—

That a memorial be established to the late Dr. Edward Long Fox and that it include: (1) the placing of a tablet in the cathedral; (2) the founding of an annual lecture at University College, Bristol, in some subject connected with medical science to be called "The Long Fox Lecture"; (3) the partial supporting of a medical missionary student at University College, Bristol, to which the balance of the fund collected will be devoted after providing for (1) and (2).

We shall be glad to receive any contributions from friends of the late Dr. Fox.

We are, Sirs, yours faithfully,

W. W. ASQUITH, 34 College-road, Clifton;
E. MARKHAM SKERRITT, Edgecumbe House, Richmond Hill, Clifton.
} Honorary Secretaries.

June 21st, 1902.

SANITATION ON THE RIVIERA: WHAT WILL BE DONE DURING THE SUMMER?

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THIS is the moment for carrying out public works and effecting general improvements at the various winter stations of the Riviera. The visitors have gone, the greater number of the hotels are closed, and the permanent inhabitants are willing to endure some personal inconvenience if it will help to increase the golden harvest which they hope to reap when the winter season comes round once more. What with the South African war and the prevalence of small-pox the number of visitors was far below the general average last winter. Now, however, the war is over and it remains for the local authorities to push forward their various schemes for sanitary reform so that small-pox and typhoid fever may not once again frighten away intending visitors. If this is achieved there is good reason to hope that the next season will be a great improvement on that of last winter. But there is much to be done and it is not possible for more than a partial improvement to be realised between this and the end of the autumn. For instance, the water-supply of Nice and of some neighbouring towns is insufficient and unsatisfactory. The authorities at Nice cannot press the householders to abolish their cesspools and to drain directly into the sewers because there is not enough water to ensure the satisfactory flushing of the closets. The main supply is from the Vésubie mountain and it is distributed at Nice, Monaco, and elsewhere. Whether this water is absolutely safe for drinking purposes is an open question. Favourable analyses of the Vésubie supply have been published and yet an increase in the number of cases of typhoid fever was noticed following upon a heavy rainfall, and this has occurred more than once. But a heavy rainfall by choking up the sewers occasions an extra escape of air from badly-ventilated sewers into dwellings which have imperfect systems of interception. Without attempting to discuss this question in its complex bearings it is safe to say that the various municipalities concerned should unite to carry out some vast scheme for the improvement and increase of their water-supply. The offshoots of the Alps stretch far behind these towns. There are mountain torrents and splendid gathering grounds for the collection of pure water but the cost might be too great for any one town to bear. An association of towns dividing the initial expenses would render the most ambitious schemes practicable.

At Nice the sewers used to drain into the sea at the nearest convenient point. Consequently the sea front was more or less contaminated by these sewer outfalls. Now the outfalls of the old town, to the east of the river Paillon, which divides the town into two parts, are received in a large main collector. A syphon has been constructed under the bed of the Paillon, and the sewage from the east is thus carried over to the western side of the town, and here it falls into the sea by the one general outfall close to the pier. But this again is a serious inconvenience, as the pier faces the best part of the celebrated Promenade aux Anglais. Fortunately, this grievance may now be considered as a thing of the past. A main sewer has been built all along the sea front with a fall far away to the west and in the month of July the present outfall will be closed. Henceforth the sewage will be thrown into the sea about a mile and a half to the west and beyond the limits of the town. Another improvement awaits the visitors for next season. During the summer months 150 new street gullies will be put in position. These gullies are made of hardware, but contain metallic sand collectors that can be easily lifted out, and the sand, leaves, and other impedimenta can be promptly and frequently removed. Many times it has been thought that bad odours came from the sewers, whereas the nuisance was caused by the accumulations within old-fashioned and badly-constructed street gullies. If, together with these measures, vaccination is more widely enforced and suitable accommodation is provided for the isolation of patients suffering from infectious diseases there will be less hesitation on the part of visitors to spend the next winter at Nice.

In the Principality of Monaco the principle directly into sewers, which involved the abolition o was adopted and proclaimed by a decree which date of June 23rd, 1894. But a long time must elapse between the acceptance of a principle and i application. In many parts of the principality to be built, and there was this difficulty, that th the low-lying district of the Condamine had their outfall in the Bay or Port of Hercules. Th was close to the bathing establishment and objectionable. To meet the difficulty two Shone 500 gallons capacity have been employed. These sewage to a higher level, whence it can flow main sewer that passes behind the Rock of Monaco falls into the sea to the westward of the old town, can cause no inconvenience. Without entering technicalities of the drainage scheme of th pality there are still at least two importan that should, and that could, be immediately The one is that there yet remain some hou are not connected with the sewers and that the old and barbaric system of cesspools. the sewers themselves are inadequately ventilate large chimneys, or shafts, have been placed at th levels, but these are altogether insufficient. Be ventilators and at lower levels there are numerous flushing tanks. This is all very well so far as the cle the sewers is concerned, but the water as it ru presses the air forwards, while the ventilators are How, then, is the air to escape if not by breaking t seals of the traps? It stands to reason that v should be in front of the flush tanks as well a them. A strong, sudden flush will draw the air d the ventilator that is behind and push it out throug ventilator that should be in front.

Then, it is well known that ventilators only act portion of the sewer that is in their immediate n hood, whereas at Monaco some parts of the se about half a mile away from one of the four ve M. Tschirret, who is in charge of much of th work which in an English town would be [illegible] the borough surveyor, proposes to introduce a pip the dip-trap of the street gullies. These pipes, ope the roofs of the nearest houses, would become s sewer ventilators. But some householders might ob that case the dip which forms the water seal of the gully might be removed and the sewer would then into the street on a level with the roadway. If th are self-cleansing and ventilated throughout there s no nuisance. If there is a nuisance then [illegible]s clear sewer is not in a satisfactory condition and must be The object of sanitation is not to convey a bad odour point or altitude where it will not be noticed, but t all that may cause such a bad odour. Actu principality is remarkably free from any such un ness, and notwithstanding the defects just mentio one of the best drained places on the entire Riviera. done so much it is only natural to expect that the au will not neglect these minor imperfections but will s them remedied.

There is no lack of enterprise at Monaco, nor does of expense hold the authorities in check. Thus in with the disposal of household refuse the Govern the principality did not hesitate to incur the n outlay to build a destructor. The Horsfall syst adopted. This system precludes the admission of directly upon the furnace. Such air is warmed first by through heated channels outside the furnace. The ducts of combustion also are brought back un fire, and the soot, dust, &c., are thus destroyed. means the nuisance that might result is reduc minimum. As a further precaution the destructor i in an isolated position and only worked at nig has four cells and can consume 54 cubic metres o in 24 hours, but the refuse is not of a nature th burn unaided. It is necessary to add coke Fortunately this can be obtained from the g and the gas administration is credited with five for every ton of coke powder which it provides destructor. This, however, is a misleading calcula the commercial value of the coke powder is about 1 the ton, so that the destruction of the refuse rea more than it appears to do. Though the clinkers ash from the destructor are utilised or sold and b and, still it is felt that the present method of dealing refuse is too expensive and researches are being find some more economical mode of proceeding. In while, and so far as the public is concerned, the t remains that domestic refuse is collected every promptly destroyed by fire This is the safest of the problem and the inhabitants of the prin- ow know nothing of the dustbin grievance which the source of so much trouble in many parts of itain.

ld be difficult to quit the subject of Monaco without word about the Casino. Great as has been the pro- omplished in regard to sanitary matters throughout lpality, the old-standing grievance of the inefficient on of the Casino still survives. This want of ventila- ore particularly felt in the gambling rooms. Much as been spent to enlarge and to beautify the Casino. have cost much less to provide efficient ventilation. improvement achieved of late years in this respect the substitution of electric for gas light, and this, is quite insufficient. Medical practitioners are still to warn their patients against Monte Carlo, not for fear of the gambling—facilities for gambling rywhere—but because of the overheated atmosphere mbling rooms at the Casino. It is difficult to under- y this matter has been neglected so long while enterprise has been shown in other respects. Still, pite of these criticisms, Monaco and Monte Carlo he most popular resorts of the Riviera. Natural climate, art, and sanitary science all combine to be principality of Monaco the most attractive spot whole of the Riviera. The sanitation is not yet ut it is better than that which exists in other orts.

fferent, for instance, is the situation of Cannes. stem of drainage was planned and its execution d many years ago, but it has never been com- The sea front is still contaminated by the outfalls erous sewers. Houses continue to drain into cess- here has been much talk but nothing effective has . An excellent water-supply runs daily risk of being ated because it is brought to the town in an open that passes through populated and highly cultivated Typhoid fever made its presence felt once more he last season. Still nothing is done. In one however, which especially concerns the visitors, fortunately situated: there is a British cottage with English trained nurses and 14 beds for the of medical and surgical cases. Then, in the grounds surrounding this villa or cottage there is n with seven beds for the isolation and treat- infectious cases. Here no distinctions are made ard to creed. Then there is also a French t charity called the Asile Évangélique, where, only Protestants are admitted. This institution an annexe for the bath treatment of typhoid fever. ottage hospital called Sunny Bank the patients are from 5s. to 10s. a day, but there are four endowed occupants of which are treated gratuitously. There- ish or American visitors are not dependent on the hospital if suffering from some disease that cannot d in the lodging, the villa, or the hotel where they residing. In this respect the foreign colony at as set a good example which, as has been seen, the d American winter residents at Nice are striving to

res considerable hopes of improvement are enter- cause the Government has decided to convert this, and oldest winter resort of the French Riviera, rrison town. Barracks are now in course of con- and it is thought that they will increase the revenues. According to the present disposition nicipality one of the first things that will be done e construction of an isolation hospital for infec- es. But, even as matters now stand, Mr. Biden e that he never encounters any difficulty with his atients. If a case of scarlet fever, or any other fever, occurs, he at once interviews the hotel and insists on an immediate and definite decision t is to be done. He points out that the patient must at once removed or allowed to remain for the whole of the illness. If the patient is to remain then he indicates what measures of isolation must be strictly enforced. If not, the patient is removed to one of the private rooms available at the general hospital. An English trained nurse is called in to attend to the patient and Mr. Biden continues his visits at the hospital instead of at the hotel Of course, the patient pays for his maintenance at the hospital and obtains the diet and medicaments which his private medical adviser thinks fit to prescribe. Thus, at Hyères, the friendly coöperation between the municipal authorities who administer and own the public hospital and the British medical practitioners is an accomplished fact and seems to work satisfactorily As yet no progress has been made with regard to a general scheme of drainage for the town of Hyères and it is to be feared that some time must elapse before the means are found to carry out public works of this description. The main difficulty rests in the divided interests of the inhabitants. There are two parties at Hyères. One represents the interests of the hotels, the lodging-house keepers, and the tradesmen, the other party represents the market gardeners who supply the northern markets with early fruits and vegetables. The members of the latter party do not care in the least about sanitary improvements and other public works calculated to increase the number of visitors. In these circumstances it will be very difficult to get a vote in favour of an expensive drainage scheme. But now that the presence of a large number of soldiers will cause the Government to take an interest in the sanitary condition of Hyères it is thought that the municipality will be compelled to devote more attention to such matters. In any case, this is the season when all these questions must be pressed forward. When the hotels are empty, when the wealthy visitors are away, and all these winter resorts seem to be asleep in the blaze of the summer sun, the time has come to dig up the streets, to lay new sewers, to empty and to close up the old cesspools, and to carry out all such public works.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Maghull Epileptic Institution: Opening of the "Harrison" Home.

A NEW home in connexion with the Maghull Epileptic Institution, called the "Harrison" home, for the benefit of first-class patients, was formally opened on June 14th. The cost of erecting and furnishing the spacious building was defrayed by Mr. Frederic James Harrison, the president of the institution. The new building stands in the park of the old Manor House estate at Maghull and is beautifully surrounded, as, indeed, the whole institution is In 1889 the Manor House was opened as a home for people suffering from epilepsy and in the first year 22 patients were treated Subscriptions then amounted to £57 and the committee received in donations the sum of £2332. From that time onwards the usefulness of the Insti tution has been recognised In 1895 the "*Henry Cox*" home was added and the number of inmates had increased to 117 Two years later a building known as the "Iron Hall" was opened, this erection being used for indoor recreation and other purposes. Last year "Chapel House" was added, the patients then numbering 136 (70 males and 66 females) The institution is now divided into three classes—first, second, and third. The patients are afforded all kinds of amusements and congenial occupation, chiefly outdoor. The new home is well provided with comforts On the ground floor there is a spacious dining room, also a drawing room and a billiard room, all facing the park. Dr. William Alexander. on receiving the new home on behalf of the committee, said the gift of Mr Harrison was a princely one. He thought that institutions like theirs were invaluable. Epileptic patients never had a chance with private treatment. Even if attendants were provided for them their lives were not happy ones, either the attendant obtained the upper hand or else the patient did so, and that was not as it should be so In the new home patients would be amongst their own class; and when they were removed from their own homes and surroundings he had always noticed a remarkable change for the better in their condition. The treatment carried out at Maghull was quite different from that adopted in private practice The new home was intended for the better classes, and there they would be sure of obtaining proper treatment

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[1] See THE LANCET, May 17th, 1902, p 1428.

Dr. J. M. Rhodes (Manchester) in seconding a vote of thanks to the medical officers of the institution, said that the institution was of immense value not only to Liverpool, but to the world at large. Last year he paid a professional visit to the United States of America in connexion with epilepsy and had discovered that the Maghull Epileptic Institution was well known there through the name of Dr Alexander. He thought that the public of this country did not sufficiently acquaint itself with, and interest itself in, the terrible ailment of epilepsy. The Registrar-General's report last year gave the number of deaths from epilepsy as 2597. He thought that the State ought to take up the question of epilepsy by providing suitable homes for those so afflicted and not leave it so much to private charity and philanthropy. In America special homes were provided for epileptic patients, instead of their being allowed to live in the workhouses, and in this country something similar might be attempted.

June 20th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

By-laws Prohibiting Spitting.

THE county councils of Glamorganshire and Brecknockshire have each taken advantage of the provisions of the Local Government Act, 1888, which enable county councils to make by-laws for the "good rule and government of the county" and have drafted a by-law prohibiting spitting in public carriages, churches, &c.[1] Before the by-law can be enforced it must receive the sanction of a Secretary of State, and the Home Secretary has written to the Glamorganshire County Council to the effect that the by-law cannot be made to apply to churches, chapels, schools, and shops, but he will allow it to come into force if its operation is confined to public carriages, public waiting-rooms, public halls, and places of public entertainment. The by-law prohibits spitting on the "walls or sides," as well as on the "floor," of these places.

The Alfred Hughes Anatomical Museum.

When the late Professor Alfred Hughes left Cardiff in 1897 to join the staff of King's College he gave £350 to the Cardiff University College for the purpose of providing an anatomical museum and when it was decided, shortly after his death in 1900, to establish some memorial of his work in Cardiff the most proper course appeared to be to endow permanently the museum which he had created and to which he had contributed most valuable diagrams and specimens. This course was adopted and the endowment fund now amounts to £1666. The trustees of the fund will each year present a medal to the most successful student of the college in the department of anatomy. The medal has been designed by the Welsh sculptor, Mr. W. Gascombe John, A.R.A., and was presented on June 20th to Mr. R. K. Shepherd, B.Sc. The museum was formally opened on this date by the President of the Cardiff College, Mr. Alfred Thomas, M.P., who also presented to Mrs. Alfred Hughes the first copy of the medal.

South Wales and Monmouthshire Branch of the British Medical Association.

The thirty-second annual meeting of this branch was held at University College, Cardiff, on June 20th, under the presidency of Dr. A. P. Fiddian of Cardiff, when Dr. R. G. Price of Carmarthen was elected President for the ensuing year. There are now 265 members attached to the branch and the balance-sheet discloses a balance in the treasurer's hands of over £100, notwithstanding the fact that £38 15*s.* were sent last year to the British Medical Benevolent Fund—a charity which has always received substantial support from this branch. For the past two years one meeting of the six held yearly has been devoted to medico-ethical matters.

The late William Howell Lloyd, M.R.C.S. Eng., L.S.A., Deputy-Coroner for the Eastern Division of Carmarthenshire.

Mr. William Howell Lloyd of Llandilo, Carmarthenshire, died suddenly from heart disease on June 13th, at Swansea, whilst on a visit there. The deceased received his medical education at Guy's Hospital and qualified M.R.C.S. Eng. and L.S.A. in 1869. He shortly afterwards settled where he soon acquired an extensive practice. was medical officer of health of the Llandil urban districts and surgeon to the Great Western Company. He was also deputy-coroner for th division of Carmarthenshire and surgeon-captai 1st Volunteer Battalion Welsh Regiment. Mr. L extremely popular in the district and much sympa for Mrs. Lloyd and the six children. At the fune took place on June 18th, a very large number of were present.

June 23rd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The British Medical Association and the Au Natives Association in New South Wales.

THE differences between the New South Wales the British Medical Association and the Australia Association (to which reference has previously b are increasing. It is now a case of *guerre à l'outr* April 3rd a largely attended public meeting wa protest against the action of the branch. The taken by the President of the Australian Natives A who in the course of his address stated that the British Medical Association was taken with the "smashing all the friendly societies in the State said, "the friendly societies were going to stand sh shoulder and had the public sympathy with them. had not to fight the whole medical profession b small section of it." The general secretary of the Natives Association then made a statement of The Australian Natives Association was regist friendly society on Dec. 3rd, 1900, and in 1901, the secretary of the New South Wal of the British Medical Association inquired if tralian Natives Association would impose a w of £200 per annum on its members so far as medic were concerned. He was told that the associati not do so. A conference was then held between r tives of the two associations and finally a comm was received that the British Medical Associati considered the Australian Natives Association " prejudicial to the interests of the profession" Fol this the medical men who had anything to do Australian Natives Association were ostracised. A of further negotiations the Australian Natives A intimated that a reasonable wage limit would be with a graduated scale of payments by the patient above the sum allowed annually by the associat British Medical Association declined the propos Australian Natives Association withdrew the offe not intend to renew it. If the British Medical A persisted in its present tactics the Friendly Societie tion would use the means at its disposal for the ment of medical institutes throughout the St following motions were carried:—

> That this meeting is of opinion that the action of the Wales branch of the British Medical Association in boy A.N.A. is unjustifiable, unreasonable, inconsistent, and therefore unworthy of public support, and that the acti that body is with the avowed intention of striking a death existence of all friendly and benefit societies.
>
> That in the opinion of this meeting it is inimical to the i of friendly societies to recognise the action of doctors belon B.M.A. in fixing a wage limit, which, if countenanced, wi disadvantage of friendly societies generally.

In proposing the last motion the President of th Societies Association stated that the friendl membership in New South Wales was 80,000 and £70,000 were paid annually to the medical offic societies could not afford to lose those members w receipt of annual incomes over £200. They were t intellect and knowledge in the societies and cont membership not for personal benefit to themsel the assistance they could give. He proposed as a r the present difficulty the formation of a medical their own with a capital of £100,000. The secret New South Wales Branch of the British Medical A has written to the press denying that the Associat to "smash up the friendly societies" and pointin the Australian Natives Association is on a totall bacillus which in its cultural characteristics corresponded generally with bacillus mesentericus vulgatus. From the spleen a growth of a bacillus corresponding with the last was obtained and diplococcus pneumoniæ was not isolated from this organ. In sections made through the substance of one of the "mulberry spots" and stained for bacteriological examination no bacteria of any sort could be found. In sections made through the coats of the stomach and the overlying false membrane two kinds of bacteria could be recognised. There were considerable numbers of bacilli which were probably of the same species as that isolated in culture, and also a number of cocci arranged in isolated pairs and in small colonies which stained by Gram's method showed a distinct tendency to diplococcal arrangement, were in many cases surrounded by a distinct capsule, and in all respects corresponded with diplococcus pneumoniæ as it is seen in animal tissues. These bacteria were seen principally in the exudation membrane and in the immediately subjacent necrotic tissue; only a few could be found in the submucous connective tissue and then only just below the muscularis mucosæ.

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[1] THE LANCET, March 22nd (p. 851) and May 10th (p. 1361), 1902.

The strain of diplococcus pneumoniæ isolated was of comparatively low virulence for rabbits; two animals received by intra-peritoneal injection medium doses of a 48 hours' old culture in broth and recovered after a temporary illness.

General histological examination.—In sections through the wall of the stomach it was seen that the changes chiefly affected the glandular structure of the mucous membrane. On the surface there was a fibrinous layer of considerable thickness beneath which the glandular layer of the mucous membrane had undergone an extensive necrosis, in some places down to the muscularis mucosæ, so that frequently no recognisable trace of tubular structure remained. In other places the deeper portions of the glands retained their general structure, but the lining epithelium was cloudy or disorganised. Small masses of altered blood pigment were scattered throughout the mucous membrane and quantities of apparently unaltered red blood cells could be seen lying both within the lumen of the glands and free in the interglandular connective tissue. Below the muscularis mucosæ the submucous connective tissue layer appeared to be but slightly thickened; the spaces of the connective tissue were somewhat enlarged, as if after distension by a serous effusion; and there were largish masses of homogeneous yellowish brown pigment scattered about, especially in the neighbourhood of blood-vessels. The muscular coat showed very little change; here and there were masses of altered blood pigment resembling that seen in the submucous layer. One notable point in the histological examination was the very slight evidence of any inflammatory reaction. In the submucous coat there was no indication at all of such reaction, and in the muscular coat there were only a few collections of leucocytes at wide intervals.

A consideration of the pathology of the case suggests that the primary lesion was perhaps a pneumococcic infection of the right tonsil, though this was not proved. The infection of the stomach then resulted from the swallowing of the parasite, and the general infection followed the invasion of the stomach. The healthy stomach, with its strongly acid secretion, would in all probability be an extremely unfavourable site for the growth of diplococcus pneumoniæ, and it is not unlikely that a certain amount of gastritis resulting from the swallowing of fœtid pus from the ulcer on the tonsil was a necessary preliminary to the pneumococcic invasion of the gastric mucous membrane.

The absence during life of any vomiting is noteworthy, the more especially as there was no indication after death of any distension of the viscus which would have suggested paralysis of the muscular coat.

The pathological changes in the stomach in this case form a strong contrast to those in the case of phlegmonous gastritis due to streptococcic infection described by Dr. W. Cayley[3] in which whilst the surface epithelium and glandular layer of the mucous membrane were hardly at all affected there was great thickening of the submucous connective tissue coat, the result of a purulent infiltration. I have said that I have not been able to find any previous record of a case of this sort, but Dieulafoy in a lecture on *gastrite ulcéreuse pneumococcique*[4] has described a condition which is probably a later stage of a similar lesion. Dieulafoy's case was that of a man, aged 35 years, who was admitted into hospital with a history of pain in the side for seven days past. On admission a diagnosis of pneumonia on the right side was arrived at, but there were also very marked abdominal symptoms in the way of pain, diarrhœa, and vomiting. Two days after admission there was a severe attack of hæmatemesis, followed by the appearance of blood in the stools, and again hæmatemesis; the patient died on the fourth day after admission. At the examination after death evidence of a general pneumococcic infection was found, pneumonia on the right side, pericarditis, and peritonitis; the specific coccus was isolated from all these lesions. On opening the stomach it was seen that the mucous membrane presented a number of small erosions, either round or oval in shape, and with a diameter of from two to three millimetres. The erosions were especially numerous near the pylorus, and as many as 10 or 12 could be counted in a square centimetre of the mucous surface; many of them had a small blood-clot at their base. Dieulafoy describes the lesions in his case as consisting of an erosion of the whole thickness of the glandular layer of the mucous membrane down to the muscularis mucosæ, due to a rapid and localised necrosis of the areas affected. There was little or no inflammatory reaction in the tissues in the neighbourhood of the erosions. In sections a large number of diplococci could be seen both in the interglandular connective tissue and within the capillaries, the distribution of the cocci being general and not limited to the immediate neighbourhood of the erosions.

It is extremely probable, then, that Dieulafoy's case simply represents a later stage of a lesion such as was found in the case which I have described; in the latter case, if the patient had lived long enough for the exudation membrane and the necrosed portions of the mucous membrane to be thrown off it is probable that a condition of ulceration similar to that which Dieulafoy describes, but perhaps on a rather larger scale, would have resulted.

Dieulafoy also refers to another condition of the stomach occurring in the course of a pneumococcic infection. The patient, a man, aged 45 years, was admitted into hospital with signs of pneumonia on the left side; subsequently there were indications of peritonitis and an acute arthritis of the left wrist. At the examination after death the diagnosis of pneumonia was verified; there were three interlobular abscesses in connexion with the left lung, purulent meningitis, peritonitis, suppurative arthritis of the left radio-carpal joint, and vegetations on one of the aortic valves. The presence of diplococcus pneumoniæ was demonstrated in these lesions. On opening the stomach a number of hæmorrhagic patches were seen in the mucous membrane and in the submucous connective tissue. In the mucous membrane these hæmorrhagic patches were situated just below the surface and there was no sign of inflammatory reaction around them. Bacteriological examination of the wall of the stomach gave no results.

This second case referred to by Dieulafoy probably represents a different condition of things to that prevailing in his first case and in my own. In the two latter cases there is the result of a local infection of the mucous membrane from without by swallowing; in the other the change is probably merely one of the general effects of a pneumococcic blood infection in which, whether occurring naturally in man or induced artificially in experimental animals, there are to be found sometimes petechial hæmorrhages into the skin and the mucous and serous membranes.

Apparently closely allied in its pathology to the ulceration of the stomach described by Dieulafoy is the case of ulceration of the colon recorded by Rathery and Chauffard.[5] The patient was a man, aged 51 years, who was admitted into hospital with pneumonia at the right base. After admission there were three attacks of profuse hæmorrhage from the bowel and the patient died on the thirteenth day of his illness. At the examination after death a double pneumonia was found. The mucous membrane of the ascending colon was coated with blood and there were blood-clots in the transverse and descending portions. Scattered over the mucous membrane were punctiform hæmorrhages and at the junction of the transverse and descending portions there were five or six superficial ulcers, each with a diameter of from one to two millimetres. There were similar ulcers at the from the other societies; it aims at including all of Australian birth, irrespectively of financial posi- d all such could claim medical benefits at the same other friendly societies and that according to the f the Government statist the proportion of Australian the whole population is as four to one. It would dal for the medical profession to contract to attend h at the rates current with friendly societies which riginally instituted by wage-earners for wage-earners re unable to pay ordinary medical fees. On 23rd, the Australian Natives Association held its conference in Sydney and the opportunity was to discuss the action of the medical profession. nual report gave a statement of what had occurred was resolved that the matter should be left in the hands board of directors to deal with, and the past action of rd in its dealings with the British Medical Association nfirmed. In discussing these resolutions the members emphatic in their condemnation of the medical pro- and in their determination to fight the matter out break up what they termed an "unholy conspiracy" It was further stated was very close to an "infraction law." It was also suggested that medical men should ght out from the United Kingdom to act as medical

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[3] A Case of Phlegmonous Gastritis, due to Streptococcic Infection, Transactions of the Pathological Society of London, vol. liii., 1902.

[4] Gastrite Ulcéreuse Pneumococcique, grandes Hématémèses, Clinique Médicale de l'Hôtel Dieu de Paris, iii., p. 219, 1898–1899.

[5] Hémorragie Intestinale mortelle dans un cas de Pneumonie, Bulletin de la Société Médicale des Hôpitaux, 3me série, 1901, p. 976.

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Medical News.

IETY OF APOTHECARIES OF LONDON.—At ations held in June the following candidates passed subjects indicated:—

ry.—E. W. C. Bradfield (Section I.), St. Mary's Hospital; H. B. ko (Section I.), St. George's Hospital; G. W. C. Hollist tions I. and II.), Guy's Hospital; G. J. Humphreys (Sections I. II.), St. Bartholomew's Hospital; E. Osborne (Section II.), mingham; F. H. Rotherham (Sections I. and II.) London spital; E. M. Stacy (Sections I. and II.), Royal Free Hospital; J. Taylor (Sections I. and II.), Bristol; W. P. Taylor, Sheffield Bristol; J. Vaillant (Sections I. and II.), Paris; and F. W. B ng (Sections I. and II.), Leeds and Liverpool.

cine.—W. Ball (Section I.), Westminster Hospital; T. G. Long- f (Section I.), Oxford and St. Thomas's Hospital; A. Mooney ction I.), Royal Free Hospital; C. C. Morgan (Section I.), St tholomew's Hospital; E. C. Pratt, Birmingham; and E. M. cy (Sections I. and II.), Royal Free Hospital.

sic Medicine.—W. Ball, Westminster Hospital; J. C. B. Dunn, Bartholomew's Hospital; T. G. Longstaff, Oxford and Thomas's Hospital; S. J. Meredith, Birmingham and London spital; A. Mooney, Royal Free Hospital; E. C. Pratt, Birming- m; and E. M. Stacy, Royal Free Hospital.

ery.—L. Courtauld, Cambridge and Middlesex Hospital; E. Darlington, Birmingham; H. B. Drake, St. George's Hos- al; E. Gray, London Hospital; B. Hirsch, Berlin; T. G ngstaff, Oxford and St. Thomas's Hospital; E. M. Stacy, Royal e Hospital; H. S. Tumber, Sheffield; and P. L. Vawdrey, Bartholomew's Hospital.

diploma of the society was granted to the following candidates, g them to practise medicine, surgery, and midwifery:—H. B. gton, E. Osborne, E. C. Pratt, F. H. Rotherham, E. M. Stacy, aylor, and W. P. Taylor.

IVERSITY OF CAMBRIDGE.—At examinations dical and surgical degrees, Easter term, the following lates were successful:—

FIRST EXAMINATION.

I. Chemistry and Physics.—P. H. Bahr, Trinity; C. T. V. King's; H. S. Berry, Clare; T. R. H. Blake, Pembroke, W. A. Bull, B.A., Caius; L. S. T. Burrell, Trinity; H. J. B. , Caius; J. R. C. Canney, Christ's; W. J. Carr, Trinity; S P. , Caius; F. Clayton, Trinity, H. N. Coleman, Christ's; F. S. Collier, Pembroke; R. M. Collinge, Caius; D. Cotterill, rist's; A. J. W. Cunningham, Trinity; L. T. Dean, Sidney sex; H. Deardon, Caius; G. H. Dunn, Pembroke; W. H. F. les, Emmanuel; A. Fergusson, St. John's; C. L. Forde, Clare; D. Fox, Trinity; H. G. Frean, St. John's; D. J. Freyer, Trinity; S. Gibson, Emmanuel; H. D. Gillies, Caius; W. Harmens, A. Hett, and G. A. P. Heyworth, Trinity; C. J. R. Hoffmeister, ius; F. H. Holl, Trinity; H. E. Humphrys, C. H. T. Ilott, B.A., H. R. Ingleby, Caius; W. F. Jones, King's; H. N. Little, ius; R. S. Lound, H. Selwyn; M. F. J. McDonnell, St. John's; Mackenzie, Emmanuel; A. G. M. Mainwaring, Trinity, D C. ster, Caius; A. H. Moore, Trinity; A. Morgan, Corpus Christi; Nicholls, non-collegiate; B. K. Nutman, Jesus; W. G. rkinson, Emmanuel, B. A. I. Peters, Jesus; F. S. Poole, Sidney ssex; R. C. Priest, Caius; C. E. Redman, Pembroke; L. W. arp, G. L. Siddle, and C. R. Smale, Caius; F. H. Smith, rist's; E. R. Stone, Emmanuel; C. H. S. Taylor, C. Tylor, and St A. Vivian, Caius; R. H. Walker, St. John's; H. W. S. lkee and H. K. Waller, Trinity; J. F. Windsor, H. Selwyn; . Wood, Pembroke; S. Wood, Christ's.

II. Elementary Biology.—P. H. Bahr, Trinity; C. T. V. Benson d H. Bowring, King's; J. R. C. Canney, Christ's; R. S. Carey, rpus Christi; W. J. Carr, Trinity; S. P. Chan, Caius; R. C. ance, Trinity; H. Chapple, St. John's; L. Colledge, Caius, G. Collett, Trinity; H. F. S. Collier, Pembroke; R. M. Collinge, Caius, H. M. McC. Coombs, Emmanuel; A. J. W. Cunningham, Trinity; L. T. Dean, Sidney Sussex; H. Deardon, Caius; M. Donaldson, Trinity; W. H. F. Eales, Emmanuel; F. S. Eschwege and A. W. Ewing, Christ's; A. Fergusson, St. John's; N. M. Fergusson, Magdalene; L. A. Fothergill, Emmanuel; H. G. Frean, St. John's; D. J. Freyer, Trinity; H. D. Gillies, Caius; C. D. Hawthorne, Clare; T. R. Hodgson, Christ's; G. Hoffmann, Caius; G. N. Humphreys, Catharine; H. R. Ingleby, Caius; G. James, St. John's; W. M. Jeffreys, B.A., Trinity; N. W. Jenkin, Christ's; W. F. Jones, King's; A. R. Jordon, Clare; J. L. Joyce, King's; H. F. Lester and R. L. Ley, Pembroke; H. N. Little, Caius; R. S. Lound, H. Selwyn, M. F. J. McDonnell, St. John's; C. Mackenzie, Emmanuel; R. G. Markham, Caius; L. Meakin, Trinity; L. Nicholls, non-collegiate; W. Oats, Caius; R. Parker, Christ's; W. G. Parkinson, Emmanuel; B. A. I. Peters, Jesus; F. S. Poole, Sidney Sussex; A. V. Poyser, Magdalene; R. C. Priest and K. D. Pringle, Caius; J. H. Roberts, B.A., Emmanuel; C. F. Searle, Pembroke; S E. T. Shann, L. W. Sharp, G. L. Siddle, and A. L. H. Smith, Caius; F. H. Smith, Christ's; H. C. Snell, Caius; R. M. Soames, Trinity; P. A. Stockdale, Magdalene; E. R. Stone, Emmanuel; A. C. Tait, Sidney Sussex, C. H. S. Taylor and O. Teichmann, B.A., Caius; G K Thorpe, Clare; C. St A. Vivian, Caius; G. Walker, Trinity; V. T. P. Webster, Emmanuel; J. N. Wheeler and T. M. O. Williams, Christ's, W. H. Winter, Caius; and S Wood, Christ's.

SECOND EXAMINATION.

Part II. Human Anatomy and Physiology.—E. D. Anderson, B.A., Pembroke; E. E. Atkin, Caius; A. S. B. Bankart, B.A., Trinity; S. Barradell-Smith, B.A., St. John's; E. Bell, B.A., Clare; H. A. Browning, B.A., St. John's; A. D. Brunwin, B.A., Trinity; A. S. Burgess, B.A., Caius, G. H. U Corbett, B.A., King's; R. M. Courtauld, B.A., Pembroke; G. L. Cox, B.A., and H. F. Curl, B.A., Christ's, L. G. Davies, B.A., Trinity; H. S Dickson, B.A., and A. H. Fanlon, B.A., Christ's; G. S. Haynes, King's; T. W. S. Hills, B.A., Downing; G. Holroyd, B.A., Christ's; W. G. Howarth, B.A., King's; C. L. Isaac, B.A., St. John's, C. S. Lee, and A. S. Little-johns, B.A., Caius; M. McPherson, B.A., and W. P. Morgan, M.A., Clare; W. H. Newton, B.A., Emmanuel; W. M. Orton, B.A., Trinity; H. B. Owen, and P. R. Parkinson, B.A., Caius; F. Shingleton Smith, B.A., King's; K. S. Singh, B.A., Pembroke; E. C. Sparrow, B.A., Trinity; C. M. Stevenson, B.A., St. John's; R. S. Taylor, B.A., Down; F. J. Thornton, Caius; F. C. Trapnell, B A, and A. Wilkin, B.A., King's.

UNIVERSITY OF DUBLIN: TRINITY COLLEGE.—At examinations held at the School of Physic, Trinity term, the following candidates were successful:—

Final Examination in Medicine.—John S. Joly, John A. Valentine, Robert P. Beatty, Horace Townshend, M.D., Ernest B. Booth, Walter R. H. Smith, Charles M. Benson, James E. Johnston, Richard F. Steel, Wallace Benson, Harry F. Johns, John S. Wilson, George R. Harman, William A. G. Cluffe, and George H. Keene.

M.B. Degree.—William H. Pelle M.R.C.S Eng., William Taylor F R.C S.I., and Herbert L. Thurnell, M R C.S. Eng.

AT the recent annual meeting of the American Laryngological Association in Boston, on May 27th, Dr. StClair Thomson was elected a Corresponding Fellow.

THE ROENTGEN SOCIETY.—The annual general meeting of this society will be held on July 3rd, 1902, at 20, Hanover-square, London, W., at 8.30 P.M.

THE Worshipful Company of Fishmongers has given a grant of £21 to the funds of the After Care Association for Poor Persons discharged Recovered from Asylums for the Insane. This is a piece of well-placed charity. We wish we could chronicle similar occurrences often.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

Cremation Bill.

THIS Bill now awaits the Royal assent, having passed through all its stages in both Houses of Parliament. It enables burial authorities to establish crematoria and regulates their construction and management.

Midwives Bill.

The second reading debate on the Midwives Bill in the House of Lords brought out very clearly that several members, and notably the Lord Chancellor, entertain serious objection to the measure. It may therefore be taken that when the Committee stage is reached efforts will be made to amend the Bill. At present the Committee stage stands in the orders of the House for Friday, July 4th, though, of course, it is possible that it may not be taken on that day. Seeing that the first subsection of the first clause was substantially altered during the report stage in the House of Commons it will be of service to state its terms. They are: "From and after the first day of January, 1910, no woman shall habitually and for gain attend women in childbirth, or shall after the first day of January, 1905, be entitled to take or use the name or title of midwife (either alone or in combination with any other word or words) or any name, title, addition, or description implying that she is certified under this Act or is a person specially qualified to practise midwifery or is recognised by law as a midwife unless she be certified under this Act."

HOUSE OF COMMONS.

MONDAY, JUNE 23RD.

Kennedy Town Plague Hospital.

Mr. WEIR asked the Secretary of State for the Colonies whether he was aware that there was only one physician in charge of the Kennedy Town Plague Hospital, Hong-Kong; and, in view of the requirements of the patients, whether he would consider the expediency of calling for a report on the subject with a view to a larger and better trained staff being provided for this hospital.—Mr. CHAMBERLAIN replied: The staff of the Kennedy Town Hospital for infectious disease, which is, I am told, within easy reach of the civil hospital, includes a resident medical officer, two trained European wardmasters, and two trained sisters. According to the latest returns the total number of beds is 28, and the daily average of cases in hospital less than five. Under these circumstances I see no necessity to interfere with the arrangements made by the Colonial Government with the advice of the Principal Civil Medical Officer.

The Belfast Small-pox Hospital.

Mr. T. W. RUSSELL asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that it was proposed to erect a small-pox hospital for Belfast within the asylum grounds at Purdysburn, county Down; that there was an industrial and agricultural population in the immediate neighbourhood, and that objection had been taken to the erection of the hospital; and if he could state what the medical officers of the Irish Local Government Board had decided to be the striking distance of small-pox contagion, and if the asylum itself and the homes of the people were outside the distance.—Mr. WYNDHAM replied: The site of the temporary small-pox hospital is on lands acquired by the Belfast corporation for asylum purposes, but which were subsequently allocated to hospital purposes by the City of Belfast (Hospitals) Act of 1893. The site is 300 yards from the nearest dwelling-house. Some objections have been received by the corporation to the erection of the hospital. Neither the Local Government Board nor their inspectors have prescribed any fixed limit as the striking distance of small-pox contagion.—Mr. RUSSELL asked whether the right hon. gentleman was aware that the striking distance of small-pox contagion was clearly laid down by the Local Government Board in England and whether two national schools and a large number of cottages were within the striking distance as laid down by the Local Government Board in England.—Mr. WYNDHAM said: I am not competent to speak with regard to the English Local Government Board. As to the other question the only alternative would be to keep the patients in the workhouse hospital.—Mr. RUSSELL said that as considerable alarm existed in the neighbourhood perhaps the right hon. gentleman would inquire as to the rule and its working in England.—Mr. WYNDHAM undertook to make inquiry.

MIDWIVES BILL.

DEBATE IN THE HOUSE OF LORDS: FULL REPORT.

ON Friday, June 20th, the Midwives Bill was read a second time in the House of Lords.

The Duke of NORTHUMBERLAND, who had charge of the Bill, moved the second reading. He said that he would not make a long speech because he thought that there was a general consensus of opinion in favour of something being done to remove the evils of the existing state of things in this connexion. The Bill had been before their lordships upon a former occasion and then had a favourable reception at their hands. There were in this country between 10,000 and 15,000 women practising as midwives and they were said to attend annually 450,000 cases of labour to which no medical man was called. Yet there was absolutely no guarantee that these women were efficient for the work that they undertook. It was possible that any old drunken hag with no idea of cleanliness, no acquaintance with proper methods of conducting this work, might advertise herself as a midwife and carry on her practice without let or hindrance. If their lordships were to examine the reports of coroners' courts they would find a melancholy but very instructive lesson as to the necessity for a Bill of this kind. Of the 250 coroners in England and Wales more than 200 had signified their approval of some such measure. A curious fact had come out in connexion with the Bill—namely, the prevalence of puerperal fever in certain districts. This was a preventable disease and in the hospitals of London it was now practically unknown, yet in certain districts it was on the increase rather than the decrease. Not only were deaths caused by the present state of things, but a very large amount of suffering, sickness, and disease was inflicted upon mothers and children. In blind asylums it was calculated that 40 per cent. of the cases of blindness were due to want of care at birth. All these things justified an attempt at a remedy and he could not wonder that the question had been attacked over and over again in both Houses of Parliament. No doubt in matters of detail the question was fraught with many difficulties and in asking their lordships to pass the second reading he did not ask them to assent to every sentence in the Bill. He frankly admitted that it was a Bill which required very careful consideration in detail, and he trusted that their lordships would give it that consideration when it reached the committee stage. He asked their lordships now to assent broadly to the principle that in order to secure the proper degree of knowledge which was required by midwives, and also to secure that the character of midwives was good, some kind of certification ought to be carried out. They were face to face with a difficulty which had caused much heartburning in former years but which, he thought, was fairly met by this Bill and that was to secure the position of existing midwives, those who were really fit for their duties and whose character was beyond reproach, of whom, of course, there were a very large number. These midwives were safeguarded by the Bill and he trusted that they would suffer no inconvenience in their practice. When the Bill was introduced before great exception was taken to the fact that there was no sufficient local control. Now that had been amended by giving the county council a large power of supervision within its area. He had no reason to suppose that opposition to the Bill at this stage would be offered and therefore he would conclude by asking their lordships to pass the second reading.

Lord WELBY said that while he had no wish to impede the progress of the Bill he desired to draw attention to the fact that very considerable powers were given to an independent body described as the Central Midwives Board. This board would be entitled to draw [illegible] paid by candidates for certification for its expenses, but if [illegible] of expenses remained it would fall as a charge upon the [illegible] aware that the expenditure of the board was to be approv[illegible] Privy Council, but he would call their lordships' attention [illegible] that the approval came after the expenditure had been [illegible] therefore that the control must be very imperfect. It was [illegible] usual thing to allow one body to spend money and then [illegible] bill to another body without any check over the expendi[illegible] thought, therefore, that provision should be made for contro[illegible] stantial kind, and he recommended the subject to the consid[illegible] the promoters of the Bill.

The LORD CHANCELLOR said that he had some more [illegible] jections to the Bill. He did not undertake the responsibility [illegible] the rejection of the measure because there might be cases [illegible] by the Bill which required regulation. He could not help think[illegible] the persons who prepared the Bill had in mind large centres [illegible] tion possessed of ample means of obtaining medical assistance [illegible] entirely omitted to consider the position of country distric[illegible] it was difficult to get even trained nurses. It was a sort of [illegible] with which it was all very well for people in London and [illegible] of population to deal so lightly. The circumstances of [illegible] districts were, however, quite different. He had received [illegible] dence from magistrates in no less than five counties [illegible] Worcestershire, Warwickshire, Sussex, and Surrey, all telling [illegible] story. He was told that if the Bill in its present form w[illegible] into law it would inflict an inconceivable amount of [illegible] and suffering upon the poor in rural districts. [illegible] also written to him and it appeared to him that she [illegible] a very strong case against the Bill. This lady had herself [illegible] examination and got a certificate, not in order to make a li[illegible] midwife, but merely for the purpose of assisting the poor, and [illegible] her knowledge she protested against the Bill. She said th[illegible] cases out of 1000 a technically untrained woman was quite [illegible] all the assistance necessary and that the woman called [illegible] acted as nurse, washed the baby, and performed dome[illegible] vices, and that to compel a poor man's wife to pay [illegible] for a trained midwife or a doctor was a foolish piece [illegible] lation. There were certain passages in the letter which per[illegible] cated a measure of jealousy of the medical profession, but there [illegible] no doubt that the lady was thoroughly acquainted with the [illegible] One of the magistrates to whom he had referred wrote saying [illegible] its present shape the Bill would inflict great hardship upon poo[illegible] in rural districts where wages were low and there were few [illegible] for providing trained and certified midwives. The habit of poo[illegible] he said, was to employ a woman for 7*s*. 6*d*. or 8*s*. 6*d*. a week [illegible] only attended the mother in her confinement but also looked [illegible] house generally. They were respectable persons, he add[illegible] did work which trained nurses would not do. Their [illegible] would notice that it was proposed to postpone the opera[illegible] the penal provision for eight years. That was [illegible] colourable amendment. The condition of things eight [illegible] hence in the country villages would not be different from [illegible] it was now. The supposition apparently was that the wom[illegible] begin to train themselves between now and eight years he[illegible] amendment was merely a colourable one and, indeed, was n[illegible] ment at all. He could tell their lordships that persons well [illegible] forming a judgment looked upon the Bill in the present [illegible] very serious reflection upon the working population, and why [illegible] thought it right to say so much upon the matter was that [illegible] not going to move the rejection of the Bill he did not want t[illegible] pass without their lordships' attention being called to the [illegible] might arise from its application in its present form so that [illegible] got into committee they might look into the matter with [illegible] care in order to see that no such injury was done to the poorer [illegible] as these correspondents said would be done.

The Bishop of WINCHESTER said that it was appropriate that [illegible] remarks on this subject should come from the episcopal [illegible] because of the close connexion which had historically existed [illegible] the persons referred to in this Bill and the members of the [illegible] bench. He did not know whether their lordships were aware [illegible] fact that for many centuries no woman could practise the [illegible] of midwifery without the direct sanction of the bish[illegible] the diocese. That might sound like a relic of very far [illegible] days, but he might say that within the lifetime of [illegible] of their lordships, bishops sent out inquiries to the cl[illegible] learn whether or no the midwives engaged in practice wer[illegible] licensed. This, however, was a mere curious incident in the [illegible] this matter, a story which was the more remarkable the mor[illegible] looked into it for the wide swing of the pendulum from one [illegible] another. At one time the subject of midwifery was very little [illegible] by the medical profession. He believed that he was right in [illegible] that down to even the early part of last century it was treated [illegible] College of Surgeons in a very much less respectful manner [illegible] other surgical matters. Now, however, the pendulum had swung [illegible] opposite direction. There were some among those who oppos[illegible] who went so far as to speak of the midwife as a person who pr[illegible] ought not to exist at all, who was an absolute anachronism [illegible] promoters of the Bill did not take either of these extreme views. [illegible] recognised, of course, the paramount necessity that in all or[illegible] circumstances there ought to be a ready appeal, at all events [illegible] trained medical man wherever it was possible, but whilst they [illegible] gnised that they also recognised the natural and wholesome i[illegible] which led so many mothers to prefer the aid of one of [illegible] own sex whom they had reason to believe to be fairly [illegible] qualified for the task. It was calculated that 60 per [illegible] of the births in England took place without the [illegible] of a medical man. Whilst they recognised this desire, reas[illegible] natural, and wholesome, they wished to do something which [illegible] secure that the women who performed these functions had [illegible] some degree of competence and were under some sort of super[illegible] In this respect England was not quite abreast of other countr[illegible] France there had been legislation since 1803, in Belgium since [illegible] Austria since 1810, and so on, and we, almost alone among the [illegible] of Europe, had trusted simply to the general judgment and com[illegible] sense without interfering except in cases of extreme wrong. The [illegible] the matter was looked into the more would be apparent [illegible] need for some training for the exercise of this craft [illegible] evidence which came before the commission of which he was a me[illegible] on infant life protection as to the mischief which took place from ance of those who were professedly giving such help as was had impressed itself upon the mind of practically all the of England and no small number of the medical profession. h the doctors were not by any means agreed as to the way in the wrong ought to be set right, he thought he was speaking ly when he said that they were unanimous as to the exist- very great wrongs in things as they stood. It had been evidence that from 25 to 30 per cent. of the cases that had ated in hospitals for women and children were due to mis- ment at the time of childbirth. That was no small matter surely sufficient to call for very determined intervention part of the Legislature. There was the particularly hard case girl-mothers who in their time of dire trouble were compelled aid. What had these girls—and their number was enormous— In the columns of certain newspapers there were advertise- by the dozen offering homes for them. These homes were the supervision of a midwife. These were not illegal or un- ry. Something of the kind there must be, but surely [illegible] needed supervision more than the people who kept [illegible] They could not close these houses but they could [illegible] precautions surely to prevent the worst forms of [illegible] n. He had followed with all the care he could the that fell from the Lord Chancellor. He was not quite that he understood the grounds upon which the writers of the read by his lordship based their objection to the Bill. It almost to him that they had overlooked the words in the clause as to now engaged in the practice of midwifery. The clause dealt omen who habitually and for gain attended women in child- It had nothing to do with the friendly neighbour who came in e her help and the benefit of her experience, but only dealt with man who made it her profession to do something which in some e was ill qualified to do. At present there was no means of g this woman and he believed that no greater help could be given poorer classes than to pass some such Bill as this. The Lord llor had said that the Bill must have been drawn by people who familiar with the rural districts and who only knew the cities e centres of population. Now it happened that the Member in of the Bill in the other House (Mr. Heywood Johnstone) was the ntative of an extremely rural district—namely, the Horsham n of Sussex. The proposal now made to postpone the time when ral provision came into operation did not seem to him quite to the criticism of his lordship. He understood that the object of rangement was to allow women for a time to go on practising. as, first of all, for the sake of the public, because it was impossible all at once to get a supply of qualified , and in the second place they did not wish to press hardly be women now in practice. It was inevitable that there should e little difficulty, but it seemed to him that it had been got over amendment in the way to cause least harm and least friction. ped that the Bill would not only be read a second time but issue from the committee stage in a form not very much nt from the present shape.

Russell said that the success of the measure would depend much on the way that the Central Midwives Board carried out the entrusted to it. For himself he did not see why this legislation cause midwives to raise their charges very much. He was glad that women were to be members of the board, because he was that their services would prove to be of the greatest value. s of opinion that the Bill demanded general support, though it be necessary to amend it in some particulars in committee.

Thring criticised points of detail in the Bill.

Balfour of Burleigh said that they were all matters which be dealt with in committee. Seven years ago he had moved the reading of a Bill on this subject, but when he entered the ry he had refrained from taking any further part in the movement legislation. It had, however, his cordial support and he was o find that there was now so good a prospect of the Bill passed. There was no intention [illegible] ere suddenly with those are qualified to practise as midwiv[illegible] t of the Bill was to that women who acted as midwiv[illegible] sufficient know- and training to know when to ca[illegible] assistance. He was ent that the better a woman was [illegible] eadier would she be gnise danger and call in this assi[illegible] approved the Bill as portant and far reaching measure, [illegible] storm.

Duke of **Northumberland** said that [illegible] strongly sympathised all that had been said about the position of poor people in rural ts. Any Bill which put them in a worse position than they were n in times of trouble would not be a Bill which their lordships pass. But what did the Bill say? It said, first of all, that no n should habitually and for gain attend women in childbirth properly certified. Then it went on to say in Clause 2 that any n who within two years from the date of this Act coming into tion claimed to be certified should be certified if she held certain cates or produced evidence that at the passing of the Act she had for at least one year in *bonâ fide* practice as a midwife and that re a good character. This provision, he thought, satisfactorily be case.

Bill was then read a second time.

OYAL COMMISSION ON ARSENICAL POISONING.

Experiments with Rats.

e Royal Commission on Arsenical Poisoning held a meeting for amination of witnesses on June 13th in the Westminster Palace , Victoria-street. Lord **Kelvin**, chairman of the Commission, ted, and the other members present were Sir William S. Church, William Hart Dyke, M.P., Professor Thorpe, and Dr. A. B. White- , with Dr. G. S. Buchanan of the Local Government Board, tary.

. **Otto Hehner**, representing the Society of Public Analysts, and **Alfred Chapman**, representing the Society of Chemical Industry, evidence as to the work of the committee appointed by these two to find out the best processes for the detection of arse[illegible] and malt and the approximate estimation of minute quantities of that poison. The committee recommended the Marsh-Berzelius test, and both gentlemen submitted reasons for its adoption. Given pure materials for the test they said that it was easy to use even by inexperienced people and that it gave accurate and reliable results with a minimum of tro[illegible]. They both preferred it to the Reinsch test.

Professor S. **Del[illegible]pine** of Owens College, Manchester, then presented to the Commission the results of his experimental investigation upon the action of arsenical beer and other arsenical solutions administered in large quantities to rats. The objects of the investigations were to ascertain—1. Whether the presence of arsenious acid in beer could account for the changes observed in persons who had consumed arsenical beer. 2. Whether it was necessary to assume that a compound more poisonous than arsenious acid was present in arsenical beer. 3. Whether the presence of organic compounds of arsenic such as cacodylates could account better for the effects of arsenical beer than the presence of arsenious acid. 4. Whether the quantities of arsenic found in beer by chemical analysis were sufficient to account for the effects produced by arsenical beer. 5. Whether the presence of alcohol in such amounts as are usually present in beer so favour the pathogenic action of arsenic as to render minute doses of that poison exceptionally noxious. 6. Whether concurrent influences, such as insufficient diet, could account for the different effects of arsenical beer upon different individuals. Rats were specially suitable for the experiments because they took beer and weak watery solutions of alcohol and arsenious acid very readily and could adapt themselves to considerable variations in their diet. They were less affected by arsenic than man and many other mammals. In man doses of arsenious acid varying between 0·1 gramme and two grammes had been known to produce death. A dose of two grammes to a man of moderate weight—i.e., weighing about 63,000 grammes—was equivalent to a dose of 0·003 gramme per 100 grammes body weight. Rouyer had found that arsenious acid or arsenites administered to dogs by the mouth was fatal in doses of 0·006 gramme per 100 grammes body weight (a dose of 0·015 gramme or arseniate of soda was necessary to produce the same result). Such a dose usually produced death in 24 or 48 hours. In rats he had found that a much larger dose was necessary to produce death in four and five days. A single dose of 0·012 per cent. of body weight produced the death of a rat weighing 135 grammes in four days. Two doses each of 0·006 gramme per cent. of body weight administered to another rat weighing 141 grammes produced death in five days from the giving of the first dose. From these results it would appear that the lethal dose of arsenious acid administered by the mouth might be for rats at least twice greater than the lethal dose for dogs and four times greater than the lethal dose for man. These figures were necessarily only approximate, especially with regard to man, but they were none the less useful in forming an opinion upon the value of the results obtained in experiments on rats. Thus, in trying to estimate the probable effects of certain quantities of arsenical beer upon man he had thought it desirable to administer to a certain number of rats solutions containing at least four times more arsenic than he had found in the most contaminated beers examined by him during the outbreak. He had, however, also used doses smaller than those actually taken by many beer-drinkers. Most of the beers he had examined contained less than two grains of arsenic per gallon. In one case he had found over one and half grains of arsenic per gallon. The largest quantity of arsenious acid he gave to rats for ordinary experimental purposes was seven grains per gallon, the fluid being given at the rate of one gallon a day for a man weighing 140 pounds. The quantity of beer taken by sufferers had frequently exceeded one and two gallons daily—i.e., from 7·14 per cent. to 14·22 per cent. of the weight of a man weighing 140 pounds. He had administered the arsenical beer or solutions in quantities equivalent to 8 per cent. or 16 per cent. of the body weight of the experimental animals, the slight excess being allowed as a compensation for accidental unnoticed losses. The experiments were conducted in sets. In each set a certain number of rats were placed under conditions absolutely identical. All the cages were of the same size and shape, placed side by side in the same part of the room, so as to be at the same temperature and receive the same amount of light. All the rats were fed at the same hour in the morning and were weighed just before being fed. The first set of experiments seemed to indicate that—(1) solutions of arsenious acid in water acted in the same way as arsenical beer; (2) that arsenical beer was less injurious than watery solutions of arsenic of the same strength; (3) that when an animal was well fed the presence of a small quantity of arsenic did not affect its health seriously for a time; (4) that doses of arsenic much greater than those found in arsenical beer capable of causing symptoms of chronic arsenical poisoning might be taken for about one month without causing death but that death was liable to occur suddenly at the end of such a period; (5) that after arsenical beer had been taken for a period of over three months the sudden stoppage of that fluid might be attended with disturbance of health causing serious loss of weight. The outcome of the second set of experiments seemed to be that arsenical beer, containing only a trace of arsenic, even in presence of an amount of alcohol above the average, was not very injurious to the health so long as a large amount of food was taken. The presence of a large amount of arsenic was clearly injurious whether alcohol was present or not, but the presence of a large amount of alcohol seemed in this case to precipitate the fatal issue. As in the first set of experiments, he observed that the replacement of the arsenical beer by pure water was not always attended with a beneficial result. The third set of experiments showed that beer containing arsenic derived from arsenical glucose, used as a malt substitute in brewing, was apparently as injurious as finished beer to which pure arsenious acid had been added. Cacodylate of sodium had apparently no bad effect and seemed even to be beneficial. Beer free from arsenic and containing a small amount of alcohol was distinctly beneficial and apparently acted as a food. The chief outcome of the fourth set of experiments was that alcohol when given in small doses together with arsenic did not seem to intensify the bad effects of the latter; there was, on the contrary, an indication that alcohol retarded the action of arsenic. During the preliminary stages of the experiment Rat 14 increased in weight more rapidly than Rat 15 and yet at the end of the experiment Rat 14 had lost weight to a greater extent than Rat 15 which was taking arsenic along with alcohol. The fifth set of experiments had for object to determine the lethal dose of arsenious acid. He had already indicated the results. The sixth set of experiments confirmed his impression that bitter beer drunk at the [illegible] of the outbreak in Salford and in Manchester was less whol[illegible] than lager beer imported from Munich. Whether this diffe[illegible] attributable to the small trace of arsenic present in the [illegible] between the products of high and low fermentation he was [illegible] yet to say, but his general impression was that beer brewed at a low temperature was more wholesome than beer brewed at a high temperature. It was also to be noted that the bitter beer used in this set of experiments was beer which would have passed easily the test recommended by the brewers' commission. In the seventh set of experiments the animals showed fr[illegible] evidence of intoxication, so that the administration of a fluid containing 26 or 20 per cent. of absolute alcohol produced [illegible] which were not observed in rats to which an equal [illegible] alcohol was given in a more diluted state. The effects of alcohol were also more variable than those of arsenic. Two of the [illegible] to recover gradually from the first effects of alcohol and to [illegible] weight, two other rats continued to lose weight from the first. Only one of the four died, and that animal seemed from the first to be very sensitive to the action of alcohol; possibly it was not in a good state of health at the beginning of the experiment. After the death of most of the rats used in the experiments a post-mortem examination was made and the chemical estimations revealed clearly the fact that the amount of arsenic present in the body after death bore some relation to the amount of arsenic taken during life. The evidence, so far as it went, seemed to indicate that arsenic might accumulate in the tissues up to a certain point. That the tissues were not capable of retaining more than a certain amount of arsenic seemed also to be indicated by the fact that whenever large doses of arsenic were administered, even up to the time of death, the amount of arsenic found in the body after death was invariably smaller than the amount of arsenic given daily. These results seemed to indicate that arsenic formed some kind of compound with tissue elements. Another interesting fact was brought out by these estimations. Arsenic was found in the tissues of two rats which had ceased to take arsenic for more than 40 days before death. In Experiment 1 the amount found was nearly equal to a daily dose. In Experiment 6 the amount of arsenic found was 16 times greater than a single daily dose. The daily dose in this case was exceedingly small. To account for these results it was almost necessary to suppose that arsenic entered into combination with some of the constituents of protoplasm. When large doses were given it was probable that a portion of the arsenic passed out of the body with the fæces and that a portion of what passed into general circulation, not being retained by the tissues, was excreted by the skin, liver, kidneys, and other glands. This view was supported by actual observation in the human subject. He made several attempts to collect the urine and fæces of rats taking arsenical fluids but he was not successful in devising a plan excluding the possibility of contamination of the excreta with the fluid administered to the animals. Generally speaking, the results of the estimation of arsenic in the experimental rats confirmed the view that arsenical beer, such as was drunk during the outbreak, acted in the same way as solutions of arsenious acid containing about the same quantity of arsenic as those which he had estimated to be present in that beer. Watery solutions of arsenious acid appeared, however, to be more toxic than beer containing the same amount of arsenic. Professor Delépine then dealt with lesions found after death in rats which had taken arsenic and compared them with lesions observed in persons who had died from the effects of arsenical beer. On the basis of his preliminary examinations he might say that the following changes were of common occurrence among the victims of arsenical beer—viz., (1) general hyperæmia, most noticeable in the lungs, glands, muscles, and nerve centres; (2) considerable degeneration and wasting of some of the muscles examined; (3) albuminous and fatty degeneration of the cardiac muscle; (4) more or less complete disappearance of fat from the cells of fatty tissues; (5) albuminous and fatty degenerations of glandular epithelium, specially well marked in the liver; (6) degeneration of nerve tissues, most marked in the nerve-cells of the cerebral cortex and the spinal cord. The terminal nerves seemed also to be affected in a few cases but he was not certain whether the changes were attributable to arsenic or to some other causes. Sometimes there was over production of cutaneous epithelium and of fibrous tissues in some of the organs which were also the seat of degenerative processes. With regard to the latter change it was generally difficult to exclude the possible influence of other causes. The post-mortem examinations which he had made of the rats used in the experiments which had been previously related had yielded very similar results. In fact, with one exception, the changes observed in the various organs and tissues had been identical with those found in the human subject, but with regard to pigmentation he had obtained no result. He expected this difference, for all his experimental rats were albino rats; the absence of pigmentation in these cases was an additional confirmation of the theory which he had formulated many years ago regarding the origin of melanin. At the time when he started his experiments he tried to obtain some tame grey rats, but he was not able to get any. It would have been impossible to conduct carefully systematic experiments with wild rats. A detailed account of these pathological investigations was not yet ready and would not in its present state add materially to the value of the evidence which he had already obtained. There remained in his mind no doubts regarding the similarity between the lesions observed in the bodies of patients who had died from the effects of arsenical beer and the lesions observed in the carcasses of rats to which solutions of arsenious acid in water or in beer had been given over periods varying from 30 days to 90 days. Several of these cases had not taken proportionately more arsenious acid than the human victim. The mode of death in both cases was usually sudden, as if due to cardiac failure or failure of the respiratory muscles. It was also noticeable that when small quantities of arsenic were given a fatal result did not usually occur before the end of three months and that recovery was possible at the end of that time. The experiments on rats had also the object of determining whether arsenious acid in beer was more poisonous than arsenious acid dissolved in water. The changes of weight observed in animals taking equal amounts of arsenious acid dissolved in beer or in water had already shown that arsenious acid dissolved in water seemed to be more injurious than arsenious acid dissolved in beer; the post-mortem examination confirmed this view, for the degenerative changes were most marked in rats taking watery solutions of arsenious acid. Alcohol up to the amount usually present in beer did not seem to affect the rats unfavourably but the addition of alcohol up to 10 per cent. of the total fluid seemed to have a detrimental effect. The bad effects [illegible]tained with strong solutions of alcohol even in moderate quantities [illegible]ated that dilution had an important influence upon [illegible] of the [illegible] gard to the possible presence of amines in arsenical beer cacody[illegible] able pow[illegible] to him to be among the most noxious amines which could reasonably be expected to be present in beer; the results obt the only case in which cacodylate of sodium was administered much in accordance with what was known before of the physi action of this salt that he did not think it necessary to m experiments. Far from having a detrimental effect during period parable to those of the Salford epidemic, cacodylate of sodium s to have a beneficial effect even when administered in large doses animal treated with cacodylate of sodium bore better the effects diet than a control animal taking no arsenic at all. Anoth receiving as much arsenic, in the form of arsenious acid, cacodylate rat became, on the contrary, seriously ill under the collateral experimental conditions. The post-mortem state of agreed with the symptoms during life. In the rat receiving ar acid, and which died in consequence, the usual degenerative c were observed and the fat of the fatty tissues had disappeared e from the parts where it was usually found. The cacodylate rat, contrary, was apparently quite well when killed, its organs normal appearance, and there was the usual amount of fat u [illegible]en and in other situations.

[illegible] the whole case Professor Delépine presented the following [illegible]—viz.: 1. The 1900–1901 outbreak was due to the pres arsenious acid in the beer drunk by the victims. 2. The pres an amount of arsenious acid capable of producing such an o could only be accounted for by the use of arsenical glucose o sugar as malt substitutes. 3. The presence of smaller quant arsenious acid such as might be due to the use of badly prepare though seldom dangerous to the same extent, was capable of pr injurious effects in ill fed or weak individuals. 4. Bad feedi other deteriorating influences were sufficient to account for the incidence of cases of poisoning among classes of people liable t influences.

The Commission then adjourned.

BOOKS, ETC., RECEIVED.

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HILDRETH, E. L. AND CO., Brattleboro.

Transactions of the Vermont State Medical Society, at the E eighth Annual Meeting held at Montpelier, Vermont, Oc and 11th, 1901. Price not stated.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin.

[illegible]ag auf Märschen. Von Dr. A. Hiller, Oberstab z. D. und Privatdocent. Price M.7. (Bibliothek v. [illegible]usgegeben von O. Schjerning, Band 14).

lower end of the colon and one in the rectum. These ulcers had resulted from a destruction of the glandular layer of the mucous membrane, the muscularis mucosæ not being affected. Diplococcus pneumoniæ was isolated from the blood and from the pneumonic portions of lung, and in sections through the ulcers in the colon there could be seen diplococci which stained by Gram's method

With regard to other mucous membranes pneumococcic lesions of practically every such surface have been described and verified bacteriologically

In addition to causing acute abscess of the tonsil diplococcus pneumoniæ appears to be a fairly frequent cause of acute membranous tonsillitis and pharyngitis. The exact bacteriological identification in these cases is rendered difficult by the fact that the organism is a frequent parasite of the healthy mouth. But the number of cases in which there are the formation of a false membrane and destruction of the superficial layer of the epithelial membrane associated with the presence of the coccus in predominant numbers, and without any of the other bacteria—bacillus diphtheriæ, streptococcus pyogenes, and saccharomyces albicans—which are known to cause similar lesions, leaves little doubt as to the fairly frequent occurrence of an acute membranous pharyngitis due to this cause. Bezançon and Griffon, who have especially studied this class of cases, have tested the serum reaction in 10 cases of acute non-diphtheritic pharyngitis.[6] Employing the method which they have devised for testing the serum reaction in pneumococcic infection, these writers claim to have obtained a positive agglutinative reaction with cultures of diplococcus pneumoniæ in every case [7]

Amongst the consequences of pneumococcic pharyngitis is perforation of the pillars of the fauces, as in a case recorded by Munro.[8] In this case there was a membranous tonsillitis which spread over the palate from one side to the other, and diplococcus pneumoniæ was present in six out of seven examinations made. During the case some nerve symptoms were observed which were thought to be suggestive of diphtheria, but which were probably an example of the paralysis which has been observed on a few occasions as a sequela of pneumococcic infection

Another possible result of pneumococcic pharyngeal infection, spreading along the Eustachian tube, is the otitis media which is not infrequently caused by this organism

I have also examined a single case of laryngitis probably due to this organism and occurring in a man who died with a pneumococcic abscess of the lung On one of the false vocal cords there was a greyish membrane which was closely adherent to the underlying surface. Diplococcus pneumoniæ was isolated in pure culture from the pulmonary lesion, and diplococci resembling it were seen in smear preparations made from the laryngeal membrane.

In connexion with the eye there is a form of membranous conjunctivitis caused by the coccus, sometimes occurring without any obvious source of auto-infection, sometimes in the course of a pneumonia, and then probably caused by direct conveyance of infection This membranous pneumococcic conjunctivitis is probably not so common as a more localised suppurative keratitis due to the same cause which has been described by several writers Uhthoff, for instance, out of 50 cases of suppurative keratitis found diplococcus pneumoniæ in pure culture 24 times and associated with other bacteria seven times.

Diplococcus pneumoniæ does not seem to have been often found by those who have specially studied the bacteriology of the uterus and vagina, whether healthy or diseased. Doyen states that he has identified the coccus in the secretion of the healthy vagina but I cannot find any record of its occurrence in cases of vaginitis Cohn[9] has recorded a case of pneumococcic endometritis and general infection in a woman, aged 35 years, who was admitted into hospital with metrostaxis coming on three months after a miscarriage. After death there were found suppurative endometritis with retained portions of placenta, ulcerative endocarditis affecting the aortic valves, suppurative meningitis, and two softening infarcts in the spleen Diplococcus pneumoniæ was present in all the lesions.

With regard to pneumococcic salpingitis there is rather more evidence; Witte identified the coccus in four out of 39 cases examined, Hartman and Morax found it in two out of 33 cases, and other cases have been published.

Infection by the vagina has been thought to explain the sex-incidence of pneumococcic peritonitis, but as a matter of fact the significance of available statistics on this point is not quite clear It is true that a large majority of the cases recorded in children have happened in girls, but on the other hand the few cases which I have been able to find recorded in adults, and occurring otherwise than as an incident of a general infection, have all been in males.

The last case of pneumococcic infection of the mucous membranes which need be mentioned is the rather remarkable one published by Cary and Lyons[10] of a boy, aged 11 years, who, with an attack of acute lobar pneumonia, developed on all the mucous surfaces of the body open to inspection a pseudo-membranous exudation caused by diplococcus pneumoniæ. The boy's illness began on Jan 5th with sore-throat and pyrexia. On the 7th there were indications of lobar pneumonia and an abundant white exudation membrane was noticed on the tonsils. This exudation membrane spread to the general cavity of the mouth and to the gums it could be peeled off in shreds, leaving beneath a raw, granular, bleeding surface. Four days later a fibrinous conjunctivitis with numerous subconjunctival hæmorrhages developed Two days later again the glans penis—the organ had been circumcised—became covered by a thick, adherent membrane. On the day next following mucus was found in considerable quantities in the stools and a deposit of false membrane formed round the anus. The patient ultimately recovered Diplococcus pneumoniæ was present in the sputum and was identified in all the various exudation membranes, pure cultures were isolated and tested on rabbits in the usual way

A consideration of these manifestations of pneumococcic infection in mucous membranes generally shows that here the pathogenic action of the coccus, after allowing for different local conditions, may be much the same as when it causes a lobar pneumonia. There are the same fibrinous exudation and destruction of surface structure and the same tendency to extravasation of blood that are seen when the pulmonary vesicles are attacked.

Sutton

THE TREATMENT OF GONORRHŒA, WITH SPECIAL REFERENCE TO BLADDER IRRIGATION[1]

BY F SWINFORD EDWARDS, F R C S ENG,
SURGEON TO THE WEST LONDON HOSPITAL, TO ST PETER'S HOSPITAL FOR STONE AND GENITO-URINARY DISEASES AND TO ST MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM

AS the outcome of recent bacteriological investigations I think we shall all be agreed that gonorrhœal urethritis is a localised septic infection, in some cases becoming even general owing to the presence of a micro-organism which goes by the name of "gonococcus" and which was first demonstrated in 1878 and 1879 by Bouchard and Neisser This organism is kidney shaped and is met with as a diplococcus invading epithelial and pus cells or lying free in the secretion. Form alone does not distinguish the gonococcus from cocci which are found, according to Lustgarten and others, in the normal urethra, the distinction between them being that whereas they both stain with the aniline dyes the gonococcus does not stain with Gram's solution as does the other Other micro-organisms are found at times in conjunction with the gonococcus—viz, the bacillus tuberculosis, the staphylococcus, and the streptococcus the presence of which may account for suppuration in distant parts, as in suppurative gonorrhœal arthritis. In order therefore to cure a gonorrhœa one must direct one's energies to destroying these micro-organisms or to rendering the tissues attacked an unfit habitat for them

The course run by a gonorrhœa may be divided into four periods (1) the period of incubation, (2) the acute stage;

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[6] Le Pneumocoque dans les Angines Presse Médicale, 1900, p 294

[7] Étude de la Réaction agglutinante du sérum dans les Infections expérimentales et humaines à pneumocoques, Annales de l'Institut Pasteur tome xiv., p. 440 1900

[8] Membranous Sore Throat and Perforation of the Faucial Pillars resulting from Infection by the Pneumococcus Glasgow Medical Journal vol lvi, p 274 1901

[9] Münchener Medicinische Wochenschrift, 1899, p 1358

[10] Pseudo-membranous Inflammation of the Mucous Membranes caused by the Pneumococcus American Journal of the Medical Sciences vol. cxxii p. 293, 1901.

[1] A paper read before the Æsculapian Society on Nov 22nd, 1901

(3) the subacute stage; and (4) the chronic stage, known generally as gleet. The treatment for one and all of these stages may be divided into general and local. The following constitutional treatment is of use in the first three stages—viz., rest from all active exercise and sexual excitement; abstinence from alcohol, coffee, spices, and salt food, and possibly from tobacco; the free administration of diluents, a daily saline purge, and a hot sitz bath night and morning if obtainable. Sandalwood oil in doses of from 20 to 30 minims three times a day preferably in the capsule form may be given combined with an alkaline and sedative draught, such as bicarbonate of soda and belladonna or of solution of potash, hyoscyamus, and buchu. Here let me remark that I consider local treatment far more important in the treatment of this, which is, at all events at first, a local disease, than the administration of medicines by the mouth. I am well aware that many cases of urethritis get well without local treatment, but I doubt if a true gonorrhœa does so, excepting after a long and weary course.

Let us now consider the local treatment to be adopted in the first or incubation period—i.e., before suppuration becomes established—which usually lasts about three days, though this stage may be curtailed or considerably lengthened. Should the medical attendant be fortunate enough to see the case within a day or two of contagion and when only a certain degree of heat and irritation are complained of, together with some meatal redness and mucoid discharge, I think he is justified in endeavouring to cut short the attack either by the application of a caustic solution or by the injection of some strong antiseptic, as, for example, a solution of perchloride of mercury (1 in 2000), a 2 per cent. solution of mercurol (a new preparation recently introduced by Messrs. Parke, Davis, and Co. and which is a chemical compound of nucleinic acid with mercury), or a solution of nitrate of silver (five grains to the ounce), to be repeated in weaker strengths if necessary. The patient should be directed to urinate immediately before the injection, a point highly necessary to insist upon at any period of the disease when treatment by injections or irrigations is being carried on. Strong solutions of nitrate of silver—as, for instance, from 10 to 20 grains to the ounce—may be applied to the anterior urethra through a urethroscopic tube by means of a cotton-wool swab. This application, as well as strong injections, may be made painlessly if the urethra is first rendered anæsthetic by the injection of cocaine or eucaine. I am now in the habit of using a 4 per cent. solution of each in combination. These caustic and antiseptic applications may be changed for astringents in two or three days if the irritation is diminishing. General treatment on the lines already given should run concurrently. Another method of much service for the rapid cure of what is evidently a commencing gonorrhœa is urethral irrigation by means of which the canal is flushed out from behind forwards with half a pint of some weak antiseptic wash, such as borax, boric acid, or permanganate of potassium repeated every two or three hours. For this treatment to be properly carried out confinement to bed or room is necessary and irrigation should be continued, though less frequently, through the night. By either of these methods a week or 10 days will probably suffice to put an end to all trouble

For the second or acute stage I think most medical men are still of opinion that treatment should be chiefly general. With a view to render the urine non-irritating large quantities of fluid should be taken such as hot water, milk-and-soda-water, barley-water, and weak tea. One or other of the following mineral waters is usually beneficial—viz., Contrexéville, Wildungen, Vichy, and Kronenquelle. The patient should be encouraged to micturate frequently, even rising at night for the purpose. Where copaiba, cubebs, and santal oil disagree methylene blue, urotropine, or salol may be substituted. Hot sitz baths at this stage are of the greatest comfort. Complications such as retention of urine and chordee may require the attention of the practitioner.

After the lapse of about a fortnight or possibly longer the acute stage will have subsided, as shown by the diminution of scalding and the alteration in the character of the discharge which will have become thinner and more muco-purulent. When all pain on micturition has ceased local treatment may be commenced in the form of injections, retro-jections, and irrigations. In the majority of cases urethral injections as carried out by the well-known small glass syringe will suffice, provided, of course, that the inflammation has not extended beyond its reach—viz., into the membrano-prostatic urethra. When it is limited to the anterior urethra any of the following may be used with advantage: sulphate of zinc (one grain to the ounce), permanganate of zinc (one-eighth of a grain to the ounce), liquid extract of Canadian pine (one drachm to one ounce), nitrate of silver (quarter of a grain to one ounce), and either of the more recent preparations—viz., protargol (1 to 2 per cent.) or mercurol ($\frac{1}{2}$ to 2 per cent.). Of these I have recently been trying the latter and, I may say, with marked success. Where the deep urethra is involved, as shown by the "wash-out" test, I know of nothing to equal irrigation of the bladder and urethra as advocated and carried out by Janet and Valentine. By this method, if employed night and morning, the patient is usually well in a fortnight or three weeks, possibly sooner—that is, provided that no complication exists. The apparatus consists of a glass reservoir, holding at least a pint, provided with six feet of rubber tubing, stop-cock, and glass nozzle. The reservoir is hung about five feet above a couch on which the patient lies and it is filled with a hot solution of permanganate of potassium, commencing with a strength of 1 in 6000. The patient having just emptied his bladder, the glass nozzle is loosely inserted into the meatus and the stop-cock is partially turned on, or if a clip is used this is but slightly compressed. In this way the anterior urethra is first thoroughly flushed out. By pressing the nozzle firmly into the urethra and at the same time allowing a fuller current to pass, the fluid after distending the anterior urethra will flow on into the bladder. At first it may be difficult to overcome the resistance of the compressor urethræ muscle, but with patience and a little manœuvring this will be accomplished. When the bladder is full the stream is arrested and the nozzle is removed and the patient assumes the erect posture and expels the fluid by natural efforts, somewhat compressing the distal end of the urethra with his finger and thumb in order to increase the back-pressure. Other drugs may in this way be used as, for instance, mercurol or protargol with a strength of 1 in 400 to commence with.

In chronic gonorrhœa or gleet, whether shown by a sealing of the meatus, a slight discharge of muco-pus often only seen on rising from bed, or by shreds in the urine, a thorough examination should be made with the inflating urethroscope as supplied by Schall. Although aerial distension modifies the appearance of the flaccid urethra it certainly facilitates the discovery of lesions such as stricture, inflamed follicles, granular patches, adventitious pouches or pockets, and papillomata, and through its tube one can successfully treat the majority of these. There are those who claim to find it to be equally useful in the deep urethra, but this is not my experience, for the mucous membrane as seen through it in this part of the urethra always appears to me to be swollen and congested owing, no doubt, to the pressure of the tube, and inflation is here impossible. Although it is possible to see the vera montanum it is difficult to tell whether the appearance seen is due to disease or to the method of examination. When a gleet has lasted for six months, especially if there have been previous attacks, the urethra should be examined for stricture, even although the patient assures you that his "stream of urine is as good as ever." For this purpose the exploring bougies of Otis are excellent. Should a stricture be found a urethroscopic examination may be unnecessary and treatment directed to the cure of the stricture should be undertaken forthwith. You will note the word "cure," for contrary to the old dictum, "once a stricture always a stricture," I hold the opinion that many cases permit of a permanent cure if thoroughly and intelligently treated. But I must refrain from all temptation to go into the subject of the treatment of stricture, however alluring, on the present occasion.

Granular patches of congested areas of considerable frequency in long-standing cases are met with chiefly in the bulbous urethra and can be satisfactorily treated by the application of nitrate of silver on a wool swab which may also suffice for the cure of inflamed follicular openings. Warty growths should be curetted and small follicular abscesses, whether of Littré's glands or those of Cowper, may be treated either by electrolytic puncture or intra-urethral incision. These several manipulations when carried on through a tube from five to six inches in length, the lumen of which does not measure more than a No. 10 or No. 12 English catheter, require care, patience, and considerable dexterity.

Just as the acute phase of gonorrhœa is not limited to the penile urethra but may extend backwards, involving in turn the membranous and prostatic urethra the bladder, even extending up to the kidneys with fatal results, so a gleet may have its seat in the deep urethra in the prostatic ducts, and seminal vesicles For chronic posterior urethritis the following methods suggest themselves—the passage of large-sized steel sounds, possibly coated with some tenacious ointment, electrolysis, Janet's irrigation, instillation of some silver salt, or even the application of lunar caustic itself Personally I have come to rely entirely upon either irrigation or instillation, or the one supplemented by the other For chronic prostatitis or vesiculitis where muco-pus is pent up to be discharged at intervals I know of nothing to touch massage carried out by a finger in the rectum Although somewhat uncomfortable for both patient and surgeon it is wonderful how soon the urine clears up which had previously been loaded with shreds and threads.

Until quite recently long standing cases of gonorrhœa and gleet were amongst the most difficult a surgeon was called upon to treat, but now owing to the introduction of Janet's irrigation treatment in uncomplicated cases a cure may be confidently expected within a few weeks

I have abstained from inserting notes of cases illustrating many of the methods of treatment in this communication, also from touching upon the disease as found in the female and upon the many complications in the male, for time will not allow of it Let me conclude by asking the following questions, to each of which I will append a short answer, rather by way of inviting discussion than with the object of closing it

1. Is it necessary to distinguish between gonorrhœa and a simple urethritis?—If it is it necessarily follows that it should be a routine practice to examine microscopically every case of urethral discharge at all events at its onset But I very much doubt if one medical man in 50 does this or if he does, it is not with the object of directing treatment but rather with a view of determining a social or medico-legal question

2. Are we warranted in trying to abort an attack?—I most certainly think that we are if we see the case before the acute stage and if the patient will consent to lie up for about a week

3. Is treatment by bladder and urethral irrigation to be recommended in the acute stage?—Janet and Valentine both favour it and Dalton,[2] speaking of the acute stage, says "*Local treatment has always been a much debated point*, many authors advocating waiting for the acute stage to pass off before any local treatment. This waiting certainly allows the gonococci to increase and to invade the tissues more deeply and since irrigation has become an actual treatment it seems more rational to endeavour to arrest the morbid process as soon as possible." Irrigation having been decided upon the earlier it is begun the better Patients who are seen very early in this disease will pass *through it without practically* any pain and those who are further advanced and in the stage of profuse discharge, ardor urinæ, &c., will quickly be reduced to a comfortable state. It is not at all unusual for these cases to be completely well in three weeks. Neisser,[3] speaking of the treatment of acute gonorrhœa, says "Our procedure is as follows (i) determination of the presence of gonococci &c., (ii.) in all cases the immediate commencement of injections" From what I have said it will be gathered that I do not advise injections in the acute stage. I have refrained, *as a rule*, from all interference with the urethra, believing that any abrasion of the urethral mucous membrane might open the way to a general septic infection. I have also hesitated to use Janet's irrigation in a profuse urethral discharge, such as exists when the disease is at its height, fearing that I might not be able sufficiently to disinfect the urethra to obviate all risk of setting up a gonorrhœal cystitis. I shall be glad to be convinced that I need not be *so timorous*.

4. My fourth question is What constitutes a cure?—We must not conclude that a patient is cured when he no longer sees any discharge, not even the morning drop, for shreds may still remain in the urine, the heavier variety of which—viz., those which sink to the bottom of the glass—usually contain gonococci, not so, however, the fine partially transparent filamentous threads which float in the urine. For my part, I look upon a patient as being cured when, a month after all treatment has ceased and he has reverted to his ordinary course of life, no sign of discharge is present there is no sealing of the meatus, and no débris in the urine

Harley-street W

AN ANALYSIS OF A SERIES OF OPERATIONS FOR THE EXTRACTION OF CATARACT

BY R H ELLIOT, M B, B S LOND, F R C S ENG,
CAPTAIN I M S; ACTING SUPERINTENDENT OF THE GOVERNMENT OPHTHALMIC HOSPITAL, MADRAS

THIS series of cases—77 in all—embraces a period from January, 1897, to April, 1901 The cases are consecutive and all lenses removed by me during the period are included Any case was submitted to operation in which there was a reasonable prospect of improving the vision One patient was a European, three patients (embracing four eyes) were well to-do natives, and the rest were pauper natives. The cases are grouped together in the first place because they include all the extractions of the lens performed by me in the interval between the two periods in which I have acted as superintendent of the Government Ophthalmic Hospital, Madras, and, secondly, because a careful study of the series has led me for the present to abandon the simple operation in favour of the combined method The latter reason supplies my apology for intruding such a small series on public notice.

The operation adopted consisted in, first, preliminary capsule rupture with Bowman's needle, secondly, a sclero-corneal incision, varying in size from nearly a half to a quarter of the circumference, according to the size of the nucleus to be dealt with, thirdly, expression of the lens, and the clearing of the chamber with a curette and cotton wool sponges mounted on little sticks, and fourthly, the application of an antiseptic dressing Iridectomy was not performed as a routine measure. All instruments were boiled and a general antiseptic regimen was adopted

The total number of eyes operated on in the series was 77, of these, 39 were right eyes and 38 were left eyes The total number of patients represented was 53, of these 25 were men and 28 were women Of the 53, 40 were caste Hindus, 4 were Mahomedans, 8 were Hindus without caste, including native Christians, and 1 was a European Their ages were as follows 1 was 29 years of age, 7 were between 30 and 40 years, 18 between 41 and 50 years 15 between 51 and 60 years, 7 between 61 and 70 years, 4 between 71 and 80 years, and 1 was 90 years of age

Of the 77 cataracts extracted 18 were Morgagnian, 38 were cortico-nuclear, and 21 were *nuclear The large relative* preponderance of Morgagnian cataracts is due to the fact that the first 39 operations of the series were done in an up country station, in which no cataract-extractions had been performed for many years, many of the cataracts were therefore hypermature, out of these 39 no less than 13 were Morgagnian—i.e. 33 3 per cent

COMPLICATIONS PRESENT BEFORE OPERATION

Catarrhal ophthalmia—This complication which occurred in 12 *cases was always dealt with before operation and* led to no serious consequences in any case.

Granular ophthalmia with slight pannus—This condition occurred twice in the same patient. In spite of long-continued treatment beforehand there was considerable ciliary trouble in both eyes after operation.

A corneal nebula was present in one case

Pterygium—There was pterygium in six cases Transplantation *was only* performed once the growth being avoided by making an oblique section in the other cases

Immaturity of cataract—*Five cases* presented this condition

Tension + 1—This was noted in one case. A free prolapse of the iris occurred during the after treatment. After iridectomy the case progressed evenly and had four metre[1] vision

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[2] Edinburgh Medical Journal, July 1901

[3] Dermatologisches Centralblatt, vol i, No 1

[1] Four five- six, &c. metre vision implies the ability to count miniature bull's-eyes correctly at these distances A vision of M B.E (miniature bull's-eyes) at six metres is equivalent to $\frac{6}{6}$ vision by types

Chamber very shallow.—In two cases this was observed. The iris was scraped during section by a knife. Both patients did well and had good vision.

Complete posterior synechia.—There was complete posterior synechia in one case. Delivery was effected by the vectis after free iridectomy. There were free hæmorrhage from the iris and a slight escape of vitreous. Vision was raised from a mere perception of light and darkness to the ability to detect hand-movements at a distance of three metres.

Dislocation of the lens into the hyaloid.—This occurred in two cases. In both the lenses had been couched by Mahomedan operators. In one the dislocation was of some months' standing and a Morgagnian nucleus was removed by the vectis, the capsule being dragged out by forceps. There was a slight escape of vitreous and the case did well, four-metre vision being secured. The second case had been couched the day before my operation. There were marked ciliary congestion, intense pain, and tension was + 2. Under chloroform a Morgagnian nucleus was delivered by the vectis, with very slight escape of vitreous. Some ciliary congestion continued. Recovery with six-metre vision followed.

Great age of the patient.—One case was complicated by the advanced age (90 years) of the patient. Her skin hung in satiny folds and she looked more like a monkey than a woman, but she made an excellent recovery. The night after her operation she got out of bed and stole a necklace belonging to another patient. She counted miniature bull's eyes at four metres and could have done better but would not continue the test.

A COMPARISON OF THE SIMPLE AND COMBINED (I.E., WITH IRIDECTOMY) OPERATIONS.

Of the 77 extractions, 52 were conducted by the simple method, 24 by the combined method, and one had undergone preliminary iridectomy four years before.

Of the 52 simple cases a threatened prolapse was successfully treated by the use of eserine in 1 case, or 1.92 per cent.; a slight prolapse not demanding iridectomy occurred in 3 cases, or 5.76 per cent.; a prolapse of the iris demanding excision by the severity of the symptoms excited occurred in 7 cases, or 13.46 per cent.; and the eye made an uninterrupted recovery in 41, or 78 84 per cent. of the cases.

The average vision was as follows: (1) in the simple cases in which no prolapse occurred it was M.B.E at 5·02 metres (N.B. This calculation excludes two eyes of one case in which there was cupping of the disc before operation, it also excludes six cases in which the vision was good but not tested, and it includes one case in which eserine reduced a threatening prolapse); (2) in the simple cases in which a prolapse was excised as soon as it was recognised it was M.B.E. at 5·20 metres; (3) in the simple cases in which iridectomy was not performed, though a prolapse had occurred, it was M.B.E. at 2 5 metres; and (4) in the combined cases in which iridectomy was performed at the time of operation it was 4·94 metres (N.B. This calculation excludes four cases with good vision which escaped testing; it also excludes two cases of escape of the vitreous, one injury inflicted during convalescence, one case of old fundus change, and one of complete posterior synechia) If the last two cases alone are excluded the average vision in this group falls to 4·31 metres.

In considering the above statistics, it is to be remembered that the group of simple cases in which operation for prolapse was performed was a comparatively small one and by good fortune no accident occurred in any of the late iridectomies. An experience of 1100 cataract operations already published in the *Indian Medical Gazette* of 1897 convinces me that it would be very unsafe to presume on these figures. I regard prolapse demanding late iridectomy as the gravest complication that can arise in the after-treatment of a cataract case, suppuration being, of course, excepted. The high ratio of visual result here shown may, however, be safely regarded as an indication that the performance of an iridectomy does not materially lower visual acuity in eyes submitted to cataract extraction.

The lower visual results in the cases of combined extraction—i.e., in those in which iridectomy was done at the original operation—are easily explained when we remember that in this series an iridectomy was in a good many cases made at the time of operation because the case was complicated. The simple cases thus represent a more favourable class than do the others.

In order to establish a comparison between the two classes, a number of patients were selected in whom the apparently the same in both eyes before operation and had double cataract. The results of this series ments are as follows:—

Number of case.	Kind of operation.	Side.	V = M.B.E. at—
1	Simple.	Right.	6 metres.
	Combined.	Left.	6
2	Simple.	"	5·5
	Combined.	Right.	6
3	Simple.	"	4 metres (on the sixth day)
	Combined.	Left.	3 metres (on the ni day.)*
4	Simple.	"	6 metres.
	Combined.	Right.	6
5	Simple.	"	3
	Combined.	Left.	4·5
6	Simple.	"	6
	Combined	Right.	6
7	Simple.	"	6
	Combined †	Left.	1·5
8	Simple.	Right.	2
	Combined ‡	Left.	3

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* The delay of one week in testing the right eye accounts for t difference fully.

† The left eye was injured by a bedpost on the twenty-first day severe hæmorrhage followed and a good deal of ciliary irritation was excited.

‡ There was a slight escape of vitreous from the right eye d operation.

While freely admitting that the test applied was inferio in delicacy to that which would have been used in dealing with the more intelligent and appreciative European and that this detracts somewhat from the value of the results, nevertheless the facts are sufficiently consistent and have been sufficiently accurately obtained to warrant the deduction that in these cases the simple operation gave no better results than did the combined operation. I have been led to the same conclusion by the consideration of other series of operations which I have had the opportunity of performing.

In favour of the simple operation it is usually advanced (1) that it gives better visual results than does the combined operation; (2) that it provides a more active pupil than does the combined operation; (3) that the dazzling caused by the presence of the coloboma is avoided; and (4) that there is less mutilation of the eye. With the first contention I cannot agree; as to the second, I find that the pupil in a well-performed case of the combined operation is very active and I doubt if there is anything in favour of this proposition; as to the third, the upper lid covers the coloboma and the patients do not seem to be aware of its presence; and as to the fourth, it appears to me to appeal to a sentiment which is not founded on sound surgical principles. I believe, in common with many other surgeons, that the after-course of the combined operation cases is more even and uneventful than is that of the simple operation.

Against the simple operation there is always the grave danger of prolapse of the iris. Even Knapp admits to the occurrence of prolapse in 7 6 per cent. of his latest cases; most operators admit more, and I believe that the 14 per cent. met with by me in this series is not excessive. It may be argued that the cases now under review furnish no argument against the simple operation, since the standard of vision in those in which a prolapse was excised is so high. A wider experience than this series affords has convinced me that the danger of losing eyes after prolapse is a very real one, and the anxiety for the three or four days after operation is too dear a price to pay, except for solid advantages which I fail to see that the simple operation can afford. I take the liberty to quote an extract from a paper on Cataract which I wrote and which was published in the *Indian Medical Gazette* in 1897.

> On reviewing the statistics of 1068 consecutive cases of cataract extraction performed by the writer in hospital practice, this statement is strongly illustrated. In 409 cases an iridectomy was performed at the time and the records show that 7·5 per cent. of these cases failed. In 659 cases the simple operation was performed and 8 5 per cent failed. If, however, we separate those cases of simple extraction in which a prolapse of the iris complicated the subsequent course of treatment

from the cases not so complicated, the former show 20·3 per cent. of failure, while the latter show only 6 per cent. It is therefore obvious that in the series under review the less favourable aspect of the cases of simple extraction is due to the frequency of occurrence of this dangerous complication.

Working now with increased experience and improved methods I think that I could greatly better these results, but even so my appreciation of the danger does not lessen. The operation may be done most skilfully, the iris may be left well reposed in its natural position, the incision may have been the limited one required for the removal of a small Morgagnian nucleus and may lie exactly in the sclero-corneal margin or even in front of it, and yet the sudden bursting of the section and the escape of a rush of fluid which has been dammed up behind the iris may carry the upper portion of that membrane into the wound and lead to the serious train of symptoms which warn us that prolapse is present. Neither eserine nor atropine avails to prevent the accident. Iridectomy must now frequently be performed under very disadvantageous circumstances; if an anæsthetic is given the eyeball rotates upwards and the effort to pull it down by means of the forceps threatens the integrity of the hyaloid membrane and with it the safety of the eye; again, if we rely on cocaine alone the strangled iris is so hyperæsthetic that the patient finds it hard to keep quiet and his sudden spasmodic movements make the operation one of the gravest anxiety.

Of the 24 cases operated on by the combined method iridectomy was performed nine times in order to deliver a lens which would not present otherwise; twice in order to facilitate the clearing the chamber of cortex; once on account of total posterior synechia; five times involuntarily by the knife in section; and seven times for miscellaneous reasons. In cases of double cataract in which the first eye was operated on by the combined method whether accidentally or on purpose the second was when possible reserved for a simple operation for purposes of comparison.

COMPLICATIONS DURING EXTRACTION.

In addition to the complications already mentioned above the following were met with during extraction:

The patient so troublesome that chloroform was given.—This was the case three times. I should now inject morphia hypodermically instead of giving chloroform. It has an excellent effect in quieting the patient and at the same time does not deprive us of his help in turning the eye downwards

Free hæmorrhage from the cut iris.—This occurred twice It did not affect the prognosis in either case.

The capsule removed by forceps.—This had to be carried out in two cases.

Escape of vitreous.—This took place 11 times. The escape was slight in five cases (vision respectively = M.B.E. at 6, 1·5, 6, and 2 5 metres, and hand-movements at 3 metres); moderate in one case (vision was good but untested, as patient absconded); and extensive in two cases (vision = counting fingers at 1 metre and at 6 metres respectively).

The nucleus very small—This was the condition twice in the same case. The patient was a *guru*[2] of great sanctity and had been blind for 17 years. Tension in both eyes was above normal, though not markedly so. He was led in by two of his friends. On needling the first cataract there was a free escape of milky fluid but no nucleus could be found; at first it was feared that it had sunk back into the vitreous, but this was not the case and so on needling the second cataract the nucleus was most carefully looked for; after the section the escaping fluid was found to contain a tiny nucleus of the size of a small cocaine lamella (such as one uses for eye medication). The patient was able after operation to count fingers at six metres with both eyes and to find his way about alone with ease; he had cupping of both discs. The effect in the district was to bring in a number of cases as this man's reputation was widespread.

COMPLICATIONS DURING THE AFTER-TREATMENT.

Hæmorrhage into the anterior chamber.—This occurred in four cases. In one case it was due to a fit of coughing on the fifth day; in two cases it was due to injury by striking the eye against furniture on the fifth and twenty-first days respectively; and in one case it was brought about probably by rubbing the eye on the fifth day. Vision was good in all eventually (M B.E. at 6 metres in three cases and at 1 5 metres in one case).

Section burst by rubbing—In four cases this happened—in one case on the third day, in one on the seventh day, and in two on the tenth day. In the last two cases the rupture of the section was attended by severe pain and obstinate vomiting. All four patients obtained good vision (M.B.E. at 6, 3, 3, and 4·5 metres respectively).

Section leaking.—This was present in seven cases—till the fourth day in two cases, and till the fifth, sixth, seventh, and eighth days in the others. Of these patients three were between 50 and 60 years of age, one was 65 years of age, and three were over the age of 70 years. The vision was good in all (M.B.E. respectively at 1·5, 2, 3·5, 4, 5, and 6 metres; good but untested in one case).

Keratitis and ulceration of the cornea.—These complicating conditions were present in four cases. In three cases the keratitis was of the striped variety and it cleared up leaving good vision (M.B E. at 4 metres in one case and at 6 metres in two cases); one patient was a *ganga*-smoker and he and one other of the patients repeatedly took off their bandages. In the fourth case too much cocaine was used and ulceration followed; this was aggravated by the patient leaving hospital surreptitiously for four days. He eventually recovered vision (M.B.E. at 1 metre).

Cyclitis (subacute).—This occurred in three cases. In one case total synechia had existed and the lens was removed by the vectis. In the two eyes of one patient there had been precedent granular ophthalmia and pannus. One patient got good vision while the other two patients derived indifferent vision (hand movements at 3 metres, M.B.E. at 6 metres and fingers at 6 metres respectively.)

Secondary cataract.—There was secondary cataract in three cases. The cataracts were needled on the twentieth, twenty-third, and twenty-seventh days respectively (vision at 3 5, 6, and 5 metres respectively).

Prolapse of the iris.—This condition has already been dealt with.

The vision of the patients was tested after operation by ascertaining at what distance they could count miniature bull's-eyes. These consist of black dots on a white ground, which are shown to the subject through an aperture in a piece of cardboard. The examiner can thus show as many or as few as he wishes. I find by experiment that the dots can be counted by a normal eye at 10 metres. Recruits for the native army are required to count correctly these bull's-eyes at six metres. Patients were tested up to six metres and not beyond The test is that in use in the Madras Eye Hospital. It is a convenient one when dealing with patients whose intelligence and education are both of a very low order Several patients absconded rather than submit to being tested; several left without warning as soon as they found that they were in possession of good sight. The native women especially object to wearing glasses and one often hears them saying: "What do I want with glasses? The other women will laugh at me; I can see quite well enough." Some were tested for near vision but the number of cases so tested is, unfortunately, too small to be worth recording. The symbols M.B.E. with the distances in metres in this paper mean that the patients could count miniature bull's eyes at the distance in metres signified by the number affixed.

An effort was made to keep the patients as long under treatment and observation as possible, and with this end in view the date of supply of glasses was delayed till the patients would stop no longer. The improvement in vision from week to week was very marked in many cases. The following table shows the time during which the cases were under observation before final testing:—

One week	1 case.
From two to four weeks	23 cases.
,, one to two months	39 ,,
Over two months	7 ,,
Time not recorded	7 ,,
Total	77 cases.

The following is an analysis of the visual results obtained[3]:—

Counted miniature bull's-eyes	at from 1 to 1·5 metres ...	4 cases.
,, ,,	at from 2 to 2·5 ,, ...	4 ,,
,, ,,	at from 3 to 3·5 ,, ...	6 ,,
,, ,,	at from 4 to 4·5 ,, ...	7 ,,
,, ,,	at from 5 to 5·5 ,, ...	6 ,,
,, ,,	at from 6 metres and above	34 ,,
Vision good but untested		10 ,,
Counted fingers at 6 metres		3 ,,
,, 2 metres		1 case.
Could distinguish hand movements at 3 metres		1 ,,
No improvement after operation		1 ,,
Total		77 cases.

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[2] Guru = a holy man.

[3] A vision of M.B.E. at one metre may be counted as one-tenth normal vision.

The 61 cases with vision of M.B.E. at from one metre to six metres may be unhesitatingly classed as successes, as before operation 58 of these patients were quite unable to count fingers in any light, and were only able to recognise the movements of a hand in front of the eye, as "a shadow moving"; the three others counted fingers respectively at three inches (final vision M.B.E. at five metres), at three feet (final vision M.B.E. at six metres), and at three feet (final vision M.B.E. at six metres, and $\frac{6}{12}$ths by types in a European).

Of the 10 patients with good vision but untested by the bull's-eyes, all could readily count fingers without a glass and all the cases were undoubted successes. These patients absconded because they were satisfied with the result and did not want to be kept further under observation. Six of them were a month or less under treatment; the rest were treated for longer periods. Two of them counted fingers at one foot before operation; the remaining eight patients were only able to distinguish the shadow of the hand moving in front of the eye.

To the remaining six cases the following remarks apply. 1. Two eyes in one patient were raised from faint perception of light to ability to count fingers at six metres. There were very opaque Morgagnian cataracts, with a history of 17 years' blindness and cupping of both discs. The double result was probably the most brilliant of the whole series and, as has been said already, it created a sensation in the district, on account of the patient's reputation as a "holy man." 2. One eye counted fingers at six metres—a poor result, after a free escape of vitreous; the patient's vision before operation was confined to the perception of hand-movements before the eye. 3. One eye counted fingers at two metres—a poor result, due to an escape of vitreous resulting from too small a section. 4. One eye could detect hand-movements at a distance of three metres—a satisfactory if poor result when it is considered that there was a complete posterior synechia to be dealt with. The lens was wrenched out by means of a vectis, and the patient was more than satisfied, as before operation he could only with difficulty distinguish light from darkness. 5. One eye remained in *statu quo ante* after an apparently successful operation and an even recovery. Fundus changes were present.

The results therefore stand thus:—

—	Cases.	Percentages.	
Successful as proved by test dots...	61	79 22	94·80
Successful as shown by ability to count fingers easily with naked eye	10	12·98	
Successful (remarkably so, when the circumstances of the case are taken into account—*vide* 1 above)	2	2·59	
Very poor results...	3	3 89	5·19
Failure	1	1·29	
Totals	77	99·99	

PROPOSED SMALL-POX HOSPITALS FOR WORCESTERSHIRE.—Following on its report the committee appointed by the Worcester County Council to inquire into the necessity for establishing isolation small-pox hospitals has issued schemes for the various districts. For Evesham Borough District and the rural districts of Evesham, Pershore, and Tewkesbury it recommends the erection of a hospital for 12 beds at an estimated cost of £1100. Malvern Urban District, Wortley Rural District (south of Teme), and Upton-on-Severn Rural District will have a similar hospital provided. A hospital for 12 beds, costing £1100, will be erected for the rural districts of Wortley (north of Teme), Rock, and Tenbury. In connexion with the King's Norton and Northfield Urban Districts and Yardley Rural District it is recommended that a hospital with 20 beds should be built, and for the urban districts of Lye and Wollescote, Oldbury, and Stourbridge, and Halesowen Rural District a hospital for 16 beds, costing £1150. If the whole of the hospitals are provided out of one county fund a rate of 1$\frac{5}{16}$*d.* will be required. The question as to what shall be done is to come up for decision at the next meeting of the county council

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ENTERECTOMY FOR STRANGULATED FEMORAL HERNIA.

BY J. R. RONALD MCCRINDLE, M.B., C.M. GLASG.

THE patient was a married woman, aged 41 years, and was admitted into the North Riding Infirmary, Middlesbrough, on Jan. 7th, 1902, at 3.30 P.M., suffering from a strangulated femoral hernia on the right side. She stated that the hernia had "been down" for seven years except for eight months during pregnancy three years ago. She was said to have vomited continuously since noon on the day previous to admission. After preparation of the patient I proceeded to operate about 5 P.M. with the assistance of Dr. J. Donaldson, the senior house surgeon. The swelling was of about the size of a cricket ball and was tense. On cutting down and opening the sac a quantity of dark-coloured fluid escaped and the bowel was seen to be gangrenous. The constriction was very tight, but after having nicked it I was enabled to pull down sufficient bowel to perform enterectomy which I decided to do, as there was practically no distension above the constricture and the patient was in fair condition. Five inches of bowel were excised. No omentum was present. I made the anastomosis by means of a Murphy's button ($\frac{11}{16}$ths of an inch). The cut edges of the mesentery were overstitched and the puckered portion buttressed on either side of the line of junction of the bowel in order to protect the weak portion at the reflection of the mesentery. The opening into the peritoneal cavity was enlarged sufficiently to permit the passage of the bowel containing the button. After separation and ligature of the sac the whole wound was closed by means of successive layers of buried catgut sutures and the edges of the skin were brought together with silkworm gut. The time from commencement of the anæsthesia to completion of the operation was 35 minutes.

The woman was somewhat collapsed on return to the ward, so 10 minims of liquor strychninæ were administered hypodermically and a stimulating enema was given. She had a fairly comfortable night and slept about five hours.

On the following day a simple enema was given with good result. Her temperature was 100° F. She was allowed small quantities of plasmon with a teaspoonful of meat juice by the mouth every two hours and a meat suppository every six hours. The wound was dressed and the stitches were removed on the eighth day. The button was passed on the sixteenth day, after which the patient's diet was made more liberal and was gradually increased to the ordinary amount. Her bowels acted daily. She was kept in bed for six weeks and was discharged on Feb. 28th cured.

Middlesbrough.

POST-VACCINAL LICHEN URTICATUS.

BY R. W. MARSDEN, M.D. VICT., M.R.C.P. LOND., &C.,
LATE MEDICAL SUPERINTENDENT, MONSALL FEVER HOSPITAL, &C.

THE following case is particularly interesting at the present time in view of the fact that the medical attendant could not free his mind from the suspicion of small-pox, and it is, I think, further worthy of note since I can find no recorded case agreeing in every particular.

The patient was an adult female who had been successfully vaccinated a month previously. At the time of my visit there were two dry and almost completely healed vaccinal ulcers on the right upper arm and the patient informed me that an inflammatory œdema had been present, extending beyond the middle of the forearm. Previously to the occurrence of the rash there had been no symptoms suggestive of the invasion of an acute disease nor had there been any glandular infiltration or septic absorption or administration of drugs likely to give rise to it. The first indication of change consisted of a feeling of irritation at the site of the recent vaccination. This persisted for a couple of days and then the appearance of the rash was noticed on the hands and arms. I saw the patient 24 hours after the rash made its appearance and found its distribution as follows: the hands and fingers, both palmar and dorsal surfaces, the front and back of the forearms, and to a much less extent the upper arms. On the lower limbs the plantar and dorsal surfaces of the feet were affected and the adjoining portions of the legs, whilst the rash was present, though less profuse, on the thighs. In addition there were an isolated collection of papules over the lower part of the sternum and a few papules along the border of each pinna. In general the rash may be described as of a papulo urticarial character, the papular appearance being most marked on the backs of the hands and fingers, a feature which had undoubtedly occasioned the suspicion of small-pox. An examination of these parts alone was, in fact, very suggestive of this disease. There were, however, no rash on the face, no accompanying pyrexia, and, as I have said, no history of recent acute illness. The papules, which were also present on the feet, were bright red in colour, about one or two lines in diameter, circular, and faded on pressure; they were softer than those met with in variola and exhibited a tendency to run together in patches. On the palms and palmar aspect of the fingers they formed bright red, discrete, tender macules, not raised but still round, and especially in the former situation were as much as from two to three lines in diameter On the arms and legs the spots were soft, flat-topped, in general rather of an urticarial character, varying in size from one to three lines and everywhere accompanied by itching. Many spots had a narrow inflammatory areola but the surrounding redness and œdema were best marked on the pinnæ. In the centre of a few there was a minute scab and on the surface of some others an appearance as though vesiculation was beginning, but both of these manifestations I attributed to the scratching, squeezing, or rubbing to which the patient resorted on account of the irritation. The further course of the eruption was absolutely unlike that of variola as there was no steady progress to vesiculation and pustulation—on the contrary, the spots tended to coalesce over considerable areas, forming a uniform erythema, and then faded.

The interest in the case lies not only in the fact that it was mistaken for small-pox but further in the late appearance of the eruption after vaccination. In this instance a full month elapsed, though, according to Dr. T. D. Acland in Clifford Allbutt's "System of Medicine," post-vaccinal eruptions make their "first appearance between the ninth and fifteenth days," being "always contemporaneous with vaccination."

Manchester.

A CASE OF NUTMEG POISONING.

By ROBERT A. PITTER, L.S.A.

QUITE recently I was called during the night to see a young woman who was stated to be "in a fit." I found her in a collapsed condition, muttering unintelligibly; her extremities were clammy, her pulse was hardly perceptible, and her pupils were somewhat dilated and reacted feebly to light. The symptoms were suggestive of alcoholic poisoning but her breath smelt unmistakeably of nutmeg and I then elicited that she had taken a whole nutmeg, grated, in a wineglassful of gin an hour or so previously. On asking her friends why she had done this I was told that "she was so afraid of having another child." It appeared that the catamenia had been delayed two weeks and, dreading pregnancy, she had taken the advice of some female friend with the result above mentioned. I afterwards made some inquiries and learned that there is a prevailing impression among the domestic servant class that nutmeg is an emmenagogue, although such a large dose is perhaps unusual. Her general condition improving I contrived to empty her stomach of its contents. She remained in muttering delirium throughout the night and slept heavily nearly all the next day, when she awoke apparently recovered. The catamenia followed, accompanied by much pain.

I should be grateful to any reader of THE LANCET for information as to other cases in which toxic effects have been produced by this spice.

Tottenham.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. GEORGE'S HOSPITAL.

TWO CASES OF INTESTINAL OBSTRUCTION

(Under the care of Mr. G. R. TURNER.)

THE former of the following two cases is a very striking instance of the benefit resulting from laparotomy in tuberculous peritonitis and it is especially valuable as it demonstrates clearly the rapid removal of tubercles deposited in the peritoneum. It is very rarely, indeed, that an opportunity is afforded of seeing the peritoneum soon after a laparotomy for tuberculous peritonitis. Although no satisfactory explanation has been given of the way in which this treatment acts, yet there can be no doubt about the satisfactory character of the results. F. Treves estimated[1] the mortality directly due to the operation as only 2·5 per cent.; the percentage of permanent recoveries is difficult to state with any exactness but Hartmann and Aldibert[2] claimed that 46 cases recovered out of 48 Those cases are the most satisfactory in which no other organs are affected with tubercle. The incident in this case of the retention of a Murphy's button is one by no means rare; it is especially frequently met with when a portion of the bowel has been short-circuited. It is very rare for the button to do any harm when thus retained and in most cases it passes ultimately spontaneously The second case raises the question as to the desirability of colectomy in intestinal obstruction produced by a new growth. Each case must be decided on its merits. If the general condition of the patient will permit it a primary resection of the affected portion of bowel with anastomosis of the healthy intestine is certainly best, for the risk of a second operation is avoided; but if the patient is much collapsed it is better to do a colostomy and to postpone to a subsequent occasion the resection of the bowel.

CASE 1 *Intestinal obstruction due to tuberculous peritonitis, anastomosis of the ileum with the transverse colon; recovery, with disappearance of all tubercle within 45 days of operation.*—A girl, aged 11 years, was admitted into St. George's Hospital on May 14th, 1901, with the following history. Five days previously she had been attacked with sudden abdominal pain, frequent vomiting, and the passage of blood-stained motions. The child had been in bad health for several months She was a thin, dark little girl of the fine tuberculous type and was flushed and looked very ill Her tongue was covered with a brown fur; the pulse was 142 and weak and the temperature was 98° F The abdomen was moderately distended and moved well on respiration Nothing could be felt per rectum which contained some slimy mucus In the right iliac fossa a mass of about the size of an orange could be distinctly felt. It was dull on percussion and tender When she was placed under an anæsthetic some enlarged glands could be distinctly felt in this situation.

The abdomen was opened in the middle line. A quantity of enlarged tuberculous glands were found scattered throughout the mesentery and the peritoneum generally was studded with miliary tubercle. The lower ileum was enormously distended, injected, and vascular, whilst the ascending colon was collapsed and empty. In the right iliac fossa, in addition to some enlarged tuberculous glands, there was a large mass of matted intestine which included the cæcum and appendix, looking like a very firm intussusception with complete obstruction As it seemed impossible to reduce this and as in the child's precarious condition it was very inadvisable to attempt removal of this mass of matted intestine it was decided to anastomose the ileum some inches away from the obstruction with the transverse colon by means of a Murphy's button. This was accordingly done and the union of the two portions of bowel was strengthened by a few Lembert stitches. A Keith's drainage-tube was inserted at the lower end of the wound. The latter was kept in for four days after the operation and gave vent to some sanious discharge only. The child did well after the operation and on the 18th she passed flatus by the rectum. On the 20th a quantity of pus, the source of which was not apparent, passed from the lower end of the wound. *There was practically no rise* of temperature or fever. The bowels were opened after an enema on the 21st, a week after the operation. The stitches were removed on the 31st. The child by this time had a daily action of the bowels and appeared to be quite well. The Murphy's button, however, had not been passed. On June 25th examination by means of the x rays showed this to be in the right iliac fossa, as if it had fallen back into the ascending colon, and at a consultation on the 26th a second laparotomy was advised, the button to be dealt with according to circumstances. On the 28th (45 days after the first operation) the abdomen was opened in the right semilunar line. There was absolutely no trace of tubercle about the peritoneum; the miliary nodules and the enlarged mesenteric glands seen at the former operation had both absolutely disappeared. The intestines were perfectly healthy in every respect but were firmly adherent in the right iliac fossa. The Murphy's button could be felt deeply placed in this situation and surrounded by adherent intestines. It was therefore resolved to leave it.

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[1] THE LANCET, Oct. 26th, 1895, p 1030

[2] Annales de Gynécologie et d'Obstétrique, June, 1892.

The child made an uninterrupted recovery from the operation and was sent in July to the convalescent hospital at Wimbledon. She was under observation there until September and has recently been seen. She seems perfectly well in every respect and suffers no inconvenience of any kind from the Murphy's button.

CASE 2 *Intestinal obstruction caused by malignant disease of the colon; colectomy; recovery.*—A woman, aged 59 years, was admitted into St. George's Hospital on May 13th, 1901. She had been losing flesh for the last four months and had had dyspepsia and constipation. On the 9th vomiting started and had continued until the morning of admission. There were much abdominal pain, referred chiefly to the umbilicus, and swelling. The last natural action of the bowels occurred on the 8th. An enema was administered on the 12th with small result and again on the 13th with no result. The patient's condition on admission was as follows. She was a grey-haired woman with sallow complexion and was obviously wasted; the skin was inelastic and wrinkled. The central part of the abdomen was distended and resonant and active peristalsis of the intestines was seen. There was no rigidity. No tumour could be felt. There was good abdominal movement on respiration. The rectum was capacious and empty; no tumour or stricture was to be felt. Her pulse was 120, the respirations were 28, and the temperature was 97·8° F. Dr. F. G. Penrose saw the case and agreed in advising operation.

Mr. Turner opened the abdomen below the umbilicus in the middle line. The cæcum was enormously distended, the appendix was normal, and the sigmoid flexure was collapsed but otherwise normal. The abdominal incision was now extended upwards to allow of examination of the parts above the umbilicus. The splenic flexure of the colon was then found to be the seat of a tight annular malignant stricture involving about one and a half inches of the bowel. No secondary growths were to be seen. The growth was resected with about one inch of healthy bowel on each side and the ends were sutured, Allingham's bone bobbin being used. A few Lembert stitches were also inserted. Some strips of gauze and a glass drainage-tube were passed down to the seat of resection and a tube was inserted to drain the pelvis. On the 14th the patient was much better. No pain or vomiting was present There was much serous discharge from the wound. On the 12th she was doing well; all plugging was removed. On the 20th the drainage-tube was removed. A good motion was passed by the bowel. On the 23rd there was some distinct fæcal discharge from the wound (? due to some slight sloughing at the seat of suture). On the 30th she was doing well. There was a slight discharge, no longer feculent, from the wound. The bowels were acting normally and good motions were passed. The patient was being fed on solid substantial food.

Remarks by Mr. TURNER.—The chief interest of Case 1 consists not so much in the intestinal obstruction with the concomitant pseudo-intussusception due to the tuberculous peritonitis as in the rapid disappearance of the tuberculous condition. Enlarged mesenteric glands numbering at least 20 or 30 and multitudes of miliary tubercles had entirely disappeared when the second laparotomy was performed 45 days after the first operation. That such disappearance follows operation is well known, but this case shows how quick that disappearance may be and how soon a diseased intestine and mesentery may recover from tuberculous invasion. Any attempt at dealing with the matted ileum and cæcum with a view to their disentanglement or resection in the child's very grave condition would most undoubtedly, in my opinion, have proved quickly fatal. To use Murphy's button seemed to be the quickest and the safest course to pursue, and although the button has not even yet come away its presence gives rise to absolutely no symptoms. It should have been mentioned that at the first operation a minute perforation was seen in the softened distended ileum which was closed by a Lembert's suture. It was not more than a pin-prick and seemed to follow the application of a Spencer-Wells clip to a bleeding vessel in the neighbourhood. All the lower part of the ileum was reddened, soft, and hooded, as it were, over the cæcum and appendix which were in consequence, except for the tip of the latter, obscured from view. There was little if any fluid in the peritoneal cavity.

In Case 2 colectomy was done during the actual bout of intestinal obstruction which rendered its performance more difficult and led me to use a drainage-tube and gauze packing, as I had not implicit confidence in the condition of the distended bowel which was sutured. I had seen, too, in another case where the bone bobbin was used for a colectomy some slight fæcal leakage afterwards. The depth of the parts operated on would have made direct suture very difficult and have dangerously prolonged the time of operation. The successful issue of the case was largely due to the gauze drainage employed, as there can be no doubt that there was some little leakage from the bowel 10 days after the operation.

For the notes of the cases I am indebted to Mr. T. C. English.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Relation of Malignant to Rheumatic Endocarditis.

A MEETING of this society was held on April 8th, Mr. W. J. WALSHAM, the President, being in the chair.

Dr. F. J. POYNTON and Dr. ALEXANDER PAINE communicated a paper entitled, "A Contribution to the Study of Malignant Endocarditis." They had been led to study malignant endocarditis in the course of an investigation upon the pathogenesis of rheumatic fever. The relationship between the two diseases was, they believed, a very close one and this was especially true of certain cases of malignant endocarditis which were associated with a previous history of rheumatic fever and during the course of which rheumatic manifestations were apt to occur. Now that rheumatic valvulitis was known to be infective "malignant endocarditis" was, they thought, a more accurate term than "infective endocarditis." The question arose whether some of these malignant cases were not really rheumatic. The idea was not an original one but the possibility of complete proof had been heretofore impossible since an exciting cause of rheumatic fever had been unknown. The evidence in favour of such a cause being a diplococcus was now extremely strong and this seemed a fit occasion to investigate once more the relationship of these two diseases. The result of the present research had led them to the conclusion *that there was a group of cases of malignant endocarditis rheumatic in origin.* The chief reasons for this conclusion and for which evidence was adduced in this contribution were: (1) that clinical experience favoured the assertion and clinical cases were narrated in support of this statement; (2) that the study of the morbid anatomy of the diseases was also in its favour; and (3) that bacteriological and experimental investigations were also in accord with the view, because a diplococcus could also be isolated from cases of malignant endocarditis which could be grown in pure culture, which would reproduce that disease in rabbits, and which resembled the diplococcus of rheumatic fever in its morphology and cultural characteristics. Moreover, *the diplococcus of rheumatic fever would produce* malignant endocarditis in rabbits on the one hand, and the diplococcus from certain cases of malignant endocarditis would produce rheumatic fever in rabbits on the other. Finally, every grade of valvulitis, from simple to malignant and *vice versâ*, could be produced by these two diplococci. A valuable series of macroscopical and microscopical specimens, lantern slides, and drawings were exhibited in support of these statements. The details of the investigations of Dr. Poynton and Dr. Paine were grouped under three headings: (1) clinical, experimental, and pathological observations; (2) histological details; and (3) bacteriological data. The clinical cases, seven in number, exemplified the type of endocarditis upon which they had been engaged and the gradations between it and rheumatic fever. The experimental investigations demonstrated the reproduction of malignant endocarditis; the transition of malignant endocarditis to rheumatic fever; the production of malignant endocarditis by the diplococcus of rheumatic fever; the production of rheumatic fever in a rabbit by inoculation with the diplococcus of rheumatic fever, and some months later malignant endocarditis by a second inoculation with the same organism; and lastly, some results of inoculation of rabbits with the "streptococcus pyogenes." Secondly, the histological details pointed to the wide distinction between the vegetations upon the cardiac valves in rheumatic valvulitis and those of malignant endocarditis. In the former no diplococci were present in the necrotic tissue; in the latter there were numerous diplococci in the necrotic tissue. Between these extremes there was every grade. The tendency of malignant endocarditis to occur in damaged valves was not, they thought, due to the affinity of the diplococci for such damaged tissues but to the lack of resistance of the damaged tissues. Thirdly, so far as they had ascertained, the two diplococci only differed bacteriologically in the smaller size and more rapid growth of the diplococcus in malignant endocarditis. These distinctions were not, in their opinion, sufficient to constitute diplococci as separate and distinct organisms. Allusion was made to the acid-producing properties of these organisms and the possibility that these properties played some part in the rheumatic processes. The concluding part of the paper dealt with observations upon *rheumatic*, *rheumatoid*, and septic processes. The difficulties of such an inquiry were very great, but the onus of proof that rheumatic fever might result from varied infections lay with those who upheld that view. Dr. Poynton and Dr. Paine did not think that rheumatic valvulitis was the only manifestation that might become malignant, but that both pericarditis and arthritis might also take this course. They desired to express their thanks to Dr. W. B. Cheadle and Dr. D. B. Lees for the clinical cases and to Mr. H. G. Plimmer for valuable advice and assistance.

The discussion of this communication was adjourned until the next meeting.

OBSTETRICAL SOCIETY OF LONDON.

Primary Tuberculosis of the Cervix simulating Cancer.—Exhibition of Specimens and Drawings.

A meeting of this society was held on April 2nd, Dr. Peter Horrocks, the President, being in the chair.

Dr. A. H. N. Lewers read a paper on a case of Primary Tuberculosis of the Cervix simulating Cancer which he had treated by vaginal hysterectomy. The patient was a married woman, 36 years of age, who had never been pregnant. For nine months before she came under observation there had been a vaginal discharge which was blood-stained and slightly offensive. Bleeding had been noticed after coitus and also after using a vaginal syringe. She had had slight pain in the left iliac region for about five months. This did not appear to have been at all severe. The catamenia had been regular, lasting three or four days only, and not attended by any special pain. The patient's general health had been good up to 12 months before she came under observation. Then she found herself beginning to get weak and disinclined for exertion and to suffer from the local symptoms above mentioned. She did not think that she had lost flesh. One of her aunts had died from consumption but otherwise the family history was unimportant. On vaginal examination the condition of the vaginal portion of the cervix *seemed to be identical with what was found in many cases* of cancer. The vaginal portion appeared to be the seat of "a growth" which was friable and bled readily on examination. The uterus was freely moveable. Believing that the case was one of cancer of the cervix suitable for radical operation Dr. Lewers performed vaginal hysterectomy on Jan. 30th, 1896. The patient made a good recovery. He had seen her several times since and received a letter from her on Nov. 20th, 1901, in which she said that she "enjoyed fairly good health and had had no return of the bleeding." While she was in the hospital there was no evidence of any disease in other organs. When portions of the supposed malignant growth were sent to the Clinical Research Association for examination the report came back that there was no evidence of cancer but that the structure was tuberculous. Brief reference was made to the writings of Pozzi, Cullen, and Whitridge Williams, from which it appeared that primary tuberculosis of the cervix was an exceedingly rare condition.—Specimens of tuberculous disease of the body of the uterus, the cervix, and the vagina were shown by Dr. H. Russell Andrews, Dr. Williamson, Mr. J. H. Targett, and Dr. E. C. Croft, and were discussed in connexion with Dr. Lewers's paper.—Dr. M. Handfield-Jones narrated a case which had come under his observation in which the patient, a multipara, aged 30 years, had suffered for several years with strumous disease of both hands. Several fingers and parts of the metacarpal bones had been removed at different times owing to the presence of tuberculous disease of the bones and joints. For months the patient had been suffering from excessive menstrual losses and in the intervals from a foul vaginal discharge. Examination showed that the cervix was deeply excavated by tuberculous ulceration and that the mischief had extended to the upper part of the vaginal wall on the left side. As the patient would not submit to any radical operation the ulcerated cervix was thoroughly scraped and then Paquelin's cautery was freely applied to the base of the ulcer. Cicatrisation followed and two years later the patient was found to be free from any further spread of tuberculous disease in the genital tract but she had commenced to develop tuberculous lesions in her lungs. The good effect of the curettage and the use of the actual cautery was very manifest and might certainly be used with advantage for cases in which extirpation of the uterus was deemed undesirable.—Dr. Croft remarked on the importance and difficulty of diagnosing cases of tuberculous cervicitis. There was a closer resemblance of the symptoms in Dr. Lewers's case to those of cancer than in the case described by himself. Dr. Lewers's patient had had bleeding, pain, and some offensive discharge. Dr. Croft's patient had absolute amenorrhœa for many months, bleeding only taking place when examined. The growth was softer than in cancer and did not break away in the same crumbling manner. The papillary masses were easily detached and were more of the consistence of mucous polypi than of the vegetations of cancer. Dr. Croft on his first examination of the case concluded that the growth was not of the nature of any of the ordinary forms of cancer of the cervix, but he kept in mind the possibility of an early condition of botyroidal sarcoma, or myxoma of the cervix. The tuberculous nature of the lesion was, however, established by microscopical examination before operation was decided on.—In reply to a remark of Dr. Lewers, Dr. Croft said that tubercle bacilli had not been definitely demonstrated.—The President said he was surprised to hear that tubercle in the uterus in the majority of cases was confined either to the cervix or to the body, for in the only two cases that had come under his observation the whole mucous membrane from the os externum to the top of the uterus was affected and he had thus been led to think that tubercle differed essentially in this respect from cancer. Also in his own case and in Dr. Lewers's case the patients had never been pregnant. He was surprised to hear Mr. Targett say that it was easy to diagnose tubercle. Certainly it might be in the lungs, either clinically or post mortem with the naked eye, but in the tubercle of the uterus he thought it was difficult, and even where a piece had been cut out and investigated microscopically it had been pronounced to be sarcoma. He was under the impression that the specimen shown by Mr. Targett from the Guy's Hospital Museum was the same one to which he had referred. The patient was in a medical ward and he (the President) had seen her and had diagnosed from the condition of the swollen cervix which seemed filled with ovula Nabothi a follicular inflammation of the cervix. She was transferred to the care of Dr. A. L. Galabin who cut a piece out and after careful microscopical investigation came to the conclusion that it was sarcoma and removed the uterus by vaginal hysterectomy. The whole of the uterine mucous membrane was greatly thickened and diseased throughout. It was examined at the Royal College of Surgeons of England by Dr. J. F. Goodhart and someone else and tubercle bacilli were found.—The paper was also discussed by Mr. TARGETT and Dr. J. M. MUNRO KERR, and Dr. LEWERS briefly replied.

Dr. J. S. FAIRBAIRN showed a Unilocular Ovarian Cyst containing in its wall large solid masses undergoing necrotic change. The cyst itself showed no evidence of any twisting of the pedicle and was, in fact, a sessile cyst enucleated from underneath the broad ligament. The solid masses were of a deep purple colour and thus projected into the interior as a number of rounded bosses; on section they were very firm and hard and cut more like a fibroma than the solid adenomatous structures of an ovarian cyst. When fresh they were full of blood and had an appearance very like that of liver. Microscopically they proved to be adenomatous with a papilliferous arrangement. There was a very extensive extravasation of blood with thrombosis of vessels into the necrosed parts. The partial necrosis affecting only the solid masses was somewhat difficult to explain. As there was some calcification at the base of the cyst this might have interfered with the blood-supply.

Dr. AMAND J. M. ROUTH showed a specimen of a Fallopian Tube ruptured towards its fimbriated end in two places. The patient was a multipara, aged 25 years, who when about six weeks pregnant was seized with collapse and all the signs of intra-abdominal hæmorrhage. When the abdomen was opened the peritoneal cavity was found to be full of blood and the ovum in its intact membranes was found to be adherent to the edge of a rupture on the posterior aspect of the right Fallopian tube near the fimbriated end. The tube was ligatured off and removed and was then found to be ruptured both anteriorly and posteriorly. The patient rallied well from the operation and made an easy convalescence. When examined the ruptured tube showed the following features. It measured seven centimetres in its long axis. At the cut uterine extremity it was normal in size for one centimetre of its length but its imen was impervious. One centimetre from the cut end e tube widened out into a thin-walled sac, the distension eaching as far as the fimbriæ which appeared as so any finger-like processes proceeding from the sac; the bdominal ostium having been closed it was no longer aceable. The tubal gestation sac measured six centietres in length by 2·5 centimetres in width through s greatest diameter. The sac tapered at either exemity, being more or less fusiform in shape. The walls f the sac had ruptured both anteriorly and posteriorly, the ne tear in the distended condition measuring one centimetre y two centimetres, the other being two centimetres by two entimetres in extent. Both tears proceeded to within two entimetres of the fimbriated extremity of the tube.

Dr. ANDREWS, having shown a Photograph, two Drawings, nd the Pelvic Organs from a case of Congenital, or rather Infantile Prolapse of the Uterus, associated with Spina Bifida, Dr. BLACKER commented upon the case.

Dr. WILLIAMSON showed a specimen of Umbilical Cord containing four umbilical arteries and only one umbilical vein.

Dr. F. J. MCCANN showed a specimen of a Tubal Mole.

MANCHESTER CLINICAL SOCIETY.—A meeting of this society was held on March 18th, Mr. Herbert Lund, the President, being in the chair.—Dr. R. W. Marsden exhibited the following cases: 1. A child with apparently pure Mitral Incompetence, compensation being perfect. The rapidity of the pulse was only slightly increased, its volume and tension being very good, and beyond a marked accentuation of the second sound in the pulmonary area there was no further evidence of change. 2. A girl with Mitral Obstruction and Incompetence, the former being the more marked lesion. The rapidity of the heart-beat and the signs of hypertrophy of the right ventricle showed the absence of any great amount of reserve power and was anticipatory of the occasional failure of compensation which occurred, though at the time it was perfect, as evidenced by the loud second sound in the pulmonary area and the absence of any signs of venous stasis. 3. A girl with Mitral Obstruction and Incompetence associated with adherent pericardium due to a previous attack of rheumatic pericarditis. 4. A boy with Mitral Incompetence and Adherent Pericardium. The previous pericarditis had apparently extended to the left innominate vein, producing partial obstruction, as there was dilatation of the veins on the left side of the neck, over the upper part of the chest on the left side, over the left shoulder, and the left upper arm.—Dr. W. K. Walls (for Mr. A. Wilson and himself) introduced a patient with Fibroma Uteri whose case presented several features of interest. Three months earlier the tumour caused much abdominal enlargement, there being multiple tumours, each of about the size of two fists, or of a fœtal head, and one such occupied almost the whole of the pelvic cavity and caused the perineum to bulge considerably. The cervix could just be reached high up above and behind the symphysis pubis. The patient was, too, according to history, some four months pregnant but the physical signs of this were not clear owing to the fibroid complication. Nothing operative was done because of a recent and active infection with syphilis, and treatment was directed to this. A month previously premature labour came on spontaneously and a putrid six months' fœtus was delivered by Dr. Walls with difficulty. In showing the convalescent patient to the society Dr. Walls drew special attention to the rapid involution of the tumours post partum. The retro-vaginal tumour was rather less than a Tangerine orange in size and the other masses were diminished in corresponding degree, the uterus and tumours together being now entirely pelvic.—Mr. Stanmore Bishop showed an unusual case of Multilocular Ovarian Cystoma. He remarked that ovarian cysts were usually easy to diagnose and to treat, since they most commonly developed upwards into the general abdominal cavity and therefore did not disturb the relations of the parietal peritoneum, but that occasionally, as in this case, they appeared to develop downwards, separating the broad ligament folds, and embedded in the connective tissue beneath raised in their growth the pelvic peritoneum and the organs with which it was in more intimate relation. The patient, aged 54 years, was seen with Mr. G. Knapton of Moss Side in October, 1901. The emaciation of her chest and limbs contrasted characteristically with the enormously distended abdomen on the upper half of which well-marked veins were to be seen. Dulness on percussion was found over the whole of the abdomen, extending to the renal dulness in the right flank and leaving only two points at which resonance could be obtained—viz., just below the xiphoid cartilage and very posteriorly in the left flank. A thrill could be obtained extending right across the abdomen. The possibility of an immense hydronephrosis was considered, but this view was rejected because there had never been any symptoms connected with urination and the urine itself was normal. The doubt, however, somewhat unpleasantly recurred during the operation, when it was found that the mass extended far upwards behind the ascending colon. On Nov. 20th abdominal section was performed and [the tumour, which was cystic and multilocular, was enucleated from behind the pelvic and abdominal peritoneum. The main cyst contained 27 quarts of fluid. Over it, the cæcum with an appendix six inches in length and hypertrophied to the size of the little finger was found. The appendix was amputated. The large cavity left was partially obliterated by the falling back of the internal organs, the remainder being drained by gauze which was removed gradually during the next six days. The patient made a good recovery, but on Dec. 16th paralysis of the left arm and leg supervened with a large and deep sacral bedsore. These however, gradually improved, and on Jan. 19th, 1902, the patient left the surgical home with the bedsore healed but with some paralysis still remaining.—Dr. T. Arthur Helme read a paper upon Abdominal Section with Primary Tuberculous Peritonitis and Ascites and made some remarks on the differential diagnosis in such cases.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The sixth meeting of the forty-sixth session of this society was held on April 4th, Dr. T. C. Meggison, the President being in the chair.—Mr. Bellamy Gardner opened a discussion on Anæsthetics in the course of which he recommended the use of a mixture of chloroform one part with ether two parts, administered upon a Rendle's mask, as being the safest and most convenient and suitable anæsthetic for use in general practice He was under the impression that chloroform was more often used outside the hospitals than was supposed and that it would be of great advantage bearing in mind the difficulty of other administration to urge the use of the mixture referred to on account of the lesser danger of the second stage of narcosis Under the influence of chloroform alone so many fatalities had occurred after the struggling and it was to this factor that Mr Gardner wished particularly to direct attention. It was his very strong belief that if no asphyxial factor was ever allowed to arise during chloroform narcosis the mere accurate adjustment of the dose was a very simple matter, but that, on the other hand, chloroform being a cardiac paralysant and asphyxia acting also secondarily upon the heart a very moderate degree of the latter turned the scale and produced the depression so commonly spoken of as due to chloroform vapour Unrecognised obstruction to breathing was in his opinion the cause of most of the fatalities — The President referred to the danger of conversation being carried on in the hearing of the patient while being anæsthetised as it might cause struggling —Dr F S Toogood said that he had had about 6000 cases of anæsthesia during the last seven years with only one death He considered that more depended on the experience of the anæsthetist than on the method adopted. A patient's behaviour under ether often disclosed the fact if he were addicted to drink Ethyl chloride might be given with a mask and had a longer effect than nitrous oxide He had done colotomies with cocaine but lately he had found that injection of distilled water had as much effect — Mr W H. Payne considered that the eye reflex was not to be depended upon as a sign of general anæsthesia. The reflex of the inner side of the thigh was more reliable Patients should not be forcibly held down.—Dr F Taylor said that he generally used the A.C E. mixture with Rendle's mask, but he found that the ether disappeared very rapidly and left the chloroform behind —Dr J P Henry described some operations which he had seen performed at the Beaujon Hospital at Paris by Dr Tuffier while the patient was under the influence of cocaine injected into the arachnoid sheath of the spinal cord —Staff-Surgeon W W Pryn, R.N, described a case which he had had where death nearly resulted from chloroform having been put by mistake in the bottle containing the A.C E. mixture.— Dr J H. Keay said that it was very rare to have a death from anæsthesia during labour He considered that there was a great future for local anæsthesia. He remembered when there were eight deaths under chloroform in a short time in Manchester —Dr T E. White said there was no doubt that more accidents occurred with small operations than big ones but that was probably due to less care He nearly had a death from bichloride of methylene about 15 years ago —Dr W Pitt Payne described a case where a patient nearly died under gas and ether An effectual way of preventing laryngeal spasm was to draw forward the tongue with tongue forceps.—Mr Joscelyn inquired whether putting down the head was of any use in cases where the heart failed.—Mr Gardner said that he agreed that there should be no talking He did not think that the alcohol was much good in the A.C.E. mixture Pinching the thigh was an excellent test. Persistent vomiting occurred in cases subjected to Tuffier's method. This seemed to be due to increase of pressure in the spinal canal.

BRADFORD MEDICO-CHIRURGICAL SOCIETY —A meeting of this society was held on March 25th, Dr H J Campbell being in the chair —Dr F W Furich showed a series of sections illustrating Cirrhotic Changes in the Livers of Pigs.—Dr T Jason Wood showed the following specimens (1) Ova and Embryos of Bilharzia Hæmatobia from the Urine of a Patient, (2) the Urinary Organs from a case of Primary Cancer of the Male Urethra, (3) Double Pyosalpinx removed by operation, and (4) Uterus removed for Procidentia.—Dr Campbell showed a Liver the seat of numerous abscesses probably of amœbic origin —Dr R H Crowley showed the following specimens (1) Membranous Colitis, (2) Carcinoma of the Rectum with Secondary Deposit, (3) Perforation of a Typhoid Ulcer in a portion of the Ileum which had been constricted by a Meckel's Diverticulum, and (4) Gumma of the Brain.—Mr C F M Althorp showed a specimen of Hydatidiform Mole.—Dr Crowley read notes on a case of Cortical Gummatous Meningitis The patient was a woman, 50 years of age, who complained in October, 1899 of severe headache and vomiting In June, 1900, she had several fits with convulsions involving the left arm and face, but with no loss of consciousness Examination revealed tenderness to percussion in the right frontal and parietal regions with some muscular weakness of the left side of the face. There was commencing optic neuritis on the right side. Under iodide of potassium she improved sufficiently to go to a convalescent home in July On August 15th she was admitted to hospital again with headache and vomiting and twitching of the mouth on the left side. Iodide of potassium was again given together with mercury, and by Nov 1st she was well enough to go home. She relapsed again in about a month and again improved under treatment In May, 1901, the headache was still bad and there was some return of the twitching and of the vomiting, this time no improvement took place under treatment. In July, 1901, Mr J B Hall trephined, but no tumour susceptible of removal was found. The headache and vomiting were completely relieved by the operation, but three weeks afterwards there was almost complete paralysis of the left side of the body She died six months after the operation Post mortem examination revealed an extensive tumour occupying the surface of the brain and involving the frontal and parietal regions. It was quite adherent to the dura mater and had penetrated far into the brain substance. Apart from this the brain was normal and there was no meningitis Dr Crowley discussed the point as to whether an earlier operation should have been undertaken He considered that in such cases the symptoms were due not merely to a localised gumma but to syphilitic changes in the surrounding vessels, and consequently that a curative operation was not likely to be successful.—The case was discussed by Dr Campbell, Dr A. C F Rabagliati, Dr Wood, and Dr J Metcalfe, and Dr Crowley replied —Mr W H. Horrocks, jun., read notes on a case of Abdominal Pregnancy which had been successfully treated by laparotomy The fœtus and membranes were shown as was a cast of the uterine cavity which had been passed a few days after the operation —Mr Philip E Miall read a paper entitled 'Protagoras on Medicine'

GLASGOW SOUTHERN MEDICAL SOCIETY —A meeting of this society was held on April 3rd Dr John Stewart the President, being in the chair —The discussion on the Curability of Phthisis Pulmonalis which had been adjourned at the previous meeting of the society was resumed by Dr Ebenezer Duncan In an interesting manner Dr Duncan reviewed the treatment of pulmonary consumption in the earlier part of the nineteenth century and pointed out that the open air treatment — so much lauded to-day — was advocated in England by Dr George Bodington as early as the year 1840 Speaking particularly of the curability of phthisis Dr Duncan gave a detailed account of cases which he had seen in private practice and in hospital in which undoubted cures had taken place. He had known patients to be completely restored to health and strength in whom there had been found all the signs of consolidation and excavation of the lungs and in whom the tubercle bacilli had been found abundantly in the sputum. Particular examples were described in which even in a short space of time remarkable improvement had taken place With regard to treatment he believed that a persistent germicidal course was very efficacious indeed Carbonate of guaiacol in large doses was of great service and he often gave creasote and cod liver oil (five minims in one drachm of oil) He strongly recommended inhalations of pinol and eucalyptol, and in the absence of catarrh of the bronchi he used formalin in from 10 to 20 per cent. solutions As regarded diet he believed in high feeding In addition to the ordinary diet his patients received four pints of milk per day He believed in the advantages to be gained by the open air treatment and he carried it out systematically in his practice —Dr Thomas Forrest remarked that when hæmoptysis was present the effect of treatment seemed to be more beneficial and the same result was found in phthisical patients with the rheumatic diathesis. He was inclined to think that by over feeding there was some danger of nephritis.—Dr T Kirkpatrick Monro spoke of the different types of pulmonary phthisis in which experience had shown that a favourable prognosis might be given and cited the hæmorrhagic form as an example He gave the details of some cases that had come under his observation in which recovery had taken place in a remarkably short period of time.—Contributions to the debate were made by Dr. W. Watson, Dr. A. S. Tindal, Dr. J. Coulson Howie, and Dr. T. Russell.—The President in a short speech reviewed the discussion and remarked that from the evidence laid before them the conclusion seemed to be that only to a limited extent could phthisis pulmonalis be regarded as a curable disease.

ROCHDALE AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on April 3rd.—Mr. Herbert Lund read a paper on Failures and Successes in Urinary Surgery. He described cases illustrating the difficulty caused by a large lacuna magna in catheterising and also in the treatment of gonorrhœa, the distensibility of the female urethra for the removal of calculus, the evils of white wax in urethral bougies, and the advisability of sounding the bladder when performing circumcision in children. The dangers attendant upon even such a simple operation as circumcision were emphasised by reference to the case of an elderly man who had cerebral hæmorrhage with hemiplegia the day after the circumcision was performed. As regarded enlarged prostate careful catheterism was usually sufficient to give relief. The advantage of operation was immediate and only transient. Freyer's operation probably really consisted in the removal of an adenomatous mass which compressed the prostate. The suprapubic operation was the best in all cases of vesical calculus. Syphilitic ulceration of the bladder might be difficult to diagnose but it yielded to grey powder and iodide of potassium. Varicocele was best treated by the open method with excision of a length of vein. The most certain cure for hydrocele was excision of the sac. All these points were illustrated by reference to actual cases, and Mr. Lund also mentioned cases of renal calculus, hydatids of the kidney, and a case of intermittent hydronephrosis treated by nephrorrhaphy in which a large granulating surface was left and the patient was kept at rest in the dorsal position for three weeks with a successful result.—The President (Mr. R. Burdett Sellers), Dr. J. Melvin, Mr. W. Stanwell, and Dr. W. J. Kerr, made remarks, and Mr. Lund was warmly thanked for his interesting paper.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on April 4th, Dr. Arthur T. Davies, the President, being in the chair.—The President showed a specimen of urine from a healthy man which gave in a marked degree the nitric acid reaction with potassio-indoxyl sulphate.—Dr. H. P. Miller showed a specimen of Thoracic Hernia removed from a child, aged two and a half years, who died 10 hours after the initial symptom, vomiting. The hernia consisted of eight feet of large and small intestine that occupied the left thorax, displacing the heart to the right side of the mesial line. It occurred through an oval, smooth-edged, elastic opening, about one and a half inches in its longer diameter and about three-quarters of an inch in its smaller diameter, in the left leaf of the diaphragm about the lateral centre and towards the spine. There was no known strain to account for this condition. The small bowel was deeply congested.—Dr. B. G. Morison opened a discussion on the Management of the Third Stage of Labour. He held that no time-limit could be fixed before the uterus should be pressed to extrude the placenta, supposing that hæmorrhage did not take place then. But, roughly, a wait of 20 minutes was advisable before an attempt should be made to express the placenta. He objected to traction on the cord as a means of removing the placenta. Douching, vaginal or uterine, after a simple confinement he held to be unnecessary, while if a lacerated perineum were present he believed that the procedure was positively harmful. If the latter state were present a suture should be put in deeply. The suture he used was one of strong carbolised catgut. He held it to be important that when sutures were used they should be left for a week.—A general discussion followed.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—The seventh meeting of this session was held on April 4th, Mr. Alfred Cooper, the President, being in the chair.—The President announced that Sir Frederick Treves would deliver the Cavendish Lecture on June 20th and that its title would be "Some Phases of Inflammation in the Vermiform Appendix."—Dr. J. Allan read a paper on the Treatment of Malignant Disease by Electrical Currents of High Potential and Frequency.—Dr. A. Whitfield read a paper on a case of Peculiar Intolerance of the External Application of Mercury.—Dr. A. Mortimer read a paper entitled "Remarks on 1000 Anæsthetisations," most of which had been given by him during the past two years.—A discussion followed the reading of each paper.

Reviews and Notices of Books.

A Manual of the Practice of Medicine. By GEORGE ROE LOCKWOOD, M.D., Attending Physician to Bellevue Hospital, New York. Second edition, revised. With 103 Illustrations. London and Philadelphia: W. B. Saunders and Co. 1901. Pp. 847. Price 17*s.* net.

THIS text-book is probably better known in America than in England. In his preface the author states that his aim has been to present the essential facts and principles of the practice of medicine in a concise and available form. Dr. Lockwood has succeeded fairly well in his endeavours and a readable and trustworthy manual is the result. We especially notice that the author has evaded the fault which we have noticed in so many of the American text-books—namely, the needless sub-division of the systemic diseases. To adopt the classification followed by some authors of dividing diseases of the stomach, for example, into a large number of sub-groups, the differences being based on small pathological distinctions, can only prove confusing to the student and is of no practical clinical value. Dr. Lockwood has been wise in arranging the subject matter according to the admirable classification of Dr. Osler.

The etiology, pathology, symptoms, physical signs, complications, prognosis, and treatment of the various diseases are well described but the remarks on diagnosis are decidedly weak and the reader will search in vain for paragraphs on differential diagnosis. The clinical points are, however, well brought out and the student by comparing the accounts of the various conditions which may simulate each other should, as a rule, have no difficulty in coming to a conclusion as to the disease with which he is dealing. We would suggest, nevertheless, to Dr. Lockwood that in future editions more attention should be given to the subject of diagnosis.

The author remarks that in preparing this edition the whole book has been subjected to a thorough revision. Many portions have been entirely rewritten and a number of new subjects have been introduced. Among the new sections may be mentioned those on Bubonic Plague, Gastroptosis, and Reichmann's Disease. An account of the analysis required for the clinical investigation of gastric affections has also been supplied. Dr. Lockwood retains lobar pneumonia amongst the diseases of the respiratory system, although he defines it as "an infectious disease due to the diplococcus pneumoniæ." We prefer the more modern plan of placing a description of the disease amongst the "infectious diseases." If Dr. Lockwood's classification were to be followed throughout typhoid fever would have to be placed amongst diseases of the intestine.

The section on Diseases of the Nervous System is well written and the clinical descriptions are easy to follow. The pathology of the various diseases is briefly given but the student is not perplexed by an elaborate discussion of theoretical or contested matters. The various illustrations are beautifully reproduced and aid considerably in explaining the letterpress.

Thomas Henry Huxley. By EDWARD CLODD. Edinburgh and London: William Blackwood and Sons. 1902. Pp. 226. Price 2*s.* 6*d.*

WE have read this volume, which is one of the "Modern English Writers" series, with great interest. It gives the reader a realistic and striking picture of a man of great intellectual force and character who played many parts and always with distinction, and who occupied a very prominent and deservedly high position in the scientific and literary world. It is not too much to say that in whatever relation he is regarded Huxley united in himself a singular combination of qualities. He was a bold and original thinker who always kept in mind that the end of philosophy is the detection of law and unity in seeming multiplicity and discord and who strove to penetrate to the core of things and to follow no arbitrarily devised system or authoritative teaching but to trace out for himself the natural meaning and significance of the facts and of all of them Huxley manifestly had great intellectual honesty and courage and a singularly clear and robust style of thinking and writing. Nor was this all, for he was in no wise lacking in imagination and humour and he was full of that sense of pitifulness which, like subsoil-water, underlies the surface of most strong and noble natures. He was essentially combative, it is true, but much of this may be accounted for by the force and sincerity of his convictions and the truthfulness of his character, his conflict with adverse circumstances in early life, and his chronic ill-health.

In this small volume we have presented to us a study of Huxley in his different aspects as regarded from various standpoints: the man, the discoverer, the interpreter, the controversialist, and the constructor. Taking it as a whole we think an admirable sketch has been given of him. There is no need to allude to Huxley's great services to science, or to his literary productions and style of writing, for these are already well known to our readers. As Mr. Clodd says in his brief preface, he has made large draughts from the materials supplied by Mr Leonard Huxley in his very admirable "Life and Letters" of his father and from Huxley's own writings. We notice that some exception has been taken to the nature and treatment of the section devoted to the description of Huxley as a controversialist, but to have omitted it altogether or to have toned it down and emasculated it would have been tantamount to giving a most imperfect sketch of him. The ways in which men like the late Mr. Huxley and Sir James Paget, for example, would view everything relating to the spiritual faculties of man are, and always must be, different, but as this section does not properly fall within the purview of the medical or scientific journalist we are not called upon to notice it further.

Manual of the Diseases of the Eye for Students and General Practitioners By CHARLES H. MAY, M.D., Chief of Clinic and Instructor in Ophthalmology, Eye Department, Columbia University, New York. Second edition, revised. With 275 Original Illustrations and 36 Coloured Figures. New York: William Wood & Co. 1901. Pp. xiii. and 408. Crown 8vo. London: Baillière, Tindall, and Cox. Price 8s. 6d net.

THIS is a compendious and well-written text-book that may be taken as a companion to any systematic course of lectures on the eye. The author has had large experience in teaching and judiciously directs the attention of the student to the more important features of each form of disease. In testing the vision of illiterate persons he uses the letter E placed in various positions. We doubt whether this is superior as a test to the letter C suggested by Landolt. In the present edition a useful plate has been added showing the different organisms which are found in the chief forms of conjunctival, corneal, and lacrymal affections. The opportunity is thus afforded of comparing the gonococcus micro-organism with the pneumococcus, Koch-Weeks bacillus, the Morax-Axenfeld diplobacillus, the streptococcus, and the diphtheria bacillus as they are respectively seen under a magnifying power of 950 linears. As in all recent ophthalmological works the subjects of errors of refraction and of disturbances of motility are remarkably well given. The illustrations, both coloured and uncoloured, are unworthy of the text and might with advantage be replaced by other and better ones.

A Handbook of Hygiene. By A. M. DAVIES, M.R.C.S Eng., L.S.A., D.P.H. Camb, Lieutenant-Colonel R.A.M.C., late Sanitary Officer and Bacteriologist Army Headquarters, India; late Assistant Professor of Hygiene, Army Medical School, Netley. Second edition London: Griffith and Co 1901. Pp. 624. Price 8s. 6d.

THE first thing which will strike the ordinary observer on seeing this volume is that it has an unusually attractive appearance—a red leather cover, rounded corners and gilt edges—evidently a book for the pocket. A study of the contents confirms this view. The information is given in condensed form. It is not a text-book for the student but it is essentially the book on hygiene for military or civil practitioners serving abroad. The first edition appeared in the year 1894 and the principal alterations which are to be found in the present edition are in the sections which treat of the sanitary aspects of air, water, and food, soil and sewage disposal, and the causation and prevention of disease. Speaking generally, it may be said that the book has been brought well up to date and it is quite exceptional to find a statement so erroneous as that on p. 123, where the Chadwell spring of the New River Company is credited with yielding 4,500,000 gallons of water daily. This great yield of water was before the time at which the "crack in the basin" unfortunately occurred Although the book is not designed as a text-book of hygiene an advanced student might very profitably read it through when he begins to study the subject in order to gain a general idea of the outline of the problems with which he has to deal. The book would also be a good one for some men to read rapidly through just before they go in for one of the higher examinations in hygiene. The work will, however, prove most useful to those actually and actively employed in appointments dealing with questions of public health, and for such we know of no better work; the subject matter is good and the advantages to which allusion has already been made—the portability and general get-up of the volume—are likely to be appreciated

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LIBRARY TABLE.

Tables of Organic Materia Medica for Medical Students. By WILLIAM WOOD, M.B, C.M., M.R.C P. Edin., Lecturer on Materia Medica and Therapeutics, Edinburgh School of Medicine. 1902 Quarto, pp. 215. Edinburgh: The Medical Supply Association.—These tables have been arranged to help students who are revising their materia medica prior to examination and for such purpose they are in every way suitable They should not be allowed to take the place of a recognised text-book, however, during the period of the regular lectures and the author has therefore supplied his readers with a blank page opposite to each table so that supplementary notes from lecture or text-book may be made. There are four columns in every table—(1) Name of Plant, (2) Part Used, (3) Preparations, and (4) Actions and Uses. In the second column, where crude drugs are referred to, the dose for internal use is also stated, and in many cases these doses are unofficial but perhaps useful for examination purposes. In the column of Actions and Uses we find many useful summaries. In some cases these are excellent, concise, and carefully worded; in others they are not so good. There is no mention of the soporific effect of apomorphine, though only a short time ago a large number of correspondents of the medical journals recorded instances of the value of the drug in that connexion. Under the heading of the Uses of Coca the author says that the truth of the statement that the leaves of coca, when chewed, enable persons to undergo great muscular exertion with little fatigue is exaggerated, and that athletes and others have tried this drug with disappointing effects. The late Mr. William Martindale, who made a very special study of coca and cocaine, was of opinion that coca does enable a great amount of fatigue to be borne with but little nourishment and that it does lessen the breathlessness caused by severe exertion, especially during mountaineering. There have been numerous accounts of walking feats in which coca has been used for its sustaining qualities and in 1893 during the army manœuvres great benefit was reported from its use. For the exact references we may refer the reader to the Extra Pharmacopœia. The only serious fault which we find with the book is the lack of a good index. There are indexes of various kinds, but they are scarcely satisfactory. Otherwise the book seems to us to be eminently suitable for its purpose and we recommend it to students.

A Concise History of Small-pox and Vaccination in Europe. By EDWARD J. EDWARDES, M.D. Lond. London: H. K. Lewis. 1902. Pp. viii. and 142. Price 2*s.* 6*d.* net.—This is a most admirable little book and a mine of information. It is, with the exception of the preface and a few closing words, simply a record of facts. If anything could convince an anti-vaccinationist of the idiocy of his belief it would be a perusal of this book, but as it is perfectly hopeless to argue with such persons in any way but those occasionally reported from that home of liberty and democracy the United States—namely, vaccination at the revolver's mouth—we will pass on to recommend all the clergy, the squires, and others who have it in their power to influence their neighbours to get Dr. Edwardes's book and to study its facts and figures.

The Underground Watering of Plants and Gardens. By the Holder of the Silver Medal of the Royal Agricultural Society of Ireland, &c. London: Ward, Lock, and Co. Pp. 77. Price 1*s.*—The author of this curious little book teaches that the surface watering of gardens is a great mistake and that it leads to an enormous waste which tends to cause water-famine among the poorer population of towns and cities. He advocates the use of certain "bamboo water-spears" of his own invention and asserts that they tend to lessen the quantity of water necessary for the support of plant life. We have not seen the instruments recommended, which may possibly possess the virtues attributed to them. The chief interest in the book consists in the fact that its author expresses clearly the views generally maintained by the engineers of the metropolitan water companies in regard to the wicked waste of water given to trees and flowers. "How great," says our author, "is the contrast presented between the wasteful extravagance of men who raise fresh loans on the rates to bring more water from the Welsh and Cumberland lakes, instead of economising the water already at their disposal, and the thrift of the Almighty, by whose wise providence wasteful exhaustion of the underground stores of moisture is prevented! Should we not take a lesson from this wise thrift of the Almighty by putting a stop to the enormous waste of water which goes on in consequence of surface watering in hot, dry weather in the many gardens by which our towns and cities are surrounded?"

Hindustani Self-taught with English Phonetic Pronunciation, containing Vocabularies, Idiomatic Phrases and Dialogues, Travel Talk, Military, Legal, Religious, Commercial, Shooting, Fishing Terms, Money, Weights, Measures, Indian Titles, Castes, Festivals. By C. A. THIMM, F.R.G.S. London: G. Marlborough and Co. 1902. Pp. 100. Price 2*s.*; bound in cloth, 2*s.* 6*d.*—We have turned over the pages of this little book from cover to cover, have lingered over some of them in doing so, and have arrived at the conclusion that it is what it pretends to be and that it fulfils what its title sets forth. It is surprising what a number of words, brief sentences, and information the author has contrived to bring together, to compress, and to arrange within a small compass in order to make easy the way o those desirous of acquiring some useful and available knowledge of Hindustani. We can recommend the book to thos for whom it is intended. Officers and others proceeding t India will find it a very useful companion on the voyage out. Much successful ingenuity is shown in the English phoneti pronunciation of Hindustani but, speaking from our own experience, we have found it very difficult to acquire th pronunciation of any foreign tongue in this way; in the cas of Hindustani a comparatively short residence in the country however, will do all that is needful in this respect. Th thing is to try to get a general idea of the language, a goo vocabulary, and to let no shyness stand in the way o attempting to use it; listening to the talk of natives an others conversant with Hindustani will soon do the rest

The Annual Charities Register and Digest for 1902, with a Introduction by C. S. LOCH. London: Longmans, Green and Co. 1902. Pp. cxcvi.–746. Price 4*s.*—Aristides, it wil be remembered, was ostracised and one Athenian gentlema voted against him because he was tired of hearing him calle the Just. We feel much the same sensations that mu have actuated Aristides's fellow-citizen when "The Annu Charities Register" makes its appearance. It is so goo that we have an almost irresistible idea to say somethin unkind about it. Mr. Loch's introduction is an admirabl piece of work; in the body of the book the seeker aft knowledge will find an account of every charity which worthy of support and the index to the work is a model what an index should be. In no object is zeal according knowledge more necessary than in alms-giving, and th Register and Digest will tell any person who wishes to b charitable where he may expend his alms to the be advantage. We must mention the one blemish that w have found and that is that in the list of "spiritu institutions" there are some which have no earthly right the name of charity.

The Medical Annual and Practitioner's Index, 190 Bristol: John Wright and Co. Pp. 774. Price 7*s.* 6*d.*– The twentieth issue of this most useful year-book is in n way behind its predecessors. A glance at the list of contributors will show that the editor of the work has selecte those well qualified to help him. Few, indeed, are th subjects upon which the busy practitioner will not find som information in this book. One of the articles which will b found most interesting is that by Dr. T. N. Kelynack on th outbreak of arsenical poisoning in the north of England i 1900. The article is well illustrated by coloured and othe pictures. Another very good and simply written article i that by Mr. A. St. Clair Buxton on Errors of Refraction an Accommodation. Part II. of the book is a *précis* of lega decisions on matter interesting to the medical professio given during 1901, and there are also accounts of new inventions, together with lists of inebriate homes and othe institutions and of books published during the year 1901.

John Bull: His Origin and Character and the Pres Condition of His Big Property, and Two Other Papers o Education. By CECIL REDDIE. London: George Allen 1901. Pp. 76. Price 6*d.*—"Pages of ephemeral verbiage" is good. For the expression we are indebted to Mr. Cecil Reddie. It fittingly describes the essays contained in thi little volume.

Profitable Fruit-growing for Cottagers and Small Holder of Land. (Gold Medal Essay.) By JOHN WRIGHT, V.M.H F.R.H.S., late Editor of the *Journal of Horticultur* London: W. H. and L. Collingridge. 1901. Pp. 127 Price 1*s.*—This is an enlarged and revised edition of a essay on profitable fruit-growing which obtained the gol medal and prize offered by the Fruiterers' Company in th year 1889. The present is the sixth edition which has bee published—a fact which clearly shows that the work as bee appreciated. The little book contains much useful information, is well illustrated, is clearly printed, and has a good index. The author holds the cheerful views in regard to profits which are usually entertained by successful writers on gardening but which are unfortunately less frequently held by the owners of orchards.

JOURNALS AND MAGAZINES.

Journal of Experimental Medicine Edited by WILLIAM H WELCH, M.D. Baltimore. Vol. VI., No. 2. Issued Feb. 5th, 1902.—Dr. S. J. Meltzer and Dr. W. Salant contribute a paper on the Effects of Subminimum Doses of Strychnine in Nephrectomised Rabbits, which is commented on in another column Dr. James Ewing writes an important communication entitled "A Contribution to the Pathological Anatomy of Malarial Fever." Amongst other conclusions at which he arrives is the one that it is frequently impossible to distinguish between the pigment deposits of malaria and those resulting from increased globulicidal activity of the serum in other diseases. The plates attached to Dr. Ewing's contribution are excellently reproduced. Mr E. B. Vedder and Mr. C. W. Duval (research students in the Rockefeller Institute of Medical Research) report the results of an investigation into the Etiology of Acute Dysentery in the United States. The main conclusion at which they arrive is that the cause of acute dysentery, whether sporadic, institutional, or epidemic, is the bacillus dysenteriæ of Shiga.

Middlesex Hospital Journal.—The issue of this journal for February contains the conclusion of an interesting article by Mr. C. Roberts on Surgery in the Boer War. The account given of wounds of the spinal cord is particularly noteworthy. The symptoms derived from such injuries were naturally most distressing and little could be done in the way of operations to relieve the condition. Mr. Roberts also describes lesions of the peripheral nerves due to bullet wounds. Extraordinary instances were met with in which a nerve as small as the median was pierced longitudinally by a Mauser bullet without being completely divided transversely. Dr C Price-Jones contributes an article on Methods of Hæmoglobin Estimation and details Haldane's modification of Gowers's hæmoglobinometer which obviates the defects connected with the use of artificial coloured solutions and tinted glass. "Some Definitions" by H. G. K. Y. are amusing "Examination Hall" is defined as "an unattractive riverside resort where examiners take in paying guests" A "lecture" is stated to be "a learned soliloquy frequently productive of deep sleep."

Journal of Anatomy and Physiology Conducted by Sir WILLIAM TURNER, K.C.B., F.R.S., D. J. CUNNINGHAM, F.R.S., G. S HUNTINGTON, F.R.S., A. MACALISTER, F.R.S., and J. G. M'KENDRICK, F.R.S. Vol. XXXVI. New series, Vol. XVI., Part III. April, 1902. Pp. 110. Price 6*s* London: Charles Griffin and Co.—The articles contained in his part are: 1. On the Development of the Head Muscles in the Newt, by F H. Edgeworth, M.B.Cantab, B.Sc.Lond., assistant physician to the Bristol Royal Infirmary. This article is illustrated by many drawings in the text. It is too intricate to abstract, but one of the incidental results of Dr. Edgeworth's observations is to show that he segmental value of the cranial nerves is to be determined rather by the morphological position of the muscles that they innervate or "represent" than by their arrangement in the mid and hind brain. 2. The Separate Functions of Different Parts of the Rima Glottidis, by W. A. Aikin, M.D Brux. The account here given contains some novel points due to Dr. Aikin having had exceptional opportunities of examining the movements of the larynx and his views are illustrated by two plates. 3. On an Unusual Form of Nasal Bone in a Human Skull, by W. L. H. Duckworth, M.A. The subject of the article was an ancient Egyptian. Mr. Duckworth also gives (4) a Note on the Irregularities in the Conformation of the Post-orbital Wall in Skulls of Hylobates Mülleri and of an Aboriginal Native of Australia. 5 An Ischiopagus Tripus (human), with special reference to the Anatomy of the Composite Limb, by James F. Gemmill, M.A., with two plates. 6. A Rare Anomaly of the Aortic Arch, by R. Stanley Taylor of Downing College and J. M. P. Groll of Selwyn College, Cambridge. 7. Anomalies in the Cervical and Upper Thoracic Region, involving the Cervical Vertebræ, First Rib, and Brachial Plexus, by Lawrence Dukes, B.A., and S. A. Owen, B A., of Trinity College, Cambridge. 8. A Contribution to our Knowledge of the Chemistry of Red Bone Marrow, by Robert Hutchison, M.D Edin, and J. J. R. Macleod, M.B Aberd. 9. Twelfth Report on Recent Teratological Literature, by Bertram C A. Windle, M.D. Dub. 10. On the Homologies of the Cerebral Sulci, by G. Elliott Smith, M.D. Sydney. 11. The Proceedings of the Anatomical Society of Great Britain and Ireland.

Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N LANGLEY, F.R S. Vol. XXVIII., Nos 1 and 2. March 27th, 1902. London: C. J. Clay and Sons. Price 11*s*.—This part of the *Journal of Physiology* contains the following communications: 1. A Further Research into Fatigue of the Central Nervous System when caused by Electrical Stimulation, by A. G. Levy, M D. Lond., with eight figures in the text. 2 Path of Impulses for Inhibition under Decerebrate Rigidity, by A. Fröhlich, M.D, and C. S. Sherrington, M.D. Cantab, F.R.S. The path occupies a small, fairly limited area of the cross section of the cord. 3. Some Effects of the Ligature of the Renal Arteries in the Frog, by A. P. Beddard, M D Cantab. 4 The Effect of Local Injury upon the Excitatory Electrical Response of Nerve, by Francis Gotch, D Sc. 5. The Innervation of the Frog's Stomach, by Walter E Dixon, M.D. Lond., with 13 figures in the text. 6. Some Experiments on the Functions of the Medulla of the Kidney, by Francis D Boyd, M.D Edin. 7. The Relationship of the Spleen to the formation of the Blood Corpuscles, by D Noel Paton, M D, F.R.C.P. Edin., G Lovell Gulland, M.D, F.R.C P. Edin., and J. S. Fowler, M.D Edin., with 10 figures in the text. The conclusion at which these observers arrive is that in the animals which they examined—dogs, cats, and rabbits—there is no evidence that the spleen has any important action as a blood-forming organ. 8. The Influence of Subcutaneous Injections of Large Quantities of Dextrose on the Metabolism in the Dog, by James Scott, M.D. Edin. It increases it. 9. Note on the Absorption of the Nitrogen of Oatmeal by the Dog, by D. Noel Paton. 10. On the Residual Pressures in the Vascular System when the Circulation is Arrested, by Leonard E. Hill, M.B. Lond., F.R.S 11. Pancreatic Diastase and its Zymogen, by H M. Vernon, M.D. Oxon. 12. The Differences of Action of Various Diastases, by the same author. Dr. Vernon is led to conclude that malt diastase is an essentially different body from animal diastase; that salivary diastase is different from pancreatic; and that probably the pancreatic diastases of various animals are different bodies. 13. On the Digestion of Cane Sugar, by J H. Widdicombe, M.A. 14. The Proceedings of the Physiological Society, which include an article by E. H. Embley on the Causation of Sudden Death during the Administration of Chloroform; another by E. I. Spriggs, M.D., M.R.C.P. Lond., on a New Method of Observing Peptic Activity; and a third by Thomas Lewis on the Structure and Functions of the Hæmolymph Organs.

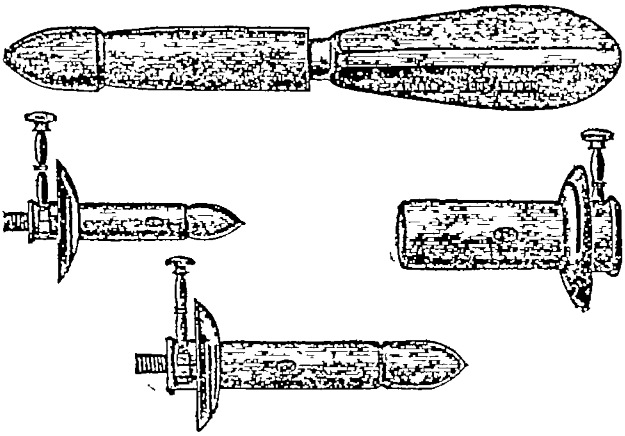
The *Veterinary Journal* for March commences with an editorial criticism upon that much-talked-of section of the War Office, the Remount Department. Although letting the authorities down lightly and recognising the difficulties which had to be faced, the article seems to infer that there has been a lack of business capacity shown throughout the whole affair and mentions certain salient points which must always be taken into account when estimating the actual cost of a troop-horse—such a point, for example, as transport and its necessary accompaniments in regard to forage, and the like. There is also a complaint regarding the cost of working the Indian Remount Department, as, upon the authority of the *Times*, each troop-horse passed into the ranks costs on an average £200. An inspection of the remount farms has been recently made by a distinguished body of army officers and as a result there is a suggestion that an Imperial Stud Department shall be formed to absorb the Remount and Civil Veterinary Departments and thus to bring them under one head. Clinical articles are given on Sarcoptic Mange of the Ox and Demodactic Mange of the Dog and there is an interesting illustrated case of an Actinomycotic Tumour removed from a Cow's Mouth. The remainder of the pages are devoted to extracts from foreign journals, reviews of books, and papers read before various veterinary medical societies during the previous month.

The *Veterinarian* for March has a dearth of clinical articles which seems to show either a very great apathy amongst the members of the veterinary profession or else that the usual recrudescence of disease which comes in the spring has made practitioners so busy that they cannot find time to put their pens to paper. The journal commences with a lengthy extract from a recently published work on Surgery, and is followed by others on Liver Fluke, the Development of Knowledge Concerning Animal Diseases, and Live Stock in Russia. These are followed in turn by a few extracts from foreign journals, some remarks on Current Topics, and Science Notes. The dearth of original matter is a subject for regret.

New Inventions.

SET OF TROCARS AND CANNULÆ FOR EMPYEMA.

MESSRS. ARNOLD AND SONS, London, have made for me a set of special trocars and cannulæ for use in certain cases of empyema. They are flattened from side to side and not circular as usual in other trocars, to enable them to pass through an intercostal space with greater ease. The cannulæ are made of silver and they can be left *in situ* for 10 days if necessary. The trocars are of very hard steel and in consequence of their shape the end and the cutting edge project further than in the ordinary form. To minimise the danger to deep parts when the instrument is used each cannula is fitted with a moveable shield, being fixed at any depth by a screw as in Durham's tracheotomy tube. The shape of the shield is similar to that of a bivalve tracheotomy tube, but it is perforated by two long slots placed in such a manner that whatever be the inclination of the ribs the tube can be kept in position by tapes threaded through these slots and passed straight round the chest. The set consists of three, with one handle which screws into all the trocars. The sizes are as follows: 1. Small, $\frac{5}{16}$ inch × $\frac{1}{8}$ inch and $1\frac{9}{16}$ inches long. 2. Medium, $\frac{7}{16}$ inch × $\frac{3}{16}$ inch and $1\frac{9}{16}$ inches long. 3. Large, $\frac{5}{8}$ inch × $\frac{1}{4}$ inch and $1\frac{9}{16}$ inches long. The above a inside measurements; the length is the effective length viz., from the shield to the end of the cannula. The chi use which I have put this instrument to, and in which I ha found it to act extremely well, is to drain an empyema aft incision of the skin under eucaine administered hyp dermically in those cases where the administration of general anæsthetic is especially dangerous on account of t condition of the patient.



WILLIAM TURNER, M.S. Lond., F.R.C.S. Eng.,
Senior Assistant Surgeon, Westminster Hospital; Surgeon,
Royal Hospital for Diseases of the Chest, City-road, E.C.

Looking Back.

FROM

THE LANCET, *SATURDAY, APRIL* 10, 182

LECTURE 49.[1]

Thursday Evening, April 1.

On the Different Amputations.

Operations are now much less frequently performed tha they were in the days of our ancestors, owing to the grea improvements which have taken place in surgical scienc Many of the diseases which were formerly considere incurable can now be easily cured by modes of treatmen corresponding with our increased pathological knowledg Many accidents, for example, where the parts are muc lacerated, and for which the ancients would have operated we leave to nature, by whose influence the different repara tive processes will be set in action and the injured lim restored to health and utility. When amputation is nece sary, nature will occasionally even perform this operatio unassisted by art; in mortification of the feet it ofte happens that the leg will be amputated by nature a effectually as though it had been accomplished by th amputating knife. At Guy's Hospital there is at the presen moment a case of this description. You have seen, in th case which I allude to, first, a division of the skin, then th division of the muscles shorter than the skin, and lastly, th division of the bones; the fibula has already separated, an the exfoliation of the tibia is rapidly going on. Nature i this case if left to herself, would, without doubt, accompli the amputation of the leg, but the safety of the man requires I think, that the remainder of the bone should be divided b the saw, for if this be not done, the long continued excitement may wear out the powers of the constitution.

Diseased joints used very frequently to lead to the per formance of amputation, in the young as well as in old age but amputation is much less frequently performed at th present day, in consequence of such disease, than some year back; even diseases of the joints of the upper extremities o children give rise to amputation much less frequently tha in the days of our forefathers, but in chronic diseases o the ankle and knee, amputation is still very commonly per formed; there is, however, a marked distinction in thes chronic enlargements; one variety may be called congenital which exists from the birth of the child, and the other i from some debilitating cause which produces the complain after birth; as the constitution therefore was radically wea or vitiated in the former of these affections, you canno expect that such permanent benefit will result in that case as in the latter, where the constitution became affected from some accidental circumstance.

With respect to diseases of the ankle and knee joints amputation for such complaints will occasionally be nece sary both of the leg and thigh; indeed chronic affections o the ankle and knee give rise to amputation as frequently a diseases in any parts of the body. For compound fracture we seldom amputate directly: they are seldom so severe a to require immediate amputation, and it is not until gangren or disease of the bone has taken place, that it is deeme necessary to amputate; compound fractures, however, from the superior manner in which they are now treated, do much better than formerly, and very severe injuries of this descrip tion will often terminate most favourably, therefore upon th whole, amputations are much less frequently performed a the present epoch than in the days of our ancestors.

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[1] Excerpt from report of lecture delivered by Sir Astley Cooper in th theatre of St. Thomas's Hospital.

THE LANCET.

LONDON SATURDAY, APRIL 12, 1902

The Will of Mr. Rhodes.

THE will of CECIL RHODES is a monument of the man, exemplifying in itself the vastness of his ideas, the loftiness of his ambitions, and the minute attention to detail with which he was accustomed to organise his designs. His intention to assist the welding of the British Empire into a more powerful and harmonious whole by promoting educational inter communication between the mother country and the colonies is assured of success, while the recognition of the many aims and interests that Great Britain and Germany have in common is to our thinking as shrewd as it is generous. The medical profession will have learned with gratification that this prescient man saw the influence that is played in the development of peoples by medical science His recognition of the claims of medical science upon his magnificently-planned munificence shows a sense of the part played by medicine in the civilising of the world, it proves also an appreciation of the fact that in spite of all recent progress and discovery science has still wide realms to explore, in the investigation of which money is necessary to equip the explorer Mr RHODES's reference to the features of medical education at Edinburgh and Oxford is peculiarly interesting Throughout the portion of his will which deals with university education he never loses sight of the social aspects of Oxford life as he knew it. He is aware of the high reputation of the University of Edinburgh which, he estimates, has at least 50 young men from Africa among its students, many of them attracted by its medical school. He is aware of the excellence of that medical school, but at the same time he sets high value on the residential system of which he himself has had personal experience at Oxford. For this reason he establishes the scholarships which he desires to found with a view to their recipients being educated at the University of Oxford. The terms and conditions of these scholarships are now known to everyone and we need not describe them. It has been suggested that in certain matters of detail they do not comply with what is required in the case of scholarships at Oxford. Presumably, if any difficulties in these respects arise with regard to the appointment of students such difficulties in the case of gifts of so great importance will easily be got over It also may be held that the scholarships designed by Mr RHODES are not, strictly speaking, university scholarships at all, but, rather, scholarships to be awarded by the trustees of Mr RHODES's will, without any intervention or control by the university authorities, to members of particular colonies and States

With regard, however, to the relative educational facilities for medical students at Oxford and at Edinburgh Mr RHODES makes a suggestion the meaning of which is obvious though the testator had not the facts of medical education very clearly before him. He suggests that Oxford should "try and extend its scope so as if possible to make its medical school at least as good as that at the University of Edinburgh" Mr RHODES in his will shows intimate and modern knowledge of the conditions existing at his college and his university When the will was made he no doubt knew that there had been progress and improvement initiated in the matter of medical education at Oxford, so that the early training of the Oxford medical student in the purely scientific, or auxiliary, branches of his profession is thoroughly first class He also knew that as a centre of medical education Edinburgh deservedly enjoys a long-established and world-wide fame. When, however, he recommends the University of Oxford to extend its scope, and implies that it has, or could obtain, the power to make its medical school "at least as good" as that of Edinburgh, he would appear to have overlooked the circumstances which contribute to make medical education at Edinburgh University what it is, circumstances which are quite unattainable at Oxford whatever efforts the University of Oxford may be stimulated to make. Edinburgh as the capital city of Scotland, and one of its largest centres of population, is a medical centre, in the natural course of affairs, such as Oxford can never become Edinburgh in its world famous Royal Infirmary combines in one institution to a singular degree all that is necessary for the most complete course of clinical study The University of Oxford can do what lies in its power as a university for the education of its medical students, but it cannot possibly increase the Radcliffe Infirmary so as to make it a hospital comparable with the Royal Infirmary of Edinburgh Nor can the reputation for scientific teaching which is necessary to attract students of science from all parts of the world be built up in a day Edinburgh was a centre of scientific inquiry and teaching when Oxford and Cambridge were schools of academic learning that practically confined their attention to Latin, Greek, mathematics, theology, and to questions arising out of these studies. Cambridge has made a name for itself during the past 20 years as the school *par excellence* for the student of natural philosophy, and there is no reason why the University of Oxford should not expand in a similar direction and with similar success. But neither of the old universities can become a centre of medical knowledge; both, in the absence of large and varied clinical material, must be content with supplying exceptionally well grounded students to other medical schools and with rigorously examining these same students in the later stages of their careers. That this point was hardly clear to Mr RHODES we think must be allowed

We warmly congratulate the University of Oxford on all the benefits which it will receive from the enthusiasm and far-sightedness of its great *alumnus*.

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Mosquitoes and Yellow Fever in Havana.

GRADUALLY but, it would seem, surely our knowledge as to the zoological distribution of infectious disease is extending and with its extension the field whereon is fought the battle against diseases affecting the human species is shifted from man himself to what is called the intermediary host. It has been so with malaria, it has been so in a measure with plague, and it is so with the several parasitic diseases which will at once suggest themselves. Of diseases such as these man has no longer the sole prerogative, they can no longer be known exclusively as "human diseases." Scientific research has now, in a sense, transferred from man to the mosquito that veritable scourge of certain tropical areas, yellow fever. The brilliant and withal somewhat heroic experimental investigations of our American *confrères* have served to show almost conclusively that personal infection plays an altogether insignificant, if any, rôle in the spread of the disease—that, as with malaria so with yellow fever, it may be a case of "no infected mosquitoes no disease." Many of the researches as to the part played by mosquitoes in diseases common to man have been worked out in one or another portion of the British Empire which has, epidemiologically speaking, the fortune to possess within its limits all the diseases which mankind is liable to inherit or to acquire; but unfortunately for scientific patriotism the workers in the field have often owed allegiance to other sovereigns than our own. In the matter of yellow fever the workers have been American, as also has been the soil upon which the researches have been carried out and the conclusions applied.

As we pointed out in a leading article on June 15th, 1901, the investigations of Major Walter Reed and his colleagues have seemed to show that the prevention of yellow fever is largely bound up with the destruction of the *Culex fasciatus* or the prevention of its bites, and the military administration of Havana has lost no time in putting this theory to a practical trial. The result of the destruction of this mosquito and its potential progeny has been almost dramatic in its thoroughness, and the city of Havana is now pronounced to be practically free from yellow fever. Thus it comes about that the advent of the American administration at the close of the Cuban war has, according to the last annual report of Major W. C. Gorgas, surgeon, United States Army, and chief sanitary officer of the city, been speedily followed by the extirpation of a disease which has been endemic therein for the last 200 years. We are in entire accord with Major Gorgas that this is a matter of vast importance and that "this fact should be made known to the world as rapidly as possible." If the passage of time sets its seal upon the promise of 1901–1902 we are, as Major Gorgas observes, face to face with a prophylactic measure which is worthy to rank, at least in so far as the yellow fever areas are concerned, with the discovery of Jenner. We cordially trust that time may justify the prophecy which has been made in all good faith and upon apparently trustworthy grounds. But while provisionally accepting the remarkable figures placed before us we must be forgiven if we plead for time before finally acquiescing in the inferences which have been drawn from them. On looking at the table relating to the annual deaths from yellow fever in Havana for the last 45 years we note that the yearly toll ranged from 2058 to 51, this latter figure being exceptional in that there has been nothing within recent years under 103, the figure for 1899. Under the anti-mosquito *régime* for the first 10 months of the yellow fever year 1901–1902 there have been but *five* deaths and this unprecedented drop is certainly such as to suggest the operation of some quite new factor. Unfortunately Major Gorgas does not give us in the text of his reports many details as regards the method of attack adopted, but we gather that during the period under discussion Havana was a city full of "non-immunes" and that it was in unrestricted communication by rail with half a dozen infected towns. Commerce was not interfered with and no restraints were placed upon the admission into Havana of clothing and bedding from infected localities. As Major Gorgas tersely expresses it: "The only infected material from the towns looked after was the sick man, who was carefully sought out and screened from mosquitoes." This story is full of interest both for the epidemiologist and the administrator, and the English Government will be lacking in initiative if it fails to make detailed inquiries at once into all the circumstances so that, if the facts justify the imitation, the method adopted in Havana may be applied to the yellow fever areas of our Empire. From the tables in the report before us it appears that there have been very extensive operations in the direction of the application of petroleum, in intimating to householders the existence of larvæ on their premises, and in making cisterns mosquito-proof, but precise details are lacking.

As a matter of curiosity we have been led to examine the figures as to the prevalence of yellow fever in Vera Cruz from 1866 to 1900, and from these we find that the annual figures have ranged from 747 to *nil*, the totals on several occasions having been below 10. We quite accept the obvious criticism that the returns for Vera Cruz and Havana are not strictly comparable, but nevertheless the figures show that in large populations where yellow fever is endemic it is not unusual for the returns for any one year to present an absence of the disease in question. In thus enjoining caution we are anxious to accord all honour to the American military administration in Havana the results of which are so graphically portrayed by Major Gorgas himself when he tells us that "the army took charge of the health department of Havana when deaths were occurring at the rate of 21,252 per year. It gives it up with deaths occurring at the rate of 5720 per year. It took charge with small-pox endemic for years. It gives it up with not a single case having occurred in the city for over 18 months. It took charge with yellow fever endemic for two centuries—the relentless foe of every foreigner who came within Havana's borders, which he could not escape and from whose attack he well knew every fourth man must die. …… The army has stamped out this disease in its greatest stronghold." We cordially trust that this most pleasing picture is painted in permanent colours. But the Old World statistician seems to hanker after more information as to the rates referred to and as to whether the late war in Cuba may have had any part in accentuating the statistical contrasts.

The Grocer's Licence.

On Monday last the Home Secretary successfully moved the second reading of the Licensing Bill which was thereupon referred to the Standing Committee on Trade. We beg to congratulate him upon the progress which has been made with this measure. The Licensing Bill may not be a comprehensive or drastic piece of temperance legislation—indeed, Mr RITCHIE has himself disclaimed for his Bill any such thorough going character—but it is an honest attempt to minimise the evils of drinking, and as such deserves the support of all thinking men and women, and especially of the medical profession. How widespread and how complicated the evils of excessive drinking are is better known to medical practitioners than to any class of society The physical ills that are wrought by intemperance form the daily lessons of our hospitals, the moral effects of the same baneful habit are seen at their fullest growth in our lunatic asylums and prisons. It is consequently incumbent upon the medical profession to speak on the absolute necessity of the proper regulation of the drink traffic, although they are not called upon to vouch for all the sensational propaganda made in the teetotal interest.

During the debate on the second reading the measure received from Mr CAINE, speaking as a representative of the temperance party of the country, a qualified blessing, but several members, notably Mr HARWOOD, Mr TRITTON, and Major JAMESON, spoke in condemnatory terms of some of the clauses. Criticism of the measure centred largely around Clause 8, that which deals with grocers' licences. The present position of grocers' licences is that any person can obtain a licence of this kind as a matter of course, if he fulfils certain obvious conditions. Any tradesman against whom nothing serious can be alleged can claim from the magistrates a certificate empowering him or her to purchase a licence at the Inland Revenue Office. The local justices are not empowered or permitted to entertain the question of expediency—that is, whether their district stands in need of further facilities for procuring drink. By the new Bill the granting of these licences is placed at the free and unqualified discretion of the magistrates, no sort of claim can be made by anyone to the privilege. Mr HARWOOD, who opened the debate, objected strongly to this alteration of the law, arguing that licences when so granted would confer upon the licensees a vested interest which would add to the difficulty of compensation—a difficulty which, as all who have studied the temperance question know, still looms ahead. Major JAMESON, who believed the Bill to be "as silly as it was unnecessary," also objected to Clause 8 which he considered to place the off licence holder in a most unfair position and the effect of which he did not consider the Home Secretary to have realised. We expect that Mr RITCHIE knows the ins and outs of the matter as thoroughly as does Major JAMESON It is obvious that the new regulation may work unequally In districts where the licensed victuallers' influence is great fewer licences will be granted to grocers, but we do not fear that grocers as a class will meet with injustice any more than we fear that a local feeling against that much-abused citizen, the publican, will anywhere lead to an attempt to satisfy the drinking requirements of the community by granting licences to grocers in profusion. Mr CRIPPS, speaking also on behalf of the off-licence holder, believed that it was quite untrue to say that grocers' licences had led to the increase of intemperance A large section of the public appear to share Mr CRIPPS's view that the conditions under which liquors are sold by off-licensees are such as conduce to sobriety, while the existence of a number of businesses which have been legitimately built up under grocers' licences and about which no complaints have been made, is an argument against the abolition of the existing system which has to be reckoned with Why, Mr CRIPPS asked, should the business of any of these grocers be placed at the mercy of a bench of magistrates? The only reply is that the good of the public calls for the reform even though individual cases of hardship may occur, while it is our opinion that such cases will be so infrequent as not to be worth counting

The matter is one upon which the medical profession has a right to speak somewhat strongly We believe that we certainly endorse the views of the majority of our profession, who have given the question a thought, when we say that the proposed modification of the manner in which grocers' licences for the sale of liquor are to be obtained is advantageous to the public health and the public morality The abolition of grocers' licences has been much threatened. A quarter of a century ago we obtained in this office 900 signatures of medical men to a petition for this reform, and our movement started the feeling against off licences which has remained in force ever since. At that time we stated that, as far as we could see, the grocers licences were distinctly things that were liable to abuse. By what plea of necessity the issue of unrestricted grocers' licences could possibly be excused we were then unable to discover, and we have not been able to discover since No valid reason can be urged on the ground of general utility why the grocer should add to his proper functions a duty which makes of him virtually a disguised publican In some country districts, it may be, the provision store must serve to some extent the purposes of a house of call, but there is no absolute necessity even here for the off licence, while the discretion vested in the magistrates will meet individual cases. We have no manner of doubt that the tendency of grocers licences is to encourage secret drinking The evil influence of successive little stimulating "nips," taken when the drinker is not under observation, is well known to be nearly or quite as hurtful to the health as are the unbridled but more occasional excesses of the open drunkard. But the secret toper, who would resent the imputation of drunkenness, will avoid a professed drinking bar The grocer's licence is for such men and women—and especially for such women—a special snare. We understand, of course, that the law cannot restrain an ostensibly sober person from procuring drink if he or she chooses, but it is nevertheless quite within the province of the legislature to restrict the opportunities of those predisposed to ruinous indulgence, especially when its action can in no way interfere with public convenience. On this principle the change proposed by the new Bill is entirely justified We anticipate beneficial results from its operation—not so much, perhaps, in the case of the chronic inebriate as in that of many women to whom the off licence affords a tempting facility of descent. There appears to be no reason why the holders of grocers' licences should not receive compensation in some form if their present privilege is withdrawn. Into this part of the question, however, it is not necessary for us to enter. We may safely entrust its settlement to the consideration of the Government.

Annotations.

"Ne quid nimis."

THE GERMS OF THE SEA.

AT no particular spot has the sea been found to be free from organisms, although those isolated and recognised have proved to be harmless, consisting of actively motile rods and vibrios, cocci being less numerous. As might be expected, the number of organisms increases immensely as the shore is approached. Thus about a mile from the shore something like 4000 germs per cubic centimetre have been found, and this influence of the shore extends for four or five miles. Some hundreds of miles from land the number diminishes to 600 and at greater distances to 200 or less. Of course, the fact that algal vegetation is richest near the shore, providing a highly nourishing hunting ground for the marine organism, accounts for the myriads usually found there. Samples of sea water taken at some depth below the surface proved to contain only a few bacteria per cubic centimetre. Thus at half a mile below the surface only from eight to 12 bacteria were present There is little doubt that even should pathogenic organisms gain access to the sea, as must be the case when sewers discharge raw sewage into it, their activity must sooner or later be destroyed. The sea is remarkable from a bacteriological point of view in containing phosphorescent bacteria and it is probable that some of these are disease-producing so far, at any rate, as regards certain aquatic animals. Thus a bacterium has been successfully cultivated from the body of the luminous talitrus which is both pathogenic and luminous. This bacterium invades the abdominal cavity of this aquatic animal and all its organs with a fatal issue. During the presence of the disease the victim shines with a green light which is said to be visible nearly a dozen yards away and which persists for some hours after the demise of the animal. It is not improbable that the luminosity of other marine animals may be due to the invasion of this light- and disease-producing organism. The very beautiful phenomenon of the phosphorescence of the sea is caused by photo-bacteria in part as well as by a variety of low forms of animal life. The eerie light is in no way connected with the element phosphorus as is very commonly supposed. The cause of the phenomenon is respiratory exchange or oxidation, an aerobic function. Sea phosphorescence is never witnessed in perfectly smooth water, while the brilliancy of the light when it is observed is always greatest upon the crests of the waves or where the water is in a violent state of agitation, as in the wake of a steamer. Its occurrence, therefore, is evidence of active oxidation. Could, again, the sea be sterilised phosphorescence would cease. The presence of highly combustible matter increases the light. A very simple experiment proves this. If the flesh of a fresh haddock or herring be placed in a 3 per cent. salt solution and kept at a low temperature (from 40° to 50° F.) the liquid will rapidly develop phosphorescence which becomes quite brilliant on adding a little glycerine or sugar, or what, in other words, is respirable material. It is curious that in marine life disease and death should be associated with luminous phenomena.

EFFECTS OF STRYCHNINE ON RABBITS IN WHICH DOUBLE NEPHRECTOMY HAS BEEN PERFORMED.

IT has been well established that strychnine is eliminated from the body mainly through the kidneys. Dragendorff has shown that all the strychnine leaves the body unchanged and Kratter succeeded even with such a small medicinal dose as two milligrammes in recovering the entire quantity from the urine. If the subcutaneous administration be accomplished very slowly even more than a fatal dose may be injected without causing any characteristic effect, which has been explained on the assumption that in such a case enough strychnine is eliminated by the kidneys to prevent the accumulation in the blood of an effective dose It has been presupposed as a matter that is self evident that in an animal from which the kidneys have been removed subminimum doses will even aggregate within the blood to a poisonous dose simply because the eliminating organ is removed. This supposition has been proved not to be correct by Dr. S. J. Meltzer and Dr. W. Salant, who publish the result of their researches in the *Journal of Experimental Medicine*, vol. vi., No. 2 The title of their communication is "The Effects of Subminimum Doses of Strychnine in Nephrectomised Rabbits." Their investigations bring out the following points. 1. For a rabbit without its chief eliminating organs—the kidneys—the minimum toxic and fatal doses of strychnine are, nevertheless, not smaller than are those for the normal animals. 2. Even in a rabbit without its kidneys a single cumulative toxic dose of strychnine induces only one attack, or a few attacks, of the characteristic spasm and the animal soon recovers and shows no further effects of the strychnine. Hence a toxic dose apparently remains within the body, causing a continual effect. 3. If proper subminimum doses at proper intervals are employed "nephrectomised" rabbits can gradually receive thrice the fatal dose of strychnine without showing any reaction. Large fatal doses of the poison are apparently accumulated within the body without causing any effect. Dr. Meltzer and Dr. Salant then proceed to suggest various explanations of these facts, but, as they admit, these are only hypotheses which require further study. We consider the most plausible suggestion to be that after the removal of the kidneys the act of elimination is carried on by other organs; for instance, by the gastro-intestinal canal. The above observations are interesting from several points of view but the most practical result is the following consideration. It has been claimed by clinicians that in chronic diseases of the kidneys certain drugs, such as strychnine, should not be administered since, owing to the lessened power of elimination on the part of the kidneys, serious or even fatal accumulative results might follow According to the experiments which we have been considering, however, such a theory is incorrect and the animal body apparently possesses a mechanism capable of regulating the cumulative capacities of the blood even in the absence of the kidneys. It would be interesting to know the results of similar investigations with other drugs, such as morphine, for the fear of cumulative effect in renal disease would seem to rest at present on theoretical grounds alone.

ON THE RELATIVE PREVALENCE OF DISSEMINATED SCLEROSIS.

AN important discussion on the relative prevalence of disseminated sclerosis in the United States based upon very extensive and exact records collected by leading neurologists is published in the *Medical News* of New York of March 22nd last. In opening the discussion Professor C. L. Dana reported that he had collected the histories of 3000 private patients suffering from various forms of nervous disorders and that

) of these were instances of disseminated sclerosis. Of 600 tdoor patients seen by him at his clinic at Bellevue ospital during the past year two were probably (though not rtainly) afflicted with disseminated sclerosis. "In Bellevue ospital itself 12,000 patients were received annually and e of his assistants was continually on the watch for cases nervous diseases, yet he had not found more than one two cases of multiple sclerosis each year." From his perience he was compelled to believe that the disease was rer in the United States than in Europe, "possibly owing to e better surroundings of the masses of the people " Dr. memo Hammond from a careful examination of his case-ooks for the past 10 years found that among 3000 private atients suffering from nervous diseases 15, or 2 per cent. of e total, had disseminated sclerosis, while out of 7000 atients at his clinic 32, or 1 33 per cent., had the same ffection. Thus out of 10,000 private and hospital cases 47 ad disseminated sclerosis, a proportion of 1·5 per cent. r. Allen Starr's records of 10,056 cases at his clinic showed hat 27 had disseminated sclerosis, but in six of the latter iagnosis was recorded as doubtful. All the female patients ith disseminated sclerosis were below the age of 31 years, he youngest being 16 months old Dr Sachs stated that out f 2000 patients in his private practice 13 were undoubtedly ases of disseminated sclerosis, or 1 in 150 There were ome cases observed by him which had begun as dissemi-ated sclerosis and had in later life passed into paralysis gitans. Dr B. Onuf said that during his observations ade in hospital of nearly 600 cases of nervous diseases he ad noted eight cases of disseminated sclerosis. Dr. Edward) Fisher had during six years observed 2451 cases of ervous disorders and of these eight were examples of isseminated sclerosis Dr. Joseph Collins had in 1895 nder his care 1270 patients with nervous diseases with three f disseminated sclerosis; in 1899 the figures were 1400 nd five of disseminated sclerosis; in 1900 they were 368 patients and five of disseminated sclerosis; and in 900 they were 1470 with five examples of disseminated clerosis. Thus, of a total of 5508 patients suffering from arious nervous disorders 18 had disseminated sclerosis. Thus f a total of 33,607 patients with various nervous disorders collected from the records of Professor Dana, Dr Graeme Hammond, Dr Allen Starr, Dr Sachs, Dr Edward Fisher, and Dr Joseph Collins, 125 were examples of disseminated sclerosis, or 0·37 per cent., thus showing that the disease was comparatively rare in the United States. According to the testimony of many of the contributors to the above symposium it appeared that disseminated sclerosis was much rarer than tabes dorsalis in the United States and slightly less frequent than paralysis agitans

BACTERIOLOGY AND SEWER AIR: ITS PURIFICATION.

IN an interesting note upon this subject just published in pamphlet form Dr. J T. C. Nash, the medical officer of health of Southend-on-Sea, points out that sewer air is detrimental to health and repulsive to the sense of smell chiefly because of (1) offensive gases and (2) organic particulate matter. The offensive and prejudicial gases include sulphuretted hydrogen, sulphuretted ammonia, carburetted hydrogen, and carbon dioxide The particulate organic matter comprises such bacteria, moulds, or yeast as may happen to be present. Various investigators have shown that different samples of sewer air vary greatly in their numerical bacterial contents. The bacterial flora of sewer air are not constant in kind, the number and variety of bacteria present depending on seasonal conditions and the special environment of the sewer. It appears to be established, however, that the proportion of moulds to bacteria is greater in sewer air than in the air of the street or even of an ordinary room. Dr. Nash agrees that it is of the greatest importance that sewers and drains should be so arranged as to minimise the possibility of contamination by splashing, and he regards it as equally important that strong currents of air should be avoided or that, when that condition exists, the air issuing from a sewer should be washed before it is allowed to escape through a ventilating shaft into the street. The importance of thus arresting particulate matter is obvious from the fact that in proportion as the draughts or currents of air in a sewer are stronger or feebler the number of organisms in the sewer air will be greater or less. Sewage organisms find their way into sewer air (1) by splashing; (2) by the bursting of bubbles from putrefactive changes, and (3) by motility and the agency of moulds. Dr. Nash maintains that all that is required to secure the innocuousness of sewer air is to submit it to a thorough washing with fresh water before it is permitted to mix with the street air *viâ* the ventilating shaft. Bacteriologically the results of this simple process are satisfactory, but it would be interesting to determine whether, in spite of this fact, washed sewer air has any poisonous effect on the organism.

FACTORY GIRLS' COUNTRY HOLIDAY FUND.

WE are glad to see by the annual report of this excellent fund that both the work done by, and the resources placed at the disposal of, the fund have shown a considerable increase. The work was commenced 14 years ago, when only 39 women and girls were sent away for country holidays during the year In 1900 2680 were sent. Last year, however, the number rose to 3060 up to the middle of September, by which time the regular annual holiday exodus was over, but convalescent cases continued to be sent away until the end of the year Of this number 250 had medical certificates and stayed away for periods of three, four, or in some cases even five weeks The total number of those who have been assisted by the fund during the year amounts to 3120. There is no need to dwell upon the immense good which this fund does towards improving the health of a class whose occupation is not of the healthiest and whose social position does not enable them to live in healthy environments, but we would point out that it is not only the workers themselves who benefit by an annual holiday but the community at large, for many of these girls are engaged in the preparation of food, and it is eminently desirable that the work-people engaged in this kind of labour should not suffer from ill-health. Few, if any, funds are deserving of more support. The address of the honorary treasurer is St. Peter's Rectory, Saffron-hill.

SEVERE HÆMATURIA FROM MOVEABLE KIDNEY.

SLIGHT hæmaturia may occur in cases of moveable kidney, but such hæmaturia as was present in the following case, which is recorded in the *Boston Medical and Surgical Journal* of March 6th by Dr A. J. Cabot, is exceedingly rare. A woman, aged 43 years, was seen on April 6th, 1901. For the past few years she noticed, when tired, a dull pain in the abdomen and on several occasions observed a little blood in the urine. In December, 1900, the urine was deeply coloured with blood. In March, 1901, the urine was almost black and contained clots. She was put to bed and ergot and other hæmostatics were administered, but the hæmorrhage did not abate. On examination in April the urine was of specific gravity 1012 and alkaline; it contained between ¼ and ½ per cent of a large deposit of blood, mucus, and pus. Discomfort was experienced only during the passage of clots. On April 8th the patient was propped up in bed in a half-sitting posture. She was extremely pale and waxy in appearance, with a rapid feeble pulse The bladder was carefully examined with a sound and its posterior and lateral walls were palpated through the vagina with negative result. The right kidney was enlarged and low in the abdomen, the lower end being just above the brim of the pelvis. It could not be pushed up by moderate force and the use of more was not considered advisable. The patient's posture was thought to favour downward displacement of the kidney and to aggravate the congestion. Her extremely low condition was against operation. She was therefore laid flat in bed and the foot of the bed was raised. For 36 hours the hæmaturia seemed greater than before. But after 48 hours it diminished and a few hours later the urine was free from red colour. Three days later the foot of the bed was lowered to the floor for about four hours. Next morning hæmaturia appeared. From this time the foot of the bed was kept elevated until early in May, when the patient became tired of the position and was allowed to sit bolstered up in bed for 20 minutes daily. Hæmaturia, though far less than before, was at once noticed. From this time the hæmaturia ceased and strength was rapidly gained. On May 20th nephrorrhaphy was performed. The kidney was much smaller than at the time of the former examination—little if at all larger than normal. It could be pushed easily into its normal position. Convalescence was uneventful. In February, 1902, hæmaturia had not occurred since the operation and the patient complained only of dragging pain in the right kidney when she lay on her left side.

INFECTIOUS DISEASE IN EGYPT.

DR. ENGEL BEY, the director of statistics in the Sanitary Administration of Egypt, has published a statement in tabular form showing the incidence, with differentiation between natives of the country and Europeans, of small-pox and the so-called "typhic fevers" in Egypt during the quinquennium 1896–1900. In the following table some of Dr. Engel's most striking results have been collated:—

1896–1900.	Small-pox.		"Typhic fevers."	
	Europeans.	Natives.	Europeans.	Natives.
Deaths.				
13 Provinces	16	2386	21	2665
24 Towns (included in the above)	16	363	21	1382
8 "Gouvernorats"* ...	224	700	483	3182
Frontier Province... ..	—	360	—	—
General total...	240	3446	504	5847
Ambulances (Government).				
Admitted...	—	11581	—	8720
Died	—	2616	—	1952

* Cairo, Alexandria, Damietta, Rosetta, Port Said, Suez, Ismailia, and El Arish.

Dr. Engel's tables have been prepared with great attention to detail and afford data from which future sanitary historians will doubtless be able to extract valuable information, but it is evident that the machinery at the disposal of the Egyptian sanitary authorities does not as yet enable them to supply vital statistics referring to the great mass of the population. It is only in the large towns that the diagnosis of fatal diseases can be at all depended on and until medical practitioners of repute become far more abundant than they are at present there is but little hope of any improvement in this respect. Practically the Egyptian *fellahin* are still destitute of skilled medical aid. They enter and leave the world without any trustworthy helper to smooth the too often rugged path and fill up dangerous pitfalls. It is true that some years ago an attempt was made to introduce self-supporting dispensaries, but although the original establishments still exist they have not increased as it was hoped that they would. For many years to come—until the leaven of education has had time to work—the Egyptian cultivator will continue to trust his familiar soothsayer the barber rather than the exponent of western medicine.

HÆMORRHAGIC SMALL-POX.

AT a meeting of the Metropolitan Asylums Board on April 5th a letter was read from the Local Government Board stating that they had requested Dr. E. Klein to undertake an inquiry by bacteriological methods as to "hæmorrhagic small-pox" and asking that all necessary assistance might be afforded him in his investigation.

A PUBLIC BACTERIOLOGIST AND PATHOLOGIST FOR NOTTINGHAM.

FROM a copy of the minutes of a monthly special meeting of the Council of the City of Nottingham held on March 3rd we note that a bacteriologist and pathologist to the corporation has been appointed at a salary of £100 per annum, Dr. F. H. Jacob receiving the post. In view of the demand which in the future municipal bodies will be certain to make upon the energy, time, and skill of an official bacteriologist it is to be hoped that the remuneration will be commensurate with the services required of him. It cannot be expected that the ruling bodies of our cities and big towns should be able effectually to administer sanitary affairs without the aid of a bacteriologist and pathologist and certainly the time is at hand when all large corporations and boroughs should retain the services of an officer specially qualified in these highly-important branches of State medicine.

RECURRENT HERPES ZOSTER.

A SUPPOSED characteristic of herpes zoster is that it does not recur—that one attack confers immunity. This constitutes a distinction between true zona and other forms of herpes which frequently recur. However, a number of cases of recurrent herpes zoster have been recorded. M. Matignon has described the case of a young soldier who from childhood was subject to attacks of zona of the ophthalmic nerve, which followed one another almost without interruption three or four times a year.[1] Each attack was ushered in by fever and the general phenomena of true zona. More recently Dr. J. Grindon[2] has collected 61 cases of recurring zona. Some cases have also been reported in the *British Journal of Dermatology*. Mr. G. Pernet recorded the case of a woman who had, in December, 1891, right intercostal zona, and in December, 1892, February, 1896, and November, 1896, a group of papules, which passed into vesicles, below the right angle of the lower jaw which were preceded by neuralgic pains in the right side of the head.[3] Dr. W. Beatty has described the case of a man, aged 35 years, who had, in July, 1894, pains in the genital region which were followed by vesicles on the scrotum and between some of the toes. The condition recurred in February, 1895, May, 1895, December, 1896, and April, 1897.[4] At the meeting of the Société Médicale des Hôpitaux of Paris on March 7th M. Hirtz and M. Salomon described the following case. A man, aged 67 years, addicted to alcohol, was admitted to hospital in July, 1901, suffering from pains in, and an eruption on, the right buttocks and thighs which he had had for several days. In 1895 he had similar neuralgic pains which were followed by zona. Since then, about January or February every year, the condition had ccurred. The present attack was the first that occurred in uly. The sciatic and crural nerves were tender. On the ight buttock were tender erythematous patches covered ith vesicles, which were diagnosed as herpes zoster. ecovery took place in a fortnight. In February, 1902, ecurrence again took place. There were five patches on the ight buttock and two small ones on the left.

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[1] Bulletins de la Société Medicale des Hôpitaux, February, 1894.

[2] Journal of Cutaneous and Genito-Urinary Diseases, May (p. 191) and June (p. 252), 1895.

[3] British Journal of Dermatology, April, 1897, p. 151.

[4] Ibid., July, 1897, p. 268.

THE MEDICAL REGISTER.

THE Medical Register for 1902 has just appeared and we re glad to see that some of the errors to which we have ad to call attention have been removed by revision. The olume contains this year 1647 pages and a new feature s the Foreign List at the end of the book, a list hich contains at present one name only. On page 6 is given a table showing the total number of practitioners on the Register on Dec. 31st in each year. or 1900 there were 36,355 and for 1901 36,912. The otal number added by registration in 1899 was 1351; in 900, 1345; and in 1901, 1318. For practical purposes the limination of names means little, it is so small in comparison with the number of names on the Register. Yet, aken in connexion with our increasing population it may ave some significance.

AMPUTATION OF THE THIGH UNDER ANÆSTHESIA PRODUCED BY COCAINISATION OF THE SPINAL CORD.

SOME thousands of operations must have been performed nder anæsthesia produced by the subarachnoid injection of ocaine and similar drugs since Bier introduced the method n 1899. In 1900 M. Tuffier of Paris, who has perfected its echnique and extended its use, had employed it in over 200 perations without an accident.[1] But it appears to have een adopted in England only by Dr. Arnold W. W. Lea of Manchester who has performed a number of abdominal perations under spinal anæsthesia.[2] The national conservatism is influential even in medicine and in this instance seems to deserve approbation, for the advantages of the new method are not manifest and the chapter of its dangers has yet to be written. Indeed, a number of deaths has already been recorded. In the *Intercolonial Medical Journal of Australasia* Dr. Robert H. Ritchie has recorded a case of amputation of the thigh in which anæsthesia was produced by the new method. A man, aged 78 years, was admitted to hospital suffering from dyspnœa and œdema of the legs. There were a mitral systolic murmur, displacement of the cardiac apex to the left and downwards, and atheromatous arteries. The pulse at times was almost imperceptible. Under digitalis improvement took place and the œdema disappeared. Moist gangrene of the right leg occurred and extended upwards within two inches of the knee. In consequence of the heart disease general anæsthesia was thought to be impossible. Adopting the technique described in THE LANCET[3] a small quantity of a 2 per cent. sterilised solution of cocaine was injected into the skin about a quarter of an inch to the right of the middle line and midway between the third and fourth lumbar spines. A nick was made in the insensitive skin and the needle of a Luer's syringe was pushed upwards, forwards, and inwards, but the spinal canal could not be reached. The whole process was repeated on the left side and the needle was passed into the spinal canal and cerebro-spinal fluid dripped from it. After about 30 minims had escaped 30 minims of distilled water containing one-quarter of a grain of cocaine were slowly injected. The syringe and needle were left in position so that more cocaine could be injected if necessary. The left leg was repeatedly pinched. 20 minutes after the injection the patient still said that he felt a pinch distinctly and he could localise it. The possibility that the skin might, notwithstanding, be analgesic occurred to Dr. Ritchie. He made a small incision in the left calf and the patient on being asked said that he felt nothing. The incision for the anterior flap was made in the right thigh and no pain was felt, though the patient knew that the leg was being touched. The needle was withdrawn from the spinal canal, the puncture was closed with collodion, and the patient was placed on his back with a towel over his face. The operation was completed painlessly. When the femur was being divided he could hear the sawing. The femoral artery and vein were thrombosed and the cut muscles were of a brown colour. About two hours after the operation the patient complained of abdominal pain and became very excited. He had a bad night and when he took even a little water he vomited. In the morning he still complained of pain. The pulse was very irregular and much weaker. He slept all day and on waking at night took nourishment well. The wound healed by first intention Vomiting is one of the symptoms which may result from spinal injections of cocaine. Dr. Ritchie's case tends to show that by this method anæsthesia only to pain (analgesia) is produced.

THE DISTRIBUTION OF PLAGUE.

As regards Egypt, during the week ending March 30th 22 cases and 10 deaths from plague have occurred throughout all Egypt. 1 case was reported from Abousir; 4 cases were reported from Kom-el-Nour; 13 cases and 8 deaths, 3 of which occurred out of hospital, from Deshneh; 2 cases and 1 death from small villages near Benha; and 2 cases and 1 death from Korachieh. Korachieh is a village in the Santax Markaz of Gharbieh From inquiries made on the spot it is evident that the infection was carried there from cases in Tantah, and it appears that the disease broke out first in February among some Bedouins employed in the Domains Estate Instead of information being given at once to the Sanitary Department of the existence of cases of suspicious disease followed by death among these workpeople, they were dispersed and their huts were destroyed; the consequence has been that these wandering Bedouins have disseminated the disease in several small encampments about Benha. It is difficult to believe that the Domains inspector was not aware of cases of disease and death occurring among his own people, and if he was aware he has incurred, in the opinion of the Director-General of the Sanitary Department, a very grave responsibility in not having at once made the facts known. It was only on the Commissioner of the Domains noticing that certain huts which had existed near the station for several years had been removed and on making inquiries that he was informed of the reason of their removal, when he immediately informed the Sanitary Department.—As regards the Mauritius a telegram from the governor received at the Colonial Office on April 4th states that for the week ending April 3rd there had been no cases of plague.

DIPHTHERIA AND ITS TREATMENT AT COLCHESTER.

EARLY last year[1] we published an account of an outbreak of diphtheria which took place at Old Heath, Colchester, and commented on the action of the medical officer of health of the borough, Dr. G Brown, in refusing to use antitoxin for the patients at the infectious hospital—a method of treatment which he called "bowing the knee to medicinal Baal." Without assuming any right to dictate what is the proper treatment of diphtheria we pointed out that the attitude of the medical officer of health towards accepted medical teaching was very unfortunate, and some six months later, during all of which time diphtheria had been present in Colchester, the town council arrived at the same conclusion. For the members resolved unanimously that it was advisable where the antitoxin treatment had not been administered to diphtheria patients before admission to the hospital that it should be administered on admission. A report has now been made by Dr. Louis Cobbett and Dr. G. S. Graham Smith on the measures taken to check the outbreak of diphtheria in Colchester last year and from this report the value of the antitoxin treatment becomes manifest. At a special meeting of the Sanitary Committee of the town council it has been agreed to appoint a medical officer of health and public analyst to the town who shall devote his whole time to the duties of his office.

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[1] THE LANCET, Jan 12th, 1901, p. 137.
[2] THE LANCET, March 29th, 1902, p 912.
[3] Loc. cit

[1] THE LANCET, Feb. 9th, 1901, p. 426.

ON SOME OF THE SYMPTOMS OF CEREBRAL SYPHILIS IN REGARD TO DIAGNOSIS.

DR. WILLIAM LESZYNSKY of New York has stated in the *Medical News* of March 22nd last that the nature of the symptoms in cerebral syphilis was such as to make a practical diagnosis difficult in some cases and has supplied two illustrative instances of the same. The first case was that of a woman, aged 22 years, who denied all history of syphilis. On several occasions prior to her coming under observation she had had transitory paresis of the left arm and leg, severe headaches, vertigo, and a slight febrile temperature. On admission to hospital there were marked ptosis of the left eye and a vertical diplopia of the same eye associated with paresis of the superior rectus muscle. Vision was normal in both eyes. A slight right-sided facial paralysis was also present. In spite of the patient's denial of syphilitic infection the symptoms pointed suspiciously to cerebral syphilis and the results of treatment with mercury and iodides justified the diagnosis. The diplopia and ptosis disappeared under the above treatment. Later she developed ptosis on the right side, the levator palpebræ muscle only being affected. This also responded to anti-syphilitic treatment and disappeared in four weeks. A month later the left eye was again affected and she also suffered from headaches and temporary attacks of inability to speak (aphasia) or to swallow (dysphagia) which improved under anti-syphilitic treatment—20 grains of iodide of potassium three times a day. Dr. Leszynsky considers that the cerebral affection was a syphilitic basal meningitis in the form of patches involving the cranial nerves combined possibly with a slight degree of endarteritis. The second case was that of a man, aged 33 years, who had enjoyed good health up to August, 1899. He then developed numbness and slight local muscular twitchings on the left side of the face. In October there followed dimness of vision and diplopia of the right eye. In December the molar teeth in the right upper jaw "became so loose that they were removed with the fingers." He was the father of six children reputed to be healthy. He admitted having had a chancre many years previously but had no marked secondary symptoms. The pupils were myotic and failed to react to light or to accommodation, but vision and the funduses of the eyes were normal. Mercurial ointment and iodide of potassium were used in treatment and strychnine was also given as a tonic. At the end of two months he was much improved and disappeared from observation. He reappeared in June, 1901, suffering from almost total blindness and advanced primary optic atrophy of both eyes. The pupils were rigid and the oculo-motor nerve was paralysed in all its branches. He was now treated with strychnine without benefit and Dr. Leszynsky stated that this also was his experience with other patients suffering from cerebral syphilis in its later stages. There were no sensory disturbances in this patient and the tendo Achillis reflexes were preserved—in short, tabes dorsalis could be excluded in this case. The original diagnosis of cerebral syphilis was confirmed but owing to the advanced state of the disease there was no prospect of successful treatment.

SMALL-POX IN LONDON.

THE returns of small-pox for the past week show a decrease in the number of cases. On Saturday, April 5th, there were 46 fresh cases notified and removed; on Sunday, the 6th, there were 32 fresh cases; on Monday, the 7th, there were 57 fresh cases; on Tuesday, the 8th, there were 36 fresh cases; and on Wednesday, the 9th, there were 26 fresh cases.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

THE Liverpool School of Tropical Medicine having urged His Majesty's Government to assist the expedition which is at present endeavouring to improve the sanitary condition of Freetown, West Africa, has received the following reply from the Colonial Office, dated March 27th, 1902. "I am directed by Mr. Secretary Chamberlain to request you to inform the committee of the Liverpool School of Tropical Medicine with reference to the letter from this office of the 7th December last that the governor of Sierra Leone has now reported on the subject of their suggestion that the Colonial Government should increase the number of the workmen lent by them to the malaria expedition which is now working in Freetown under the superintendence of Dr. Logan Taylor. Sir C. King-Harman states that he is naturally anxious to give every possible assistance to Dr. Logan Taylor in the useful and important operations which he is conducting in Freetown, but after consultation with him and with the principal medical officer he has decided that the best form in which that assistance can be given is for the Government to undertake by degrees the surface drainage of those parts of the city which are most infested by mosquitoes. In this proposal Dr. Taylor cordially concurs, recognising that such work cannot be adequately performed by his staff and that the result cannot fail, not only to relieve him of engineering responsibility, but also to effect a permanent improvement in the sanitary condition of the infested areas. Arrangements have accordingly been made for the immediate surface drainage of a swampy portion of the grass fields district in which Dr. Taylor has already operated to a considerable extent. The cost of the work is estimated at £460 and the amount has readily been voted by the Legislative Council. Mr. Chamberlain has approved of the governor's action and has sanctioned the expenditure of £460."

THE FRENCH GOVERNMENT AND LEAD-POISONING.

IN seeking to defend the hardware manufacturers who use lead for their glaze Mr. Coghill, M.P., speaking in the House of Commons on Feb. 28th, made at least one good point. He not only insisted that the cases of lead-poisoning in the Potteries had steadily fallen from 496 in 1897 to 106 last year, but remarked that in other trades there had been 1057 cases of lead-poisoning. It is certainly true that the grievance is not limited to the Potteries; for instance, house decorators are still victims to the needless employment of lead in the paint which they manipulate. Sir Charles Dilke said that in France many pottery manufacturers used no lead at all and there is no reason why this good example should not be generally followed in England, even though the better precautions now taken have reduced the frequency of saturnine symptoms among the pottery-workers. But while the English manufacturers might follow the example of the French manufacturers so far as the Potteries are concerned the British Government might also seek to imitate the French Government in regard to other trades in which lead is used. The Minister of Commerce, M. Millerand, constituted by the decree of Dec. 11th, 1900, a Commission of Industrial Hygiene, and the first work of this committee of experts was to investigate the dangers resulting from the use of lead, especially in the manufacture of paint. Further legislation was then promised on the subject and to obtain the necessary information a circular was sent to all the prefects during the month of March, 1901. The circular inquired in what communes, public establishments, and administrative offices the use of lead paint had been forbidden. As a result of this investigation it appears that in 384 communes lead paint was no longer employed. Thereupon a decree was issued on March 25th, 1901, ordering that henceforth no lead paint should be used on any premises belonging to the Ministry of Commerce and Industry of Posts and Telegraphs. This example was soon followed by other Ministers. In August the Minister of Marine decided that no lead paint should be used for any of the ships belonging to the French Navy. During the preceding month of June the Minister of Public Works adopted a similar rule for all that concerned his department. The Minister of War and (in November) the Minister of Public Instruction also issued decrees forbidding the use of lead paint in all places under their control. This is preaching by example and it has always been held that Governments should be model employers. At the same time the Government issued special instructions to all the inspectors of factories and unwholesome industries to exercise a particularly strict surveillance over the lead industries. As a consequence statistics already show that there has been a considerable decrease in the number of cases due to saturnine intoxication. In the report of Professor T. E. Thorpe and Professor T. Oliver on the employment of compounds of lead in the manufacture of pottery, presented to the Government in a blue-book dated Feb. 21st, 1899, it was pointed out (*vide* THE LANCET, April 1st, 1899, p. 919) that much of the ware supplied to the order of the various Government departments, such as the Post Office, the Office of Works, the Admiralty, the War Office, and the India Office, could be dipped in leadless glaze without detriment to its character and with no increase to its cost. We believe that the Government acted as far as was possible in accordance with this suggestion and we trust that it will maintain its energy in this very practical way.

MR. HARRY MAULE CROOKSHANK, F.R.C.S. Edin., British Controller of the Daira Sanieh Administration, has received His Majesty's Royal licence to accept and to wear the Order of the Medjidieh, Grand Cordon, which has been conferred upon him by His Highness the Khedive of Egypt, authorised by His Imperial Majesty the Sultan of Turkey, in recognition of valuable services rendered to His Highness.

THE annual dinner of the Royal Army Medical Corps will take place on Monday, June 16th, at the Whitehall Rooms of the Hôtel Métropole, London, at 7.45 P.M. The honorary secretary of the dinner is Lieutenant-Colonel E. M. Wilson, R.A.M.C., Junior Army and Navy Club, St. James's street, London, S.W.

WE regret to announce the death of Professor Hans Buchner who died at Munich on April 5th in the fifty second year of his age. Professor Buchner, who was president of the Hygienic Institute at Munich, was an able bacteriologist and rendered valuable services in the field of preventive medicine.

THE consideration of the Midwives Bill as amended by the Grand Committee has been put down for Wednesday, June 4th, when there is considerable possibility of its being

Pharmacological Notes.

PREVENTION OF PITTING IN SMALL-POX BY THE USE OF FORMALIN GELATIN OR GLUTOL.

GLUTOL is a whitish powder prepared by exposing sheets of gelatin to the vapour of formalin. This substance is the subject of an article by Mr. John Moir[1] wherein its therapeutic uses are described. In practice, by the solvent action of the living tissue to which this preparation is applied, the gelatin is dissolved and thus liberates the antiseptic factor, the formalin. The value of formalin as an antiseptic in cases of surgical tuberculosis has been recognised during recent years to such an extent that it is largely replacing iodoform glycerin with its objectionable odour. The solvent action of glutol is facilitated by the addition of lard or of soft paraffin. The following conditions are mentioned in which its use is beneficial: stomatitis (by means of a syringe), suppurative conditions of the mouth, gums, and tongue, carcinoma, epithelioma, tuberculosis, severe burns; and severe chronic ulcers. But it is of special interest to note the recommendation that glutol should be employed, mixed with soft paraffin in the proportion of 1 to 4 or 1 to 8, as a preventive of severe pitting and deep scars from small pox, this proportion has been found useful in tuberculosis, in carcinomatous and epitheliomatous cases as well as in severe burns. The addition of a bland emollient vehicle such as soft paraffin is in all cases preferable. With a protective covering of gauze glutol is aseptic. It is found that, generally speaking, the use of glutol prevents the development of exuberant granulations and scars, it is useful in preventing the irritation, scratching, excessive swelling, and inflammation of the eyelids and of the mouth, especially as it is entirely harmless as an application in the mouth, even when swallowed in considerable quantity. Dr. Gustave Daniel of the City Hospital, Bielefeld, found in 1899 that glutol caused improvement in cases of many epithelial diseases, warts, cancroid growths, and in sycosis vulgaris, his observations were confirmed by Dr. Kranefuss, physician in-chief at that hospital. They found the treatment absolutely trustworthy, although it took more time than most of the remedies, but it was easy to handle, did not cause any special pain, and left no scar. The value of glutol as a preparation for the treatment of wounds has been dealt with by Dr. Heinrich Mohr,[2] by Dr. Heinrich Lobb of Mannheim,[3] and by Dr. Robert Maguire.[4]

MEDICINAL TREATMENT OF TUBERCULOSIS.

Dr. Hugo Winternitz, physician at the Royal Medical University Hospital in Halle on Saale, in an article on the treatment of tuberculosis in hospitals[5] states that hygienic dietetic therapeutics alone are not sufficient for the treatment of pulmonary diseases. With regard to medicinal treatment even Gerhard, in spite of his former expression that "medicinal treatment of tuberculosis has been a complete failure," is now in favour of special medicinal therapeutics as far as the employment of drugs is concerned. Of these creasote alone has held its own. The use of this drug, however, is sometimes attended by decrease of appetite, disturbed digestion, and diarrhœa. As a result various substitutes for creasote have been introduced—notably, guaiacol and thiocol and their preparations. Guaiacol, the principal constituent of beechwood creasote, only reduced these difficulties without removing them. Various combinations of guaiacol and of creasote with carbonic acid were then introduced—viz., creasotum carbonicum (creasotal), guaiacolum carbonicum (duotal), creasotum valerianicum (eosote), the ester of valerianic acid and guaiacol (geosote), and, finally, thiocol, a sulphuric combination of guaiacol (ortho guaiacol-sulphate of potassium). Thiocol contains 52 per cent. of guaiacol and is a white micro-crystalline powder, unalterable by exposure to air, of a slightly bitter but not disagreeable taste and perfectly inodorous, it is soluble in four parts of cold water and has no corrosive effect even in concentrated solutions, a circumstance which may account for the fact that it does not irritate the digestive organs.

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[1] The Therapist, Feb. 15th, 1902, p. [illegible].

[2] The Therapist, July 15th and August 15th, 1901, pp. 145 and [illegible].

[3] Ibid., August, 1901, p. 178.

[4] Ibid., p. 179.

[5] Ibid., Feb. 15th, 1902, translated from the Deutsche Aertze Zeitung, [illegible] Jan. 1st, 1902.

Dr. Winternitz gives details of eight out of 16 cases in which thiocol has been used, enabling an opinion to be formed as to the value of this drug. He concludes that thiocol has advantages over creasote or guaiacol, being palatable and free from disagreeable secondary effects. With the exception of complicated cases the appetite improved, the weight of the body increased, nocturnal sweats were reduced, and catarrhal symptoms, when present, decreased. In advanced cases, however, the relief of the cough is only gained by the use of morphine (or its substitutes) the *ultimum refugium*. Codeine and dionine have a sedative effect and a favourable influence on expectoration; they reduce the irritability of the air-passages without limiting the respiratory functions, as experimentally shown by Dr. Winternitz.[6] Dionine is prescribed in doses of from 0·03 gramme, preferably in solution; thus, dionine 0·6 gramme, water 100·0 grammes; one teaspoonful in the evening. Thiocol is conveniently prescribed in the form of a syrup, thus: Thiocol, 10 grammes; water, 40 grammes; fluid extract of orange, five grammes; and simple syrup, 95 grammes. Dose, from three to four teaspoonfuls daily, corresponding to about from one gramme to one and a half grammes of thiocol per diem. (In England the tincture of orange might be prescribed in place of the fluid extract recommended by Dr. Winternitz.) Thiocol may also be given in powders or in tablets in doses of from 0·5 to 1·0 gramme three times a day.

THE NEW BILL ON LAUNDRIES.

(FROM A SPECIAL CORRESPONDENT.)

THE Earl of Lytton has revived the hopes of the much-neglected laundry-workers by obtaining the second reading of his Factory and Workshop Act (1901) Amendment Bill. If legislation for the protection of labour is justifiable it is doubly justifiable in regard to laundry-workers. In this case not only are the workers themselves concerned but it is a matter which intimately affects the entire public. The articles washed are those which are worn nearest to the skin, and if laundries are not well managed they become an active means of spreading disease. Therefore, inspection is more necessary in regard to this business than in regard to many other industries. Yet it is precisely the laundries that were left out of the Factory and Workshop Act which was passed last year. This omission, it will be remembered, was due to the opposition of the Irish Members. They objected to the inspection of laundries established by convents and other religious institutions. It was feared that if this matter was fought out either the session would have to be prolonged or the Bill would have to be abandoned. The Government therefore sacrificed the laundries so as to save the rest of the Bill. Now, however, the question of the laundries is brought forward on its own merits independently of all other questions, and the Bill introduced by Lord Lytton is a considerable improvement on the laundry clauses that were withdrawn from the Bill of 1901. Mr. Ritchie's Bill of 1901 did not include small laundries and it only dealt with the larger laundries where steam-power machinery is employed. The first clause of Lord Lytton's Bill includes the small laundries and assimilates them to workshops while the larger laundries are qualified as factories. From the point of view of the public the small laundries are more dangerous than the large. They are generally in dwelling-houses where cases of small-pox, scarlet fever, &c., may be concealed and may contaminate the linen after it has been washed. From the workers' point of view the employment of children and the working of excessive hours can be more readily concealed in a private dwelling than in a separate building which by reason of its size and the number of persons employed is more like a factory. The second clause of Lord Lytton's Bill applies the same limits to the hours of labour for children and women as exist in other trades, but the clause allows 60 days' overtime in the year, and this is more than is granted for the packing of perishable articles. Unless it be a matter of tactics just to get the Bill through there is *no* sufficient reason for such exceptional leniency. With the employment of machinery especially it is possible to calculate with mathematical precision exactly the amount of washing that can be done, so there is no need to promise what some exceptional circumstance may render it difficult to fulfil. It is not like the packing of fruit or the curing of fish which depends upon varying factors, such as the weather and the uncertainties of fishing.

The third clause deals with the phase of the question that gives rise to the greatest opposition. A portion—we are pleased to recognise that it is not the whole but only a portion—of the Roman Catholic community is opposed to the inspection of the laundries connected with religious institutions. A great deal of this opposition is sentimental and political and is due to the fear that Catholic and Irish institutions will be overrun by Protestant and Saxon inspectors and that men will obtain a right of entry into convents inhabited solely by women. Though such objections appeal strongly to passion and prejudice they are in themselves very feeble. There is no desire to inspect convents but only these portions of the buildings which have been converted into laundries. Nor is it necessary that the inspector should be a man and a Protestant; there is nothing in the Bill to prevent the appointment of a woman and a Roman Catholic. The fact is that under the broad mantle of religion unfair competition has been organised against commercial enterprise. These so-called charities have proved to be very remunerative concerns. According to the registrar of charities 71 homes have earned in the course of a year £30,670. Five or six of them make more than £1000 annually out of their laundry work. The Penitentiary Home of Edinburgh realises £5000 a year and the work of 15 crippled and feeble inmates of St. Mary's Home at Gloucester yields no less than £580. And this is a growing business, for Lord Lytton explained that the home at Clewer which competes with private enterprise for the washing for Eton College made £1400 in 1899 and £1723 in 1901. But in so far as such institutions are connected with the Church of England the Bishop of Winchester and the Bishop of Rochester expressed in the House of Lords their willingness to see them brought under the Factory and Workshop Regulations. Surely the restraints which the claims of humanity and the laws of hygiene have imposed on commercial enterprise should be more than welcome in religious houses. Those who act in the name of religion, more than any other section of the community, should scorn the protection of secrecy and should court the fullest publicity so as to vindicate the righteousness of their motives.

The necessity of energetic and effective control over laundries is clearly shown by the various reports of His Majesty's inspectors of factories and workshops. In many laundries work is continued from 8 in the morning till 11 at night for four days. Then there is 10 hours' work on the fifth day and none on the sixth and seventh. That this can be avoided is proved by the example of Lancashire and Yorkshire where the women will not, and do not, work longer in the laundries than they do in the textile factories. The crowding of the work of the week into a few days is the cause of many dents or of ill-health. The whole of the work is done st ing. The same grievance exists in other trades but nc the same extent. The difference is due to the excessive h worked during some days of the week and perhaps to relaxing effect of the very damp and overheated atmosp Then in regard to accidents H.M.'s Inspector's Repor 1900, p. 383, says: "Accustomed to the conditions of life work among ordinary factory workers, nothing is so stri to the inspector as the spectacle of numbers of young from 14 years of age and upwards all legally employe 10 or 11 o'clock at night in the ordinary factory labou tending machinery. Passing at night from one facto another and finding the young calender feeders empl in their mechanical task of 'feeding' the large ste heated power-driven ironing-rollers with the damp l to be ironed (a cloud of steam rising as each 'pi is passing through) it is impossible not to specu on the effect of the work and the hours of these yo girls. One can only feel surprised that accidents not more numerous when one realises that the slightest c lessness or inattention may result in the fingers or hand b drawn between the hot cylinders and when one consi how easily such inattention may arise in the case of the c tired young workers. In few, if any other industry, are daily working hours so long. Working and standing in steamy hot atmosphere of a calender-room from 8 A.M. 9 or 10 P.M. all the week, with the exception of one day an arduous strain on the young constitution."

Clearly it is more important to limit the hours of w done in the course of a day than the total amount d during the whole week. Young girls especially should not be allowed to reach that state of exhaustion which prevents the alertness that is necessary to prevent accidents and which predisposes them to constitutional disease Nor should such evils, while abolished in commercial undertakings, be allowed to continue in convents. One of the inspectors relates that he received complaints of a religious community where women had been kept at laundry work for 19 hours in one day If these institutions are established, as is stated in many cases, for the purpose of redeeming women from a life of vice, is it likely that they will attract many penitents when they impose 19 hours at the washtub as an alternative to the freedom of the streets? But if it were known that such abuses would henceforth be impossible, that the women penitents would not be made to work harder than factory operatives, there would surely ensue more numerous conversions Some religious institutions claim that the laundry work which they do is only an aid to self support, but it appears that in some cases the profits from washing are 15 times larger than those derived from any other source. The charity has degenerated into a regular business and has therefore no right to exemption from the laws that protect the workers in other commercial enterprises This is admitted by a great number of Roman Catholics themselves and it is not impossible that, if all the facts were better known, the Church of Rome as well as the Church of England would welcome the proposed legislation

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[6] Therapeutische Monatshefte, September, 1899.

DEGREES FOR LONDON MEDICAL STUDENTS

THE following petition from Licentiates of the Royal College of Physicians of London and Members of the Royal College of Surgeons of England has been presented to the governing bodies of the two Colleges

To the Presidents Fellows &c., of the Royal College of Physicians London and the Royal College of Surgeons, England

Whereas it is becoming increasingly important to medical practitioners to have a right to call and style themselves Dr"

Whereas your petitioners find that in the practice of their profession through their inability to call and style themselves "Dr" they do labour under very great disadvantages in comparison with the graduates of the Universities of Scotland Ireland and the Provinces of England and also in comparison with the licentiates of certain of the examining bodies:

And, whereas your petitioners feel that they have gone through a course of professional study, which is as prolonged and thorough as that laid down for the above graduates and licentiates and have passed examinations which are equal in severity and strictness to those through which the above graduates and licentiates have passed:

And, whereas your petitioners feel that it is to the interest of the whole medical profession that the Royal College of Physicians, London, and the Royal College of Surgeons England, should continue to attract students to the metropolitan schools;

And, whereas your petitioners believe that the Royal Colleges can only continue to attract students to the London schools by removing the above-mentioned disabilities

Your petitioners would therefore pray that the Royal Colleges would:—

(1) Approach the governing body of the New University of London or some other British university with a view to obtain for the Licentiates and Members the privilege to offer themselves as candidates for the final examination for a degree in medicine or

(2) That the Royal Colleges would take some other and independent step to remove the disabilities under which their petitioners labour

And your petitioners would ever pray, &c.

We have every sympathy with the petitioners in their desire to place the diplomates of the two Royal Colleges on the same footing with regard to a degree as the graduates of Scottish, Irish, and some provincial English universities. In THE LANCET of Nov 23rd, 1901, p 1425, we referred at length to a somewhat, if not exactly, similar circular which it was proposed to present to the Royal Colleges. We also gave a short *résumé* of what has been done from time to time ever since 1885 and we cannot see that anything more remains which can be done, unless, indeed, by the foundation of a new university Still, perseverance has before now overcome apparently insuperable obstacles, *ἐς Τροίαν πειρώμενοι ἦνθον Ἀχαιοί*, as the old woman said in Theocritus, and a grievance is not the worse for being kept prominently before the public Degrees can at present, in these islands, be obtained from only two sources—namely, a university and His Grace the Archbishop of Canterbury[1] (The Archbishop's power is practically in abeyance, for in the case of medicine it is never exercised.) The petitioners' first line of attack is to petition the Royal Colleges to approach the newly constituted University of London or some other British university with a view to obtain for diplomates of the Royal Colleges the privilege of offering themselves as candidates for the final examination for a degree in medicine. In case of this method of attack failing the Royal Colleges are requested to take some other step to remove the disabilities under which their petitioners labour As regards the first proposal we doubt whether the Royal Colleges will accede to the request and even if they do it is more than doubtful whether the University of London or any other university will consent to any relaxation of the tests at present surrounding their degrees This may seem a hard saying but it is true and the truth is often bitter

The only way out of the difficulty which appears to us to be at all feasible is the foundation of a new university in London. This plan was put forward as a solution of the problem in the report of the delegates appointed by the two Royal Colleges to consider the question at issue, and the report will be found at length in THE LANCET of Dec. 18th, 1886, p 1194 The next step after the issue of this report was an application to the Crown for power to be given to the Colleges to grant degrees This application was referred to the Royal Commission on Higher Education in London and on April 28th, 1889, was unanimously rejected

If, then, the petitioners should fail to induce the Colleges to apply to the University of London and the other British universities, or in case they do apply and the universities refuse to grant their request, it appears to us that the "some other and independent step" has already been taken without advancing matters.

ASYLUM REPORTS.

London County Asylum, Hanwell (Report for the year ending March 31st, 1901)—The average number of patients resident during the year was 2516 and comprised 902 males and 1614 females. The admissions during the year amounted to 548, including 259 males and 289 females. Of these, 442—viz, 207 males and 235 females—were first admissions. Dr R. R. Alexander, the medical superintendent, states in his report that "as to the forms of mental disease [among the admissions] general paralysis was accountable for 15 per cent. of the males and nearly 4 per cent. of the females, as compared with 14 per cent. and 4 per cent. respectively in 1899, and 14 per cent and 3 per cent. in 1898.' General paralysis among the male admissions had fallen somewhat irregularly from 27 per cent in 1894 to 15 per cent. in 1900, and in that time the female cases of general paralysis had also fallen considerably but the proportion of the sexes (three or four men to one woman affected with general paralysis) remained unaltered "It would at last really seem,' adds Dr Alexander, "as if general paralysis is relaxing its hold on that part of the community whence we obtain our patients And our experience is by no means singular" As regards the causes of insanity in the admissions it appeared that alcoholic intemperance accounted for 25 per cent. of the male admissions as compared with 20 per cent. in 1899 and 16 per cent. in 1898. Among the females 13 per cent. were due to the same cause. Previous attacks of insanity had occurred in 21 per cent. of the males and 22 per cent. of the females admitted, while a hereditary tendency to insanity could be traced in 26 per cent of the males and 21 per cent. of the females. "We have to deplore the admission of a good many feeble senile patients who are brought to the asylum practically to pass therein the few days of life remaining to them, and one would fain hope before long that workhouse infirmaries will be provided with the means of properly treating and indefinitely retaining such cases" The number of patients discharged as recovered during the year was 218, including 81 males and 137 females, or 8·6 per cent of the average number resident. The deaths during the year amounted to 232—viz., 103 males and 129 females, or 9 2 per cent. as calculated on the same basis Of the deaths two were due to Bright's disease four to epilepsy, six to colitis, 11 to cancer 11 to cerebral hæmorrhage, 14 to cerebral softening 20 to bronchitis, 21 to senile decay, 22 to pulmonary phthisis 25 to cardiac disease, 32 to pneumonia, 38 to general paralysis of the insane, and the rest to other causes

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[1] Phillimore: Ecclesiastical Law, 1895, p 1505.

The Commissioners in Lunacy did not make a visit during the year under review. The asylum sub-committee states in its report that a sum of £453 was spent in laundry improvements, that the farms and fields were in a good state of cultivation, and that the live stock was healthy. The sum of £354 was spent in additions and alterations and the sum of £8975 in repairs during the year.

St. Andrew's Hospital for Mental Diseases, Northampton (Annual Report for 1901).—This is a hospital for the reception of insane patients of the middle and upper classes, the rates of payment being 42*s.* and 25*s.* per week respectively for first and second class accommodation. The average number of patients resident during the year was 402, comprising 191 males and 211 females. The admissions during the year amounted to 107—viz., 44 males and 63 females. Mr. Joseph Bayley, the medical superintendent, states in his report that "the hospital and all the houses have been quite full during the greater part of the year. 158 patients have had the advantage of a change of air and scene at our new house, Bryn-y-Neuadd Hall, North Wales. This is a much larger number than we have ever been able to send before. The place is much liked, both by patients and by their friends who have been there." During the year 41 patients were discharged as recovered—viz., six males and 31 females, or 10·2 per cent. of the average number resident. The deaths during the year amounted to 12—viz., nine males and three females, or 2 9 per cent. as calculated on the same basis. Of the deaths one each was due to cardiac disease, aneurysm, apoplexy, and bronchitis, two were due to senile decay, three to general paralysis of the insane, and the rest to other causes. One patient while out on trial at her own home committed suicide with a revolver. "The hospital and the houses belonging to it have been free from infectious disease, with the exception of the house in North Wales where a servant fell ill with typhoid fever. ......She was placed under treatment in one of the detached houses and recovered." The committee of management has recently sanctioned a larger outlay for entertainments to enable the engagement of theatrical companies from London; so far this has been a great success and the patients are much pleased with it. The Commissioners in Lunacy state in their report that they visited the institution twice during the year and found on each occasion that the patients were comfortable, that the building was in admirable order, that the day rooms and dormitories were airy, bright, comfortable, and scrupulously clean, and that the case-books were well and intelligently kept. The branch establishment in North Wales was also visited and everything was found in the best possible order.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8662 births and 5010 deaths were registered during the week ending April 5th. The annual rate of mortality in these towns, which had been 17·6 and 18·2 per 1000 in the two preceding weeks, declined again to 17·6 per 1000 last week. In London the death-rate was 17·9 per 1000, while it averaged 17·4 in the 75 other large towns. The lowest death-rates in these towns were 9·3 in Bournemouth, 9 9 in York, 10·5 in East Ham, 10·6 in Leyton, 11 0 in Hornsey, 11·2 in West Hartlepool, 11·3 in Bootle, and 11·7 in Tottenham; the highest rates were 21·5 in Liverpool and in Leeds, 21·8 in Middlesbrough, 22·0 in Tynemouth, 22·2 in Merthyr Tydfil, 22·9 in Wigan, 26·5 in Plymouth, and 29·2 in Burnley. The 5010 deaths in these towns last week included 572 which were referred to the principal zymotic diseases, against 553 and 602 in the two preceding weeks; of these 572 deaths 171 resulted from measles, 128 from whooping-cough, 77 from small-pox, 72 from diphtheria, 54 from diarrhœa, 42 from scarlet fever, and 28 from "fever" (principally enteric). No death from any of these diseases was registered last week in Hornsey, Hastings, Brighton, Bournemouth, Ipswich, Coventry, Grimsby, Bootle, Rotherham, West Hartlepool, or Tynemouth; while the highest zymotic death-rates were recorded in Croydon, Willesden, Handsworth, Aston Manor, Birkenhead, Burnley, Barrow-in-Furness, South Shields, and Rhondda. The greatest proportional mortality from measles occurred in Willesden, Burnley, Barrow-in-Furness, Huddersfield, Stockton-on-Tees, and Merthyr Tydfil; from scarlet fever in St. Helens; from diphtheria in Croydon, Swansea, and Rhondda; from whooping-cough in Handsworth, Aston Manor, Wallasey, and Barrow-in-Furness; from "fever" in Handsworth, Aston Manor, and Birkenhead; and from diphtheria in Walsall. The 77 deaths from small-pox registered last week included 54 of persons belonging to London, 10 to West Ham, four to East Ham, two each to Croydon, Tottenham, and Leeds, and one each to Leyton, Walthamstow, and Southampton. There were 1522 cases of small-pox under treatment in the Metropolitan Asylums hospitals on Saturday, April 5th, against 1542, 1567, and 1526 at the end of the three preceding weeks; 376 new cases were admitted during the week, against 450, 449, and 389 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had declined from 3137 to 2147 on the 14 preceding Saturdays, had further decreased to 2126 at the end of last week; 228 new cases were admitted during the week, against 266, 258, and 250 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 885 to 360 in the six preceding weeks, further decreased last week to 317 and were 75 below the corrected average number. The causes of 69, or 1·4 per cent., of the deaths in the 76 large towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Nottingham, Bolton, Salford, Cardiff, and 38 other smaller towns. The largest proportions of uncertified deaths were registered in Northampton, Burton-on-Trent, Liverpool, St. Helen's, Preston, Halifax, Stockton-on-Tees, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 23·7 and 20·3 per 1000 in the two preceding weeks, rose again to 21·3 per 1000 during the week ending April 5th, and was 3·7 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 16·0 in Paisley and 17·2 in Perth to 23·4 in Dundee and 26·5 in Greenock. The 687 deaths in these towns included 15 which were referred to diarrhœa, 14 to whooping-cough, 11 to measles, eight to scarlet fever, five to diphtheria, four to "fever," and two to small-pox. In all 59 deaths resulted from these principal zymotic diseases last week against 85, 83, and 59 in the three preceding weeks. These 59 deaths were equal to an annual rate of 1·8 per 1000, which was slightly below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 25 and 22 in the two preceding weeks, further declined last week to 15, of which nine were registered in Glasgow, three in Dundee, and two in Aberdeen. The deaths from whooping-cough, which had been 23, 28, and 13 in the three preceding weeks, rose again to 14 last week and included seven in Glasgow, two in Edinburgh, and two in Aberdeen. The fatal cases of measles, which had been 14, 11, and 14 in the three preceding weeks, declined again last week to 11, of which five occurred in Glasgow, and five in Dundee. The deaths from scarlet fever, which had been eight, five, and three in the three preceding weeks rose again to eight last week, and included four in Greenock and three in Glasgow. The fatal cases of diphtheria, which had been four and six in the two preceding weeks, declined again last week to five, of which three were registered in Glasgow. The deaths referred to "fever," which had been four, four, and one in the three preceding weeks, rose again to four last week, and included two in Glasgow, where the two fatal cases of small-pox also occurred. The deaths from diseases of the respiratory organs, in these towns, which had been 189, 217, and 173 in the three preceding weeks, further declined last week to 160, but were 10 in excess of the number in the corresponding period of last year. The causes of 29, or more than 4 per cent, of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 20·6, 22·4, and 27·5 per 1000 in the three preceding weeks, declined again to 26 8 per 1000 during the week ending April 5th. During the past four weeks the death-rate averaged 24·3 per 1000, the rates during the same period being 19·3 in London and 18·7 in Edinburgh. The 195 deaths of

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MARCH 1902.

(*Specially compiled for* THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1902.	Notified Cases of Infectious Disease.										Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death rate per 1000 living	Deaths of infants under one year to 1000 births.
		Small pox.	Scarlet fever	Diphtheria.*	Typhus fever	Enteric fever	Other continued fevers.	Puerperal fever	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living	Small pox.	Measles.	Scarlet fever	Diphtheria.*	Whooping cough.	Typhus fever	Enteric fever	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living			
LONDON...	4,579,107	1652	1218	840	—	135	4	16	238	—	4163	11·9	275	267	33	96	199	—	26	—	45	946	2·7	7166	20·4	135
West Districts.																										
Paddington	145 107	19	21	16	—	8	—	1	13	—	78	7·0	1	19	—	2	—	—	1	—	1	24	2·2	230	20·7	131
Kensington	177 605	15	27	10	—	2	1	2	9	—	66	4·8	3	17	2	2	1	—	—	—	—	25	1·8	256	18·8	133
Hammersmith	114 210	13	15	21	—	1	—	—	5	—	55	6·3	2	7	1	1	2	—	—	—	—	13	1·6	165	18·8	128
Fulham	143,102	19	30	31	—	5	—	1	7	—	93	8·5	1	46	—	—	4	—	—	—	6	56	5·1	264	24·0	168
Chelsea	74 018	7	17	8	—	—	—	—	2	—	34	6·0	—	1	1	—	1	—	—	—	1	4	0·7	125	22·0	147
City of Westminster	160,800	33	27	17	—	1	—	—	9	—	86	6·2	9	5	1	2	2	—	1	—	2	22	1·6	252	18·2	96
North Districts																										
St. Marylebone	132,059	34	12	19	—	5	—	1	15	—	86	8·5	7	37	—	3	1		1		1	50	4·9	253	25·0	148
Hampstead	83 743	5	11	5	—	1	—	—	4	—	26	4·0	1	1	—	2	—	—	1	—	1	6	0·9	86	13·4	94
St. Pancras	235,598	68	83	81	—	6	—	—	14	—	257	14·2	14	8	7	10	10		—	—	—	49	2·7	381	21·1	129
Islington	337,263	67	85	86	—	11	—	—	19	—	268	10·4	9	13	5	11	15	—	2	—	2	57	2·2	525	20·3	132
Stoke Newington	51 700	12	22	9	—	—	—	—	1	—	44	11·1	2	—	—	1	5	—	—	—	1	9	2·3	64	16·1	167
Hackney	221,926	99	63	69	—	5	2	1	21	—	260	15·3	8	6	—	8	15	—	—	—	2	39	2·3	319	18·7	131
Central Districts.																										
Holborn	58,535	34	12	10	—	2	—	—	6	—	64	14·3	7	1	2	—	3	—	—	—	1	14	3·1	117	26·1	136
Finsbury	100 487	33	19	17	—	4	—	1	9	—	83	10·8	6	11	—	4	5	—	1	—	—	27	3·5	191	24·8	137
City of London	25,598	7	4	8	—	—	—	—	2	—	21	10·7	—	2	—	1	—	—	—	—	—	3	1·5	45	22·9	143
East Districts.																										
Shoreditch	117 980	84	23	24	—	2	1	—	4	—	138	15·2	18	12	1	3	13	—	—	—	1	48	5·3	241	26·6	194
Bethnal Green	129,889	141	47	29	—	2	—	1	11	—	231	23·1	14	7	—	2	16	—	1	—	1	41	4·1	237	23·8	139
Stepney	300 651	327	47	52		17	—	1	19	—	463	20·1	66	13	1	3	21	—	3	—	5	112	4·9	550	23·9	149
Poplar	169,214	138	49	33	—	5	—	—	10	—	235	18·1	21	10	1	2	8	—	2	—	3	47	3·6	296	22·8	122
South Districts																										
Southwark	206,828	89	56	33	—	5	—	—	24	—	207	13·0	16	9	3	6	9	—	1	—	4	48	3·0	382	24·1	181
Bermondsey	130,218	30	33	22	—	5	—	—	8	—	98	9·8	2	—	2	2	10	—	—	—	1	17	1·7	228	22·8	140
Lambeth	305,102	53	84	24	—	9	—	3	14	—	187	8·0	12	3	—	3	12	—	—	—	3	33	1·4	454	19·4	118
Battersea	171 401	30	61	18	—	2	—	—	8	—	119	9·1	3	12	2	2	5	—	1	—	3	28	2·1	240	18·3	104
Wandsworth	241,810	24	102	65	—	11	—	2	14	—	218	11·8	8	14	3	7	7	—	6	—	—	45	2·4	314	16·9	106
Camberwell	262,775	87	115	67	—	11	—	1	17	—	298	14·8	12	—	3	12	10	—	1	—	2	40	2·0	350	17·4	144
Deptford	111 577	42	45	14	—	5	—	—	10	—	116	13·6	14	1	—	2	2	—	1	—	3	23	2·7	168	19·6	174
Greenwich	98 013	32	27	9	—	1	—	—	6	—	75	10·0	5	8	1	—	4	—	—	—	—	18	2·4	150	19·9	153
Lewisham	132,432	40	49	32	—	5	—	—	9	—	135	13·3	4	—	1	4	10	—	2	—	—	21	2·1	133	13·1	71
Woolwich	119 576	63	27	11		4	—	1	8	—	119	13·0	10	4	1	1	8	—	1	—	2	27	2·9	150	16·4	107
Port of London		3		—		—	—		—	—	3		—		—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup

persons belonging to Dublin registered during the week under notice showed a decline of five from the number in the preceding week, and included six which were referred to the principal zymotic diseases, against eight, six, and seven in the three preceding weeks; of these, two resulted from diphtheria, and one each from measles, scarlet fever, "fever," and diarrhœa. These six deaths were equal to an annual rate of 0.8 per 1000, the zymotic death-rates during the same period being 2·4 in London and 0·8 in Edinburgh. The 195 deaths in Dublin last week included 28 of children under one year of age and 51 of persons aged upwards of 60 years; the deaths of infants showed a slight decline from the number recorded in the preceding week, while those of elderly persons were slightly in excess. Nine inquest cases and four death from violence were registered, and 76, or more than a third, of the deaths occurred in public institutions. The causes of 12, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING MARCH, 1902.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the cities and boroughs in the county of London. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 11·9 per 1000 of the population, estimated at 4,579,107 persons in the middle of the year. In the three preceding months the rates had been 10·6, 11·4, and 11·4 per 1000 respectively. The rates were considerably below the average in Kensington, Hammersmith, Chelsea, the City of Westminster, and Hampstead, while they showed the largest excess in Hackney, Shoreditch, Bethnal Green, Stepney, and Poplar. During the four weeks ending March 29th the number of small-pox cases notified showed a further increase as compared with recent months; the greatest proportional prevalence of this disease was recorded in Holborn, Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, and Woolwich. The Metropolitan Asylums hospitals contained 1526 small-pox patients at the end of March, against 666, 1135, and 1309 at the end of the three preceding months; the weekly admissions averaged 461, against 173, 297, and 390 in the three preceding months. The prevalence of scarlet fever last month showed a slight increase over that recorded during February; among the various metropolitan boroughs this disease was proportionally most prevalent in St. Pancras, Stoke Newington, Bethnal Green, Battersea, Wandsworth, Camberwell, Deptford, and Lewisham. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 3080, 2501, and 2250 at the end of the three preceding months, had further declined to 2113 on Saturday, March 29th; the weekly admissions averaged 206, against 297, 266, and 234 in the three preceding months. The prevalence of diphtheria last month was slightly greater than in the preceding month; this disease was proportionally most prevalent in St. Pancras, Islington, Hackney, the City of London, Wandsworth, Camberwell, and Lewisham. There were 1123 diphtheria patients under treatment in the Metropolitan Asylums hospitals at the end of March, against 1369, 1231, and 1154 at the end of the three preceding months; the weekly admissions averaged 156, against 160, 167, and 154 in the three preceding months. Enteric fever was considerably less prevalent during March than in either of the two preceding months; among the various metropolitan boroughs enteric fever was proportionally most prevalent in Paddington, Stepney, Finsbury, Wandsworth, Camberwell, and Deptford. The number of enteric fever patients under treatment in the Metropolitan Asylums hospitals, which had been 195, 128, and 142 at the end of the three preceding months, had declined again to 121 at the end of March; the weekly admissions averaged 17, against 21, 18, and 22 in the three preceding months. Erysipelas was proportionally most prevalent in Paddington, St. Marylebone, Hackney, Holborn, and Southwark. The 16 cases of puerperal fever notified during the month included three in Lambeth, two in Kensington, and two in Wandsworth.

The mortality statistics in the table relate to the deaths of persons actually belonging to the *various* metropolitan boroughs in which the deceased persons had previously resided. During the four weeks ending March 29th the deaths of 7166 persons belonging to London were registered, equal to an annual rate of 20·4 per 1000, against 18·8, 18·3, and 25·9 per 1000 in the three preceding months. The lowest death-rates last month in the various metropolitan boroughs were 13·1 in Lewisham, 13·4 in Hampstead, 16·1 Stoke Newington, 16·4 in Woolwich, and 16·9 in Wandsworth; the highest rates were 24·1 in Southwark, 24·8 in Finsbury, 25·0 in St. Marylebone, 26·1 in Holborn, and 26·6 in Shoreditch. The 7166 deaths from all causes included 275 from small-pox, 267 from measles, 38 from scarlet fever, 96 from diphtheria, 199 from whooping-cough, 26 from enteric fever, and 45 from diarrhœa; in all, 946 deaths were referred to these principal zymotic diseases, equal to an annual rate of 2·7 per 1000. The lowest death-rates last month from these diseases were 0·7 in Chelsea, 0·9 in Hampstead, 1·4 in Lambeth, 1·5 in Hammersmith and in the City of London, and 1·6 in the City of Westminster; the highest rates were 4 1 in Bethnal Green, 4·9 in St. Marylebone and in Stepney, and 5·1 in Fulham. The 275 fatal cases of small-pox showed a further increase over the numbers in recent months; the greatest proportional mortality from this disease occurred in Holborn, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, Deptford, and Woolwich. The 267 deaths from measles were slightly in excess of the average number in the corresponding periods of the 10 preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Paddington, Kensington, Fulham, St. Marylebone, Finsbury, Shoreditch, and Greenwich. The 38 fatal cases of scarlet fever showed a decline of 13 from the corrected average number; the greatest proportional mortality from this disease was recorded in St. Pancras, Islington, Holborn, Southwark, and Bermondsey. The 96 deaths from diphtheria were 40 per cent. below the average number in the corresponding periods of the 10 preceding years. Among the various metropolitan boroughs this disease was proportionally most fatal in St. Pancras, Islington, Hackney, Finsbury, and Camberwell. The 199 fatal cases of whooping-cough showed a decline of 54 from the average number in the corresponding periods of the 10 preceding years; the greatest proportional mortality from this disease occurred in Stoke Newington, Shoreditch, Bethnal Green, Bermondsey, and Lewisham. The 26 deaths referred to enteric fever were slightly below the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Hampstead, Stepney, Poplar, Wandsworth, and Lewisham The 45 fatal cases of diarrhœa also showed a slight decline from the average number; the highest death-rates from this disease were recorded in Fulham, Stepney, Poplar, Southwark, Battersea, Deptford, and Woolwich. In conclusion, it may be stated that the aggregate mortality in London last month from these principal zymotic diseases was more than 6 per cent. above the average.

Infant mortality in London during March, measured by the proportion of deaths among children under one year of age to registered births, was equal to 135 per 1000. The lowest rates of infant mortality were recorded in the City of Westminster, Hampstead, Battersea, Wandsworth, Lewisham, and Woolwich; and the highest rates in Fulham, Stoke Newington, Shoreditch, Southwark, and Deptford.

THE SERVICES.

ARMY MEDICAL SERVICE.

THE undermentioned Colonels to be Surgeon-Generals:—William F. Burnett, Royal Army Medical Corps, vice J. Jameson, C.B., placed on retired pay. Dated June 1st, 1901. Edmond Townsend, C.B., C.M.G., Royal Army Medical Corps, vice W. A. Catherwood, deceased. Dated Sept. 25th, 1901. William H. McNamara, C.B., C.M.G., Royal Army Medical Corps, vice H. S. Muir, C.B., placed on the supernumerary list. Dated Oct. 4th, 1901. Sir Thomas J. Gallwey, K.C.M.G., C.B., Royal Army Medical Corps, vice T. F. O'Dwyer, placed on retired pay. Dated Dec. 26th, 1901.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel G. T. Trewman is appointed to the Home District for duty. Lieutenant-Colonel W. A. Parker, Reserve of Officers, proceeds to Exeter for duty, in medical charge of the 11th Regimental District, and Lieutenant-Colonel W. B. Slaughter joins for general duty in the Southern District.

Imperial Yeomanry.

Buckinghamshire (Royal Bucks Hussars): Surgeon-Captain Leonard Arthur Bidwell, from Middlesex Garrison Artillery (Volunteers), to be Surgeon-Captain. Yorkshire Hussars (Princess of Wales's Own): Walter Henry Cheetham to be Surgeon-Lieutenant.

Volunteer Corps.

Rifle: 1st Volunteer Battalion the Prince Albert's (Somersetshire Light Infantry): Surgeon-Lieutenant R. G. Worger to be Surgeon-Captain. 2nd Volunteer Battalion the Manchester Regiment: John Alfred Knowles Renshaw to be Surgeon-Lieutenant.

Volunteer Infantry Brigade.

Durham Light Infantry. Surgeon-Lieutenant-Colonel T. A. McCullagh, 2nd Volunteer Battalion the Durham Light Infantry, to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade.

Highland Light Infantry: Surgeon-Lieutenant-Colonel D. Cowie, 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry, to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade.

2nd London: Surgeon-Major W. D. Waterhouse, 1st Tower Hamlets Volunteer Rifle Corps, to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade.

East Surrey: Surgeon-Lieutenant-Colonel W. Gandy, 2nd Volunteer Battalion the East Surrey Regiment, to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade

West Surrey: Surgeon-Major F. R. Russell, 2nd Volunteer Battalion the Queen's (Royal West Surrey Regiment), to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade.

Army Medical Reserve of Officers.

Surgeon-Captain J. Adams to be Surgeon-Major.

South African War Notes.

Civil Surgeon A. L. Hoops is reported severely wounded during the repulse of Delarey at Boschbult, Kleinhardts River, on March 31st.

Lieutenant W. S. Crosthwait, R.A.M.C., has been discharged from hospital for duty.

Lieutenant A. O. B. Wroughton, R.A.M.C., and Civil Surgeons Roberts, Wethered, Kornohan, Cornwall, and Maunsell are on passage home from South Africa.

Affairs in South Africa.

Several events of a more or less stirring character have taken place in South Africa of late. In the first place, there have been several encounters and a good deal of severe fighting—with Delarey's force in particular. Both sides have possibly been desirous by their renewed activity in the field of influencing the course of the pending peace preliminaries. Be this as it may it is calculated that the total number of the Boer forces still amounts to 8000 Considering the Boer tactics and the extent of territory over which the operations extend the "wearing down" process and the use of columns in sweeping the country seem to be the only methods on which any reliance can be placed. It is very uncertain whether any satisfactory peace proposals on the side of Mr. Schalk Burger and his party will arise out of the Boer conferences. The only way to peace is apparently through an active prosecution of war on our part. We know, and have known all along, little or nothing trustworthy about the losses on the part of the Boers, but these must have been heavy of late. The total reduction of the military forces on the British side through war in South Africa has, according to the War Office return of April 7th, been as follows The deaths of officers and men in South Africa have amounted to 1020 officers and 20,031 non-commissioned officers and men; the missing and prisoners number 136; and the invalids sent home who have died or have left the service as unfit number over 5700 officers and men. The total reduction in officers, non-commissioned officers, and men from all causes amounts to 26,954. Although there is still much enteric fever it is, on the whole, less prevalent than it was and the sickness is attributed more to "other causes" than was the case some time ago. In proportion as the facts about the concentration camps have become better known and as observations gathered on the spot by capable and impartial persons have been published so has a great change taken place in public opinion in regard to this subject; reasonable people have come to recognise that all that was possible at the time was done. The institution of refugee camps for the unprotected wives and families of the Boers left on the veldt was a vastly responsible and difficult undertaking which probably no other nation under similar circumstances would have attempted. The organisation and arrangements of these camps were necessarily bad and incomplete at first. This was inevitable, seeing that they were a perfectly new institution in war, but these difficulties were eventually overcome and they are now well organised under medical officials from India accustomed to the work of famine relief in that country.

Deaths in the Services.

Surgeon-Captain George Ramsay, I.M.S., Residency surgeon, Baghdad, on March 24th, at Baghdad, Turkish Arabia, in his thirty-fourth year. He served with the Chitral Expedition (medal and clasp) and in 1894 he was appointed to Guntok, in Sikkim, as medical officer. In 1896 he was appointed as acting Residency surgeon at Baghdad and assistant political agent.

Surgeon-General James Champion Penny (retired), at his residence, in Nevern-square, London, S.W., on April 3rd. The deceased officer was 72 years of age. He took part in the relief of Lucknow and Cawnpore during the Indian Mutiny, receiving the medal and clasp. He was a student of St. George's Hospital, where he distinguished himself, and he graduated at London University, of which he was an M.D. He then became medical tutor at Neville Hall, Newcastle-on-Tyne, in connexion with the University of Durham and the Newcastle Medical School, a post which he held for some little time before entering the Indian Medical Service. He served for a long time in India where he made many friends and was well known and greatly respected.

Inspector-General Hugh Martin Macpherson, I.M.S. (Bengal), retired, at his residence in Arlington-street, London, S.W., on April 4th, in his eighty-second year.

Queen Alexandra's Imperial Nursing Service.

We understand that the Nursing Board of Queen Alexandra's Imperial Military Nursing Service will be constituted as follows:—President, Her Majesty the Queen; Vice-President, the Countess Roberts; Chairman, the Director-General, Army Medical Service, or in his absence the Deputy Director-General; two members of the Advisory Board, Sir F. Treves, K.C.V.O., C.B., and Major W. G. Macpherson, Royal Army Medical Corps; matron-in-chief, Miss S. Brown (temporary); two matrons of civil hospitals, Miss Gordon and Miss Monk; representative of the India Office, to be named later by the Secretary of State for India, and two members to be nominated by Her Majesty, the Viscountess Downe, and the Hon. Sydney Holland.

Naval Medical Supplemental Fund.

At the quarterly meeting of the Directors of the Naval Medical Supplemental Fund, held on April 8th, when Sir J. N. Dick, K.C.B., presided, the sum of £71 was distributed among the several applicants.

An Improved Phonograph.—As mentioned in The Lancet of Jan. 11th, 1902, p. 131, Mr. Stroh's new violin was shown and played upon not many days previously at the Royal Institution. On April 7th it was shown by Mr. Stroh at an evening meeting held in the Camera Club, Charing Cross-road, but it was not played on, as about two hours were agreeably spent in the reproduction of music and recitations by Mr Stroh's phonograph. A special feature of this instrument is the diaphragm which is about two and a half inches in diameter and consists of a stripped celluloid photographic film having a large part of its surface covered by a centrally placed cone carrying the usual rounded sapphire point at its apex. This cone is made of stiff writing paper and has an extremely obtuse angle. About a dozen instrumental pieces were given, several of them being performances by a London regimental band, including selections from *Lohengrin*, *Cavalleria Rusticana*, *Faust*, and *Tannhäuser*. The phonograph was well heard in all parts of a large room; its enunciation was loud, clear, and almost free from nasal quality. The respective sounds of wood and stringed instruments playing together could be easily distinguished and individual qualities in the voices both of vocalists and reciters were well preserved.

Correspondence.

"Audi alteram partem."

THE REORGANISATION OF THE ARMY MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—The promulgation of the Royal Warrant is a definite step in the proposed scheme of army medical reform and comprises that section of it which requires Royal assent, the remaining sections coming within the range of action of the Secretary of State for War and other officials to be subsequently embodied in regulations, instructions, orders, &c. It requires but a brief comparison of the Warrant with the War Office scheme as previously set forth to recognise how large and important are the complementary details left untouched by it; indeed, the Warrant, mainly relating to pay and its governing conditions and rank, may be regarded rather as a bid for candidates than as an exponent of the intentions or the authorities towards placing the future medical staff on an efficient basis for the large and important duties—professional, sanitary, and military—entrusted to it during peace and war. And yet this Warrant will probably be relied on by the young medical man towards deciding him in the adoption or otherwise of the army as a fit sphere for his professional career, as possible of giving him a fair field for his livelihood and for his life's work and a fair opportunity for obtaining for his talents and professional and scientific acquirements and labours such recognition as he is entitled to and such as would probably fall to his lot did his life's work lie in the civil sphere. How far this Warrant will operate in favour of the service remains to be seen, but it requires to be read, and should be read, by all aspirants in conjunction with the details which are to follow and to supplement it; sufficient, however, is forthcoming to show clearly that the authorities in improving the pay of some of the respective ranks and giving additional and charge pay and other advantages under certain specified conditions require a very decided *quid pro quo* in the shape of up-to-date attainments so far as these can be gauged by examinations, inspections, reports, or otherwise, should these tests be efficiently and strictly carried out. That these features will tend not only to curtail the number of aspirants to an army career but also to maintain a fair average professional status throughout the service of the future may be granted, yet the inducements held out towards personal professional and scientific progress seem decidedly insufficient for the wants of the case. To illustrate my meaning let one note the high position given to "distinguished service in the field"—a possible incident only in the career of the individual and limited both in range of action and in future utility—towards promotion and special reward as compared to that given to "distinction in original investigation or research,"—open to all independent of time and place and generally valuable irrespective of such exceptional circumstance as war—which is relegated in the Warrant to a footnote, a "Secretary of State's instruction." It is, of course, possible that such professional and scientific advance may find recognition under the principle of "selection" for promotion to the rank of lieutenant-colonel and upwards, yet it requires to be noted that so far the grounds on which this principle is to operate are not stated to embrace these features, while the division of agency for the right execution of the principle as embodied in the scheme, annulling all assessable personal responsibility for the result, leaves much to be desired in respect to this important function. However, speaking generally, it will probably be allowed that the governing features of this Warrant are of a character to improve the future professional status of the Army Medical Service, and their outcome in practice must be left for time and experience to determine.

But my main object is not so much to direct attention to what is officially on record, or to the other hardly less important details still wanted to complete the scheme, and to which you, Sirs, refer in the leading article of THE LANCET of April 5th, p. 977, as to point out that, all said, Warrants, regulations, instructions, and orders are but means to an end, which in themselves necessary and important are insufficient to place our future medical service on the ambitious height desired by the Secretary of State for War—*secundus nulli;* they require not only to be honestly and thoroughly carried out but also to have full and sufficient provision and scope for right and efficient action—a proper environment. That the authorities are now full of good intentions and the country also may be granted, but the more important question is, what will the army conditions be when the distress of the present war has ceased to operate and when the present excitants to action have been succeeded by the recoil of weariness and possible apathy—how far the environment will be such as to foster and to mature this scheme which needs for its full and complete development the combined good-will and honest support of so many army sections, placed as the medical service is among the other constituents of the military organisation? That the service as proposed will be very costly no one can doubt, and this feature will require a strong and sympathetic War Minister to obtain for it the necessary pecuniary supplies; that it will need the full acquiescence and firm support of the army generally from the Commander-in-Chief downwards in order to give it a fair field to work in will be easily grasped by those who know from practical experience in the past what the opposite conditions are capable of as antagonising agencies to any scheme subject to the disfavour of its higher powers; that it will need a Director-General professionally no less than militarily competent, fully alive to the requirements of the times as bearing on the many-sided character of his department, capable of initiating and fostering a professional and scientific *esprit de corps* and zealous in maintaining its rightful position among the other army sections, is no less apparent. And in view of these essentials, when one recalls the noble purposes of the commission following the Crimean disasters, the high hopes entertained of its practical outcome—the Magna Charta of the department as it was then regarded—whereby "men of high professional qualifications were at once attracted to the service," and contrasts the state of affairs brought about by some 30 years of official indifference and neglect and army opposition, leading practically to a shunning of the army by the profession, and rightly so, the thought arises in the mind whether the past may not repeat itself and this new Warrant and scheme go the way of the outcome of the labours of Mr. Sydney Herbert and what safeguard there may be capable of acting as a preventative to any such disastrous repetition. The well-being of the future medical service will need the concurrence of the Treasury, the War Office including the Commander-in-Chief and the army generally, the medical head-quarter staff and the profession, and it will be necessary for one and all to act in unison to bring the service up to the standard required by the times and to maintain it at that level. The *personnel* of the first three factors is changeable, the individuals come and go, and there is no guarantee that the necessary continuity of interest and action will be maintained; the profession and the general public may agitate to redress grievances and defects, yet it is not redress but prevention which must be sought for. What is required is some agency which, while recognising the value and necessity of a competent medical service to safeguard army efficiency, shall be generally and continuously operative and sufficiently powerful to influence the higher orders, and such a force, it seems to me, could be found in a sound public opinion in the military body alive from experience to the necessity of high professional ability for its well-being, individually and collectively. What I take it the army wants in its medical staff is, besides ordinary social, intellectual, and military qualities in its members, a good professional standard which can be relied on in times of sickness and injury to do all that medical and surgical knowledge suggest and to give sound advice, sanitary or otherwise, on all points touching the health and efficiency of the troops; and what is further required is the development of a right feeling of comradeship between the medical and other army sections, based on mutual respect, esteem, friendship, and interest, and which shall recognise in the medical service the friend and professional adviser of the army as a whole. From such a standpoint and on such a foundation the medical service might rest secure far beyond what Warrants and regulations can by themselves effect, and without such a basis of permanent stability one seeks in vain for the essentials necessary to maintain it in an active and progressive condition at all times—now and in the future. This necessary environment is non-existent and has to be generated, and what will go far towards producing it is, as an initial step, getting the right stamp of medical man to join the service and, as a subsequent step, maintaining the body at a high professional and scientific level. Whether the present scheme as fully developed will tend to bring about those desiderata remains to be determined, but certainly the Warrant itself seems to fall short of the latter requisite. What the medical service requires to recognise is that its true *raison d'être* is professional and scientific in the major degree and in a minor degree military, and that it is on this basis, and this basis alone, that it can claim the assent of the whole army confraternity

I am, Sirs, yours faithfully,
FRANCIS H WELCH,
Surgeon-Colonel (retired) Medical Staff
Brandram-road, Lee, April 5th, 1902.

150 ARTHROTOMIES

To the Editors of THE LANCET

SIRS,—Some six years have elapsed since I first invited attention to the value of arthrotomy with drainage in cases of traumatic hæmarthrosis and of traumatic arthritis and a year later I was induced to apply the same treatment to joint effusion in cases of rheumatic fever and gonorrhœal arthritis. The results have proved satisfactory beyond anticipation even in the latter maladies and I have been enabled from time to time to publish cases in THE LANCET and other journals showing the rapid and permanent effect which arthrotomy has on a rheumatic or gonorrhœal knee

In all I have operated on 29 cases of blennorrhagic arthritis, 27 were restored to the normal condition and two were uncured, in the latter fibrous ankylosis had existed prior to operation. I do not intend again to break down old adhesions in this disease for if a successful result is to be hoped for operation must be performed before the joint structures become pickled in the septic and plastic products of gonorrhœal infection. As far as my experience goes I am not cognisant of any other method of treatment which gives such uniformly good results.

88 arthrotomies have been performed for the malady commonly known as acute rheumatism, but which I have considered necessary to designate acute infective arthritis and cellulitis, for, as previously stated, the word "rheumatism" does not convey any explanation of the condition. In my first paper on this subject I maintained that it was an infective process, the germ or toxin gaining admission to the body *viâ* the tonsil or other microbial trap-door, and recently bacteriological investigations tend to support a conclusion which I formed five years ago from the use of a knife In this series 76 joints were restored to their normal state, all being acute or subacute cases with effusion, in the remaining 12 the disease had existed for months, and in some instances for years, before admission to hospital. Arthrotomy, breaking down old adhesions, irrigation and drainage seemed to give relief, but in none could *restitutio ad integrum* be said to have taken place. In my experience the knees, ankles and wrists, in the order mentioned, bear the brunt of the attack, and I find that if the infective fluid is promptly removed by incision and free drainage is provided the constitutional symptoms promptly subside, the rapidity of cure being in direct ratio to the duration of the toxæmia. No difference of opinion exists nowadays as to the universal canon, "*Ubi pus ibi evacua*," and if the word "*pus*" signified all septic fluid there would be no necessity for this paper, but the inane part of the business is that unless the liquid presents one of the colours of the rainbow it is not considered worthy of surgical intervention. Yet the absurdity is most obviously apparent when one considers that in some of the most virulent cases of septic peritonitis we not infrequently find only a small quantity of dirty water, the same kind of flaky, tinted serum that I constantly remove from rheumatic joints, accompanied with symptoms of general toxæmia, at times almost pyæmic in character I consider it a duty to drain these joints and by so doing to remove hotbeds of infection where the morbid material is incubated and prepared for distribution to the cardiac valves, the pericardium, and to other articulations. In order effectively to combat the insidious vagaries of this dreadful affection I strongly advocate removal of infective fluid from the joints as soon as it is detected. By this means cardiac and general metastasis can be avoided and the more I see of this disease the more convinced do I become that it has much in common with pyæmia and gonorrhœal arthritis

15 arthrotomies have been performed for traumatic hæmarthrosis Since 1896 I have operated on every case of hæmarthrosis which I have diagnosed with one result—prompt cure At times the diagnosis is not easy, particularly when patients do not seek hospital treatment for some days after injury, and it has occurred to me on three occasions when operating as I supposed for traumatic serous effusion to find instead a collection of blood and clots It is unnecessary to repeat my ideas elsewhere expressed as to the advantages derived from early operation in these cases further than to mention that in five minutes a surgeon can effect more than can be obtained by massage, &c., in five weeks (possibly months).

18 arthrotomies have been performed for acute traumatic arthritis, all the patients being cured. It has been my practice for some time past to resort to early operation in these cases, and generally, if rest, ice, and gentle massage do not bring about appreciable diminution of the effusion in one week, arthrotomy is performed, the joint is irrigated with warm salt lotion, and a drainage-tube is inserted for three days, by this means true physiological rest is provided for the injured structures and as a consequence rapid and permanent cure follows.

On only one occasion had I reason for any alarm on the ground of sepsis which happily was dispelled in 24 hours by a large stab counter opening and repeated irrigation with warm mercurial lotion, 1 in 1000 At the same time I wish to inculcate on any surgeon about to undertake an arthrotomy to make as certain of his cleanliness as if he were going to operate for the removal of an ovarian cyst. One amputation would be a huge discount on even 99 cures.—I am, Sirs yours faithfully,

JOHN O CONOR, M.A., M D Dub,
Senior Medical Officer British Hospital, Buenos Ayres

THE MIDWIVES BILL

To the Editors of THE LANCET.

SIRS,—It must be admitted that the dominant position in the healing art of the general practitioner must be jealously guarded from unreasonable encroachment by unauthorised claimants to popular favour For what purpose do the Medical Acts exist if not to protect the public from ignorant and unreliable practitioners? The course of study for students in the medical profession is now extended from three years to five or six in order to obtain high class practitioners in every department—men who are fully instructed in the many details and technicalities of a learned profession. We have thus an additional claim upon our legislators that they should defend the public from the *vox clamantis* of charlatans who trumpet their wares at every corner of the street. A midwife, if she understands her business, will, too often, like "the importunate widow," take very good care that every woman attended in her confinement shall hand her name on to some more wealthy neighbour or friend. Such persuasive garrulity a general practitioner with any self respect would scorn to imitate.

In order to place the practice of midwifery before the public in its proper and judicial aspect we must not fail to recognise that it is as much a branch of the medical art as any other branch of medicine—take, for example, orthopædic surgery, dermatology, or gynæcology Any one of these might be, and has been, practised under certain circumstances by intelligent women without any particular harm accruing to the patient, but this is no argument for registering the illegal practice of such women. The student of obstetrics knows well how many months and years of study are required before he can become proficient in the science and art of midwifery, acquiring that dexterity which is so needful an equipment for sudden emergencies. To delegate the same powers to a woman who at best is only qualified to attend a case of natural and normal labour requires careful consideration, so that she may promptly pass on the responsibility of a difficult case to a duly-qualified practitioner and may know when to do so with advantage. We are confronted with one of the most difficult problems connected with the registration of midwives—viz., who is there that can define the meaning of "natural labour"? If, for example we take only the question of a natural presentation, what a multiplicity of dangers and complications threaten the viability of the child and the safe deliverance of the mother in such cases. The village midwife engaged with a critical case suddenly discovers at midnight that she requires the aid of a duly-qualified practitioner. Who is there that will go to the town through sleet and snow to obtain the services of the expert? When he is found, is it right to expect that he will accept attendance upon the wife of a labouring man with no prospect of being recouped for his services? What will happen to the woman during the waiting hours?

It must, however, be admitted that these are not new difficulties. History records the fact that in all ages and in all countries woman has been called to the aid of her suffering sister in this her great peril. It is a modern refinement of cultivated society to obtain the services of a skilled practitioner with ready and ample resources for every emergency. No one will dispute the fact that this has been a great gain to the human race. The mortality statistics of the child-bearing period give ample evidence of the fact that human life has been preserved and suffering diminished by the skilful attendance of obstetric practitioners upon women during their confinements. We cannot, even if we so desired it, ostracise the midwife. She is a factor to be reckoned with. Over 200,000 women in this country are attended by midwives annually. Their services are secured by preference by the women themselves, and all that we demand as scientific practitioners is that this practice shall be regulated by such parliamentary measures as will protect the lives of those who are entrusted to their care. Therefore, when the Obstetrical Society comes in and offers to provide a qualifying examination for midwives so that they may practise their profession with some amount of skill and discretion, such humanitarian efforts for the amelioration of the lot of the necessitous poor must claim our acknowledgment. A woman thus brought into close association with the methods of practice adopted by the profession, and duly warned of the dangers which she is certain to encounter in her practice, should be the more ready to send and ask for the help of a neighbouring practitioner when any difficulty arises.

What we need to impress upon the Government is that if it determines to give a legal status to the practising midwife it becomes us to demand attention to the corresponding obligation—viz., that the safe delivery of a woman is only one part, and that a small part, of her obligations. The defence of the puerperal woman from the encroachment of septic germs, and the safe conduct of her case through the many shoals and dangers of the puerperal period can only be effectually guarded against by knowledge which the expert has acquired after years of study and research in the medical school. Hence the importance—I would say the necessity—of linking on every registered midwife with a qualified practitioner residing in the district where she works to whom she can have direct access in cases of difficulty or emergency.

I cannot understand why some general practitioners should object to the registration of midwives. Some kind of registration must precede any official regulation of their practice. Countless thousands of poor women have to submit to the ministration of these disqualified obstetricians on account of their poverty, yet the vast majority of them would gladly receive the services of an expert working upon trained scientific principles acquired after many years of hospital study. The manly fortitude and ready talent for sudden and grave emergencies, so characteristic of our race, will always make the man-midwife a *persona grata* with women of all grades. I do not think we need fear the ghost of supersession. We have got rid of Betsy Gamp from our hospitals. We have flooded our towns with trained nurses who have proved most valuable aids to our practice and useful watch-dogs over the foibles and fancies of our patients. Why stop short at the midwife? Are we not all advocates of antiseptic midwifery? Do we not agree that the puerperal state and the needful manipulation of lacerated tissues constitute a most fruitful source of germ infection by ignorant women? Are the lay public, many of whom are eagerly supporting the claims of the Midwives Society, aware of the dangers of employing women whose hands and clothing must be loaded with bacteria and septic germs as they hurry from house to house in densely populated neighbourhoods? Surely the remedy for all this loose and dangerous practice of self-constituted midwives is to place them under the authority of the medical officers of health, or of the local practitioner who should receive their reports, train them in habits of cleanliness and antiseptic treatment, and thus guard them from carrying infection from house to house, and also inhibit them from "attending cases of abnormal labour" except in consultation with a registered practitioner. Let us convince the House of Commons and the philanthropic public that in resisting this measure we are not contending for the right of guarding our own interests, but of safeguarding the public in populous centres from the ignorant and dangerous practice of unauthorised midwifery. A registered midwife with hospital training should prove a most valuable aid to our hard-working practitioners by reporting all cases of labour to the proper authorities and of the existence of epidemic disease in the houses they visit, receiving a small fee for so doing from the local authority.

Let it be clearly understood by the lay public that the medical profession do not object to the registration of midwives as such. The better instructed a woman becomes for the duties of her calling so much the better for the health of the community. But is it possible by an Act of Parliament to make a midwife an obstetric practitioner? However clever and skilful she may be it is impossible to qualify her for attending any but ordinary or natural labours under a certificate of three months' instruction in midwifery. As soon as the child is delivered and the placenta removed the woman passes into a puerperal condition the gravity of which can only be measured by a practitioner who has spent years in the study of obstetrics and gynæcology The avenues for septic infection are numerous and intricate The midwife may be skilful in the administration of an antiseptic douche but she cannot possibly know the source whence the bacterial infection has been communicated. She cannot explore with speculum and other appliances the manifold involutions of the vaginal or uterine membrane. She has no proper qualifications for testing the pulse or the temperature, or for examining the vital organs. The life of the woman depends upon prompt and skilful treatment of these emergencies. The statistics of lying-in hospitals show unmistakably that in confinements attended by duly-qualified medical men and women the mortality is much less than in those attended by midwives. If the Houses of Parliament determine to register duly-qualified midwives, well and good; but they must go one step further and provide medical attendance for that numerous class of cases that go wrong because the midwife is not competent to prescribe for, or treat, the complications of the puerperal state.

The only way to protect the public from incompetent and meddlesome midwives is to require the woman to be in direct communication with a local practitioner or medical officer of health for the treatment of all emergencies. This might be effected by requiring a notification certificate to be sent to the duly constituted authority of all cases attended by a midwife, with an additional request for assistance in case of emergency. The registrar or the relieving officer to give the required warrant for the attendance of the medical officer of the district when the emergency is communicated to him.

I am, Sirs, yours faithfully,

FREDERICK CHURCHILL,
Formerly Resident Medical Officer to the General Lying-in Hospital, Lambeth.

Cranley-gardens, S.W., April 4th, 1902.

THE TREATMENT OF SUPERFLUOUS HAIRS BY ELECTROLYSIS.

To the Editors of THE LANCET.

SIRS,—It need hardly be remarked that the removal of superfluous hairs from the face is of the utmost possible importance from a feminine point of view. The only really efficient method of obtaining that result is by electrolysis, notwithstanding all that has been written about the x rays—or, rather, exposure to the focus-tube—as a means of depilation. It is not too much to say that the presence of hair on the upper lip and chin may mar the whole life prospects of a woman. The condition, moreover, is extremely common—far more than is generally suspected even by observant medical men—as the feminine instinct prompts women to hide the defect as much as possible by the use of depilatories and by shaving. Notwithstanding these facts the operation of electrolysis has been allowed to drift away from the medical profession, in whose control it should most assuredly have remained, into the hands of unqualified persons.

The use of the focus-tube for epilation is not one that has yet stood the test of prolonged experience. The hairs admittedly return again and again, but it is contended that in the long run their power of reproduction is overcome and no more hairs appear On the other hand, unless the exposure to the x ray tube is conducted by the most skilled and cautious operator the results may be disastrous. The writer has seen and recorded[1] cases in which obstinate ulcers of many months' duration have been thus produced on the chin It seems more than likely that any unqualified person applying the x ray tube in this manner and with such results would be liable to incur heavy damages in a court of law Electrolysis, also, is essentially a surgical procedure, and as such should never have been allowed to pass out of the hands of the medical profession Some day it is possible that the General Medical Council may recognise its duty to the profession in protecting its interests in this and other directions by pressing the amendment of the Medical Acts upon the attention of Parliament.

The combined method of depilation—namely, by use of the focus-tube to loosen the hairs and subsequent cauterisation of the empty follicle by the electrolysis needle—is, unfortunately, applicable only in cases where the growth of hair is coarse and scattered. That condition excludes at once the great majority of cases of hirsuties in which the growth is diffuse, thick, and coarse, or downy In the latter class electrolysis is the only available means of scientific treatment. Depilatories merely palliate the evil for the time being, while in the long run they cause the growth of the hairs to be redoubled.

The objections to electrolysis are well known. It is tedious and painful, but both these obstacles are surmountable with a little determination on the part of the patient. There can be little doubt that all, or almost all, conceivable cases of hirsuties can be overcome in time if the resolution of the patient and the patience of the operator be sufficiently strong A great deal of harm is done to the credit of the operation by the claims of unqualified persons who, as usual, seek to prove too much. They say, for instance, that the pain is trifling, that the destruction of the hair is certain, and that no mark is left On the other hand, after some considerable experience the present writer is able to affirm that it is impossible to remove deep coarse hairs without a fair amount of pain and that some slight scarring must necessarily result. The truth of the latter statement will at once be apparent to all medical readers As to recurrence, it is admitted by all medical writers upon electrolysis that re-growth of the hairs takes place in a fair percentage of the follicles operated upon, say, from 15 to 20 or 30 per cent. That result must necessarily follow from the varying direction of the hair follicle and bulb which runs now this way and now that and is sometimes bent on itself like the letter C A second electrolysis of the young recurring hair is then likely to end in the complete destruction of the bulb. With the aid of a small battery and a most simple apparatus it is within the power of any medical practitioner to perform this little operation which would thereby be kept in the hands of the profession.

I am, Sirs, yours faithfully,

DAVID WALSH, M.D Edin.

Grosvenor-street, W., April 7th, 1902

A CASE OF GANGRENE OF BOTH NIPPLES IN THE PUERPERIUM

To the Editors of THE LANCET

SIRS,—With reference to Dr Ralph Vincent's interesting notes in THE LANCET of April 5th, p. 962, I think that there is no doubt as to orthoform being the cause of both rash and gangrene. Several instances of the latter complication have been recorded Professor Dubreuilh of Bordeaux has recently dealt with the subject of orthoform eruptions, including gangrene, in *La Presse Médicale*, No 40, 1901, p 233, also abstract in the *British Journal of Dermatology*, vol xiii., 1901, p. 277 I am, Sirs yours faithfully,

GEORGE PERNET

Upper Gloucester place, N W April 7th, 1902.

THE STUDY OF THE HISTORY OF MEDICINE

To the Editors of THE LANCET

SIRS,—Under the above heading there is a letter in THE LANCET of March 8th, p 696, from Mr G C Peachey begging that the profession in England shall now begin to take some interest in the study of medical history Though this study is not part of the curriculum of medical students it is essentially a post-graduate subject, and I am glad to say that I have introduced many English colleagues to the interesting works of Withington and of Puschmann, which latter has been so well translated into English by Dr E. H. Hare. In this historical country it has always seemed to me a necessity that Egyptian students should know something of the medical history of their own country, and therefore I usually preface my course of lectures on medicine by telling them something of the medical history of Egypt. I suppose it is fair to say that the earliest known triumphs of the healing art were celebrated in Egypt, and everyone knows that the famous schools of Heliopolis and Memphis, where physicians taught side by side with priests, were within a few miles of modern Cairo Herodotus in the fifth century B C marvelled at the number of physicians in Egypt, and a little later Ptolemy I. allowed human dissection to take place for the first time in the world's history in Alexandria.

In the second century of our era Galen studied in Alexandria before he settled to practise in Rome, but about A.D 500 the Christian doctors were driven out of Alexandria and settled in Persia where they taught many Christians and the Arabs who for the next 500 years represented the highest form of medicine and spread their knowledge over half the then known world, including Egypt, where they started hospitals, lunatic asylums, and a university Later, in the eleventh and twelfth centuries, the torch of medical learning was again carried to Italy by the Arabs, and Arabic medicine was soon transmitted *viâ* Bologna and Padua to England and Germany During the last 20 years English and German physicians have been restoring to Cairo and Alexandria the modern fruits of that knowledge which was for so many years almost a monopoly in Egypt. I sincerely hope that one of the many existing British societies may feel inclined to popularise within our profession the history of medical teaching I am, Sirs, yours faithfully,

F M SANDWITH

Cairo, March 29th, 1902.

ADMINISTRATION OF STRYCHNINE FOR CARDIAC FAILURE DURING AND AFTER SEVERE OPERATIONS

To the Editors of THE LANCET

SIRS —Anyone who is in the habit of reading current medical literature can hardly fail to notice the frequency with which strychnine is administered for cardiac failure taking place during or after a severe operation. The usual method apparently is to give five minims of the liquor either by the mouth or subcutaneously, to repeat this dose once or twice, with the utmost caution, at varying intervals, and then to stop its administration, apparently from fear of poisoning the patient. The following instances are in marked contrast to this method.

1. A woman, aged 39 years, was anæsthetised by me with nitrous oxide and ether for the operation of pylorectomy The operation lasted two and a quarter hours, the anæsthesia being maintained throughout with ether administered from a Clover inhaler without the bag Three-quarters of an hour from the commencement saline solution was injected intravenously to the amount of three pints, to which were added one ounce of brandy and 20 minims of liquor strychninæ. Halfway through the operation the patient's condition became so bad, the respiration being shallow and the pulse very weak (its rate about 160) that it was very doubtful whether she would be alive at its completion. During the last hour I injected 30 minims of liquor strychninæ in doses of 10 minims into the substance of the greater pectoral muscles, producing decided improvement in the volume of the pulse. Oxygen was also administered towards the close of the operation when the peritoneal cavity was filled with hot saline solution. The patient lived. During the last hour and a half 50 minims of liquor strychninæ were given without producing the slightest twitching

2. I have published a case[1] in which, after I had performed colostomy of the transverse colon for pelvic cancer in a woman, aged 64 years the patient was kept alive by doses of liquor strychninæ (five minims) every four hours, at first sub cutem and later per os with the important addition of extra doses of strychnine every time the pulse began to

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[1] The Röntgen Rays in Medical Work. Third edition. London 1902 p 214

[1] Brit Med Jour, April 28th 1900, p 1024

intermit, which occurred several times during the first 48 hours. This patient had 1865 minims of the liquor in 64 days without the slightest symptom of poisoning but with marked benefit to her heart.

3. I have recently anæsthetised a man, aged 30 years, suffering from tuberculous peritonitis for which cœliotomy was performed, the lungs being also affected. Chloroform was given in preference to ether because of the lung affection. The anæsthesia lasted one hour, at the end of which his pulse became very feeble, almost running, the rate being about 190. I injected 20 minims of liquor strychninæ into the substance of the left pectoralis major; in about seven minutes the pulse improved considerably in strength with its rate reduced to 120 No symptoms of poisoning resulted.

4. Mr. B. G. A. Moynihan[2] has recorded a case of double primary amputation, on the right side at the hip-joint, on the left side in the middle of the thigh, in which 45 minims of liquor strychninæ were given hypodermically in three-quarters of an hour, producing good stimulation but no symptom of poisoning.

From the above and other similar cases it is evident that strychnine may be administered to combat cardiac failure in doses much larger and more frequent than is usually considered safe. Patients in a state of collapse stand these larger doses well, their administration causing marked improvement in the pulse, usually without any twitching. Even where some twitching occurs it is of comparatively little importance. It is of little use to inject strychnine under the skin of an extremity in a pulseless patient, the circulation of the part in such a case being almost non-existent. It is quite possible by making frequently repeated subcutaneous injections of strychnine into the extremity of a pulseless patient to cause convulsions, because, if the patient's circulation improves—as, for instance, after intravenous injection of saline solution—the strychnine which has accumulated in the subcutaneous tissues is rapidly absorbed owing to the improved circulation, the patient getting within a short space of time the whole amount of the hypodermic injections. The ideal method of introducing strychnine into the general circulation is to give it with the saline solution when intravenous infusion is being performed. I have had no experience of injecting undiluted liquor strychninæ into a vein. A useful place for injection is the pectoralis major, the drug being injected into the substance of the muscle. This site has the additional advantage that if artificial respiration is being performed the drug is massaged into the circulation. It is not enough to order a patient with a feeble intermittent heart so much strychnine at regular intervals—for instance, every four hours; his heart may stop long before the time for the next dose comes round. For my more severe operation cases I am in the habit of instructing the nurse to inject, in addition to the four-hourly dose, five minims of the liquor into the substance of the pectoralis major every time the pulse becomes weak and to repeat this dose of five minims every 10 minutes until either the pulse improves or general, not slight local, twitching occurs. I prefer a twitching to a pulseless patient —from the first condition recovery is probable, from the second it is not.

am, Sirs, yours faithfully,

Plymouth, April 7th. C. Hamilton Whiteford.

SOUTH AFRICAN CIVIL SURGEONS' DINNER.

To the Editors of The Lancet.

Sirs,—The second annual dinner of South African civil surgeons will be held at the Hotel Cecil on Monday, June 9th, at 7.30 p.m. Sir Frederick Treves, K.C.V.O., will take the chair. The price of tickets will be half a guinea. On account of the difficulty of obtaining the names and addresses of civil surgeons who have returned from the war, we hope that all who intend to be present will communicate with us as soon as possible and urge others to do the same. Arrangements are being made, as last year, to seat 200.

We are, Sirs, yours faithfully,
C. Gordon Watson,
Francis E. Fremantle, } Hon. Secs.
39, Moore-street, Lennox-gardens, S.W., April 8th, 1902.

AN APPEAL TO MEDICAL FREEMASONS.

To the Editors of The Lancet.

Sirs,—May I through the medium of your columns appeal to members of the medical profession who are Freemasons for their assistance in the case of my husband, Arthur Somers Ivens, a candidate for the approaching election to the Royal Masonic Benevolent Institution? My husband practised as a surgeon at Thorpe-le-Soken, Essex, for 21 years, but is now, through loss of eyesight and memory consecutive on a severe attack of influenza, an invalid for life and quite unable to follow his profession. He and I are left entirely on friends for support. My husband was initiated in the Arnold Lodge, No. 1799, Walton-on-Naze, on March 4th, 1880, and subscribed until March, 1900. Votes will be thankfully received by

Yours faithfully,

Bildeston, Suffolk. Clara Somers Ivens.

⁂ We understand that this is the only medical case at the approaching election.—Ed. L.

NOTES FROM INDIA.

(From our Special Correspondent.)

The Development of the Plague Epidemic.—The Continued Famine.—The Health Officer of Bombay.—Administrative Changes.

The figures for this week possess several points of interest. First, there is the increased total of plague mortality throughout India from 23,715 to 25,655, chiefly occasioned by the intensity of the disease in the Punjab where 15,090 deaths were recorded, as against 12,544 for the previous seven days. Then the fresh outbreak at such important centres as Delhi and Lahore has to be recorded. Thirdly, the abortive development of the recrudescence in Calcutta and Bengal is to be noticed. In 1901 the plague mortality in Bengal from the first week in February to the second week in March rose from 2200 to 7569, while this year the rise has been from 882 to 1234. Much the same proportionate figures apply to Calcutta. It is evident, therefore, that some epidemic influence is at work inhibiting the development of the outbreak in this particular province. The improved position can hardly be ascribed to the sanitary measures adopted. In other parts of India there is little change. The Madras Presidency returns 361 deaths as against 289, Bombay Presidency 4779 as against 4806, Bombay city 856 as against 888, and Calcutta 501 as against 462. In Karachi the deaths have risen to 82. On the other hand, the outbreak in Poona seems to have run its course. The Bengal Presidency returns 1289 deaths, the North-West Provinces and Oudh—now called the United Provinces—2335, the Mysore State 304, and the Hyderabad State 113. Plague hospitals would seem to be almost things of the past. Very few cases go to the hospitals in Calcutta and on March 11th there were only 181 cases in all the hospitals in Bombay. It may be said that patients are now permitted to die in their own homes. Inoculation is being pushed in some places but is totally neglected in others. For the week ending March 14th 44,179 doses of vaccine were sent out from the laboratory in Bombay.

The famine continues to increase rather than to diminish. On March 10th there were 400,000 persons under relief, chiefly in the Bombay districts, Rajputana, and Central India.

I am glad to be able to record that the services of Dr. J. A. Turner, health officer of Bombay, have met with due appreciation and that his salary has been raised to Rs. 1600 per mensem. In due course it is to be hoped that he will receive the full amount of Rs. 2000 permitted by law.

The following changes will be made in the distribution of military medical administration in India from April 1st. 1. A lieutenant-colonel of the Indian Medical Service will be appointed as principal medical officer of the Derajat district. 2. The appointment of principal medical officer of the Mandalay district, now held by a colonel in the Royal Army Medical Corps, will be abolished. The administrative medical charge embracing Rangoon and the Southern Shan States will be extended to the whole of Burma and the chief appointment will be held alternately by an officer of the Royal Army Medical Corps and one of the Indian Medical

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[2] The Lancet, Dec. 14th, 1901, p. 1658.

Service, with headquarters at Rangoon. 3. The appointment of principal medical officer of the Peshawar district will be reserved for a lieutenant-colonel of the Royal Army Medical Corps.

March 22nd

BIRMINGHAM

(FROM OUR OWN CORRESPONDENT)

The Ear and Throat Hospital.

THE annual meeting of the friends of, and subscribers to this institution was held on March 18th, when the fifty-seventh annual report was read. It was stated that the expenditure had increased by £214 odd as compared with the previous year The number of new out-patients was 4315 the total number being 7002. 331 in patients had been admitted during the year It was stated that the King had consented to become patron of the hospital Increased accommodation both for patients and for nurses was stated to be imperatively demanded if the present good work is to continue.

Notification of Infectious Diseases

A notice has been issued by the Health Committee of the City Council stating that in future chicken-pox is to be notified under the Infectious Diseases Act. This will include a large number of cases, as at present chicken pox is prevalent in the city Fortunately, no additional cases of small-pox have been notified and as at times it is difficult to differentiate these two diseases in their early stages the precaution of the Health Committee must be looked upon as a wise and well-intentioned regulation.

The Housing Question

The ever present discussions upon this momentous subject still wage with ardour in our midst A site has been secured for the development of a Rowton House and plans have been drawn up which promise to bring to a satisfactory issue the development of this scheme. Meanwhile it is asserted that this project will only touch the fringe of the question and that the great residuum is still unprovided for by town council or private enterprise. The respective parties interested, more especially minor landlords and philanthropists, present very different views on the matter

April 8th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT)

Health of the City

AS recorded in THE LANCET of March 29th, p 924 the jubilee of the Manchester and Salford Sanitary Association is to be held in about a fortnight. The last annual report shows that with comparatively small means the association continues to do valuable work which could scarcely be undertaken by the corporation and certainly not by unorganised private effort. Without being antagonistic to the corporation—and indeed, working amicably with it for the same ends—it can bring influence to bear which not infrequently aids the city council in coming to a wise decision on questions of sanitation. Last year for example, plans were drawn up for building working-class houses by the corporation but in several respects they were faulty and the Sanitary Association and an organisation called the Citizens' Committee succeeded in getting improved plans adopted. The questions of how to bring the advantages of public laundries within reach of the poor and of the formation of a local society for the prevention of consumption are engaging the attention of the association. It continues its efforts to protect the public from the dangers arising from the fumes from chemical works and from the discharge of explosive and poisonous waste products into the sewers. Deputations have been sent to the school boards of Manchester and Salford to advocate the teaching of hygiene and work has been done in various other directions. In one thing there has been failure—namely, in convincing the corporation of the need of cottage baths in the crowded parts of the city The Baths Committee of the corporation more than 12 months since said that they had the matter under consideration, and it appears to be under consideration still. As the Lord Mayor presided at the annual meeting and promised to talk over the question with the chairman of the Baths Committee perhaps there may be some hope of this boon to poor women being granted The association also endeavours to spread the knowledge of sanitary matters by lectures and by the publication of tracts and leaflets It may perhaps have been noted that the Congress of the Sanitary Institute is to be held in Manchester in September next, so that the question of the public health will be brought with unusual prominence this year before the people of Manchester

Meeting-place for Scientific Societies

Manchester has long suffered from the want of a central meeting place and library for its various scientific societies The Literary and Philosophical Society, the oldest and as regards its history the most distinguished of them, is fortunate in having its own domicile but it cannot accommodate all the others A meeting was held in the Town Hall on April 3rd to consider the question. In the unavoidable absence of the Lord Mayor Mr Alfred Darbyshire presided. Members of the following societies were present the Geographical Society, the Association of Engineers, the Section of the Institution of Electrical Engineers, the Chemical Club the Medical Society, the Pathological Society, the Clinical Society, the Microscopical Society, the Society of Architects, the Amateur Photographic Society, the Geological Society, the Field Club and the Society of Chemical Industry At present these 13 societies, as one of the speakers remarked, "have to meet in some hired room, usually in an hotel, and speaking from experience this was not at all satisfactory and did not tend to promote the dignity of the meetings." The various medical societies have long felt this state of things as a great inconvenience and attempts have been made more than once to obtain more suitable quarters but the cost has been found to be prohibitive. The Medical Society at present is accommodated at Owens College, in the rooms of which its library of 26,000 volumes is lodged, but the requirements of the college as to space are continually growing and this arrangement cannot be looked upon as permanent. Dr T Harris (Medical Society) moved that a committee should be formed, with power to add to its number, to consider the question of a central meeting place and to prepare a scheme or schemes. This was carried and it may be hoped that by coöperation the societies will succeed in accomplishing what they cannot do singly

The Medical Inspection of Schools

Dr Arnold W W Lea has drawn attention in the local papers to the great need there is in Manchester and Salford for more thorough medical inspection of public elementary schools and of the scholars. The Salford School Board appointed a medical officer some years ago and the Manchester School Board has recently decided to do so Attendance at school being compulsory it is only just that the school authorities should see that the health of the children does not suffer and that they should, as far as possible, be protected 'from the infectious and loathsome diseases so prevalent in schools" The London School Board by means of elaborate instructions and pamphlets hopes that the teachers may become sufficiently skilled, and that they will be on the alert, to detect disease among the children " But, as Dr Lea says, this "can really form no part of a teacher's work and is of comparatively little value." Much the same may be said of the appointment of nurses as adopted in some schools and approved apparently by the Board of Education "to detect and treat diseases, though it admits that for this purpose they would require special skill and instruction ' This would seem to be adding another class of "inferior," but no doubt "certificated " practitioners who by degrees seem to be ousting the unhappy general practitioner In Manchester there are about "40,000 children daily attending elementary schools' and it is impossible for one man to supervise the hygienic conditions and the health of the children, even if the whole of his time were devoted to the work, which, it is stated, is not expected Dr Lea says that in America the medical supervision is very completely carried out, though most European countries seem to have done more than we have in this direction. In Boston, U S.A., a medical officer attends each school every morning between 9 and 10 A.M He sees all children observed by the teachers to be ailing or whose parents wish for an examination. If the child is not fit to be at school a card telling the nature of the complaint and advising as to the steps to be taken is sent to the parents. The inspector does not undertake the intermit, which occurred several times during the first 48 hours. This patient had 1865 minims of the liquor in 64 days without the slightest symptom of poisoning but with marked benefit to her heart.

3. I have recently anæsthetised a man, aged 30 years, suffering from tuberculous peritonitis for which cœliotomy was performed, the lungs being also affected. Chloroform was given in preference to ether because of the lung affection. The anæsthesia lasted one hour, at the end of which his pulse became very feeble, almost running, the rate being about 190. I injected 20 minims of liquor strychninæ into the substance of the left pectoralis major; in about seven minutes the pulse improved considerably in strength with its rate reduced to 120 No symptoms of poisoning resulted.

4. Mr. B. G. A. Moynihan[2] has recorded a case of double primary amputation, on the right side at the hip-joint, on the left side in the middle of the thigh, in which 45 minims of liquor strychninæ were given hypodermically in three-quarters of an hour, producing good stimulation but no symptom of poisoning.

From the above and other similar cases it is evident that strychnine may be administered to combat cardiac failure in doses much larger and more frequent than is usually considered safe. Patients in a state of collapse stand these larger doses well, their administration causing marked improvement in the pulse, usually without any twitching. Even where some twitching occurs it is of comparatively little importance. It is of little use to inject strychnine under the skin of an extremity in a pulseless patient, the circulation of the part in such a case being almost non-existent. It is quite possible by making frequently repeated subcutaneous injections of strychnine into the extremity of a pulseless patient to cause convulsions, because, if the patient's circulation improves—as, for instance, after intravenous injection of saline solution—the strychnine which has accumulated in the subcutaneous tissues is rapidly absorbed owing to the improved circulation, the patient getting within a short space of time the whole amount of the hypodermic injections. The ideal method of introducing strychnine into the general circulation is to give it with the saline solution when intravenous infusion is being performed. I have had no experience of injecting undiluted liquor strychninæ into a vein. A useful place for injection is the pectoralis major, the drug being injected into the substance of the muscle. This site has the additional advantage that if artificial respiration is being performed the drug is massaged into the circulation. It is not enough to order a patient with a feeble intermittent heart so much strychnine at regular intervals—for instance, every four hours;- his heart may stop long before the time for the next dose comes round. For my more severe operation cases I am in the habit of instructing the nurse to inject, in addition to the four-hourly dose, five minims of the liquor into the substance of the pectoralis major every time the pulse becomes weak and to repeat this dose of five minims every 10 minutes until either the pulse improves or general, not slight local, twitching occurs. I prefer a twitching to a pulseless patient —from the first condition recovery is probable, from the second it is not.

I am, Sirs, yours faithfully,

Plymouth, April 7th. C. HAMILTON WHITEFORD.

SOUTH AFRICAN CIVIL SURGEONS' DINNER.

To the Editors of THE LANCET.

SIRS,—The second annual dinner of South African civil surgeons will be held at the Hotel Cecil on Monday, June 9th, at 7.30 P.M. Sir Frederick Treves, K.C.V.O., will take the chair. The price of tickets will be half a guinea. On account of the difficulty of obtaining the names and addresses of civil surgeons who have returned from the war, we hope that all who intend to be present will communicate with us as soon as possible and urge others to do the same. Arrangements are being made, as last year, to seat 200.

We are, Sirs, yours faithfully,
C. GORDON WATSON, } Hon. Secs.
FRANCIS E. FREMANTLE, }

39, Moore-street, Lennox-gardens, S.W., April 8th, 1902.

AN APPEAL TO MEDICAL FREEMASONS.

To the Editors of THE LANCET.

SIRS,—May I through the medium of your columns appeal to members of the medical profession who are Freemasons for their assistance in the case of my husband, Arthur Somers Ivens, a candidate for the approaching election to the Royal Masonic Benevolent Institution? My husband practised as a surgeon at Thorpe-le-Soken, Essex, for 21 years, but is now, through loss of eyesight and memory consecutive on a severe attack of influenza, an invalid for life and quite unable to follow his profession. He and I are left entirely on friends for support. My husband was initiated in the Arnold Lodge, No. 1799, Walton-on-Naze, on March 4th, 1880, and subscribed until March, 1900. Votes will be thankfully received by

Yours faithfully,

Bildeston, Suffolk. CLARA SOMERS IVENS.

⁂ We understand that this is the only medical case at the approaching election.—ED. L.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Development of the Plague Epidemic.—The Continued Famine.—The Health Officer of Bombay.—Administrative Changes.

THE figures for this week possess several points of interest. First, there is the increased total of plague mortality throughout India from 23,715 to 25,655, chiefly occasioned by the intensity of the disease in the Punjab where 15,090 deaths were recorded, as against 12,544 for the previous seven days. Then the fresh outbreak at such important centres as Delhi and Lahore has to be recorded. Thirdly, the abortive development of the recrudescence in Calcutta and Bengal is to be noticed. In 1901 the plague mortality in Bengal from the first week in February to the second week in March rose from 2200 to 7569, while this year the rise has been from 882 to 1234. Much the same proportionate figures apply to Calcutta. It is evident, therefore, that some epidemic influence is at work inhibiting the development of the outbreak in this particular province. The improved position can hardly be ascribed to the sanitary measures adopted. In other parts of India there is little change. The Madras Presidency returns 361 deaths as against 289, Bombay Presidency 4779 as against 4806, Bombay city 856 as against 888, and Calcutta 501 as against 462. In Karachi the deaths have risen to 82. On the other hand, the outbreak in Poona seems to have run its course. The Bengal Presidency returns 1289 deaths, the North-West Provinces and Oudh—now called the United Provinces—2335, the Mysore State 304, and the Hyderabad State 113. Plague hospitals would seem to be almost things of the past. Very few cases go to the hospitals in Calcutta and on March 11th there were only 181 cases in all the hospitals in Bombay. It may be said that patients are now permitted to die in their own homes. Inoculation is being pushed in some places but is totally neglected in others. For the week ending March 14th 44,179 doses of vaccine were sent out from the laboratory in Bombay.

The famine continues to increase rather than to diminish. On March 10th there were 400,000 persons under relief, chiefly in the Bombay districts, Rajputana, and Central India.

I am glad to be able to record that the services of Dr. J. A. Turner, health officer of Bombay, have met with due appreciation and that his salary has been raised to Rs. 1600 per mensem. In due course it is to be hoped that he will receive the full amount of Rs. 2000 permitted by law.

The following changes will be made in the distribution of military medical administration in India from April 1st. 1. A lieutenant-colonel of the Indian Medical Service will be appointed as principal medical officer of the Derajat district. 2. The appointment of principal medical officer of the Mandalay district, now held by a colonel in the Royal Army Medical Corps, will be abolished. The administrative medical charge embracing Rangoon and the Southern Shan States will be extended to the whole of Burma and the chief appointment will be held alternately by an officer of the Royal Army Medical Corps and one of the Indian Medical

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[2] THE LANCET, Dec. 14th, 1901, p. 1658.

Service, with headquarters at Rangoon. 3. The appointment of principal medical officer of the Peshawar district will be reserved for a lieutenant-colonel of the Royal Army Medical Corps.

March 22nd

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT)

The Ear and Throat Hospital.

THE annual meeting of the friends of, and subscribers to, this institution was held on March 18th, when the fifty-seventh annual report was read. It was stated that the expenditure had increased by £214 odd as compared with the previous year The number of new out-patients was 4315, the total number being 7002 331 in patients had been admitted during the year It was stated that the King had consented to become patron of the hospital. Increased accommodation both for patients and for nurses was stated to be imperatively demanded if the present good work is to continue.

Notification of Infectious Diseases

A notice has been issued by the Health Committee of the City Council stating that in future chicken-pox is to be notified under the Infectious Diseases Act. This will include a large number of cases, as at present chicken pox is prevalent in the city Fortunately, no additional cases of small pox have been notified and as at times it is difficult to differentiate these two diseases in their early stages the precaution of the Health Committee must be looked upon as a wise and well-intentioned regulation.

The Housing Question

The ever present discussions upon this momentous subject still wage with ardour in our midst A site has been secured for the development of a Rowton House and plans have been drawn up which promise to bring to a satisfactory issue the development of this scheme. Meanwhile it is asserted that this project will only touch the fringe of the question and that the great residuum is still unprovided for by town council or private enterprise. The respective parties interested, more especially minor landlords and philanthropists, present very different views on the matter

April 8th

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

Health of the City

AS recorded in THE LANCET of March 29th, p 924, the jubilee of the Manchester and Salford Sanitary Association is to be held in about a fortnight. The last annual report shows that with comparatively small means the association continues to do valuable work which could scarcely be undertaken by the corporation and certainly not by unorganised private effort. Without being antagonistic to the corporation—and, indeed, working amicably with it for the same ends—it can bring influence to bear which not infrequently aids the city council in coming to a wise decision on questions of sanitation. Last year, for example, plans were drawn up for building working-class houses by the corporation but in several respects they were faulty and the Sanitary Association and an organisation called the Citizens' Committee succeeded in getting improved plans adopted. The questions of how to bring the advantages of public laundries within reach of the poor and of the formation of a local society for the prevention of consumption are engaging the attention of the association It continues its efforts to protect the public from the dangers arising from the fumes from chemical works and from the discharge of explosive and poisonous waste products into the sewers. Deputations have been sent to the school boards of Manchester and Salford to advocate the teaching of hygiene and work has been done in various other directions In one thing there has been failure—namely, in convincing the corporation of the need of cottage baths in the crowded parts of the city The Baths Committee of the corporation more than 12 months since said that they had the matter under consideration, and it appears to be under consideration still. As the Lord Mayor presided at the annual meeting and promised to talk over the question with the chairman of the Baths Committee perhaps there may be some hope of this boon to poor women being granted. The association also endeavours to spread the knowledge of sanitary matters by lectures and by the publication of tracts and leaflets It may perhaps have been noted that the Congress of the Sanitary Institute is to be held in Manchester in September next, so that the question of the public health will be brought with unusual prominence this year before the people of Manchester

Meeting place for Scientific Societies.

Manchester has long suffered from the want of a central meeting place and library for its various scientific societies The Literary and Philosophical Society, the oldest and as regards its history the most distinguished of them, is fortunate in having its own domicile but it cannot accommodate all the others A meeting was held in the Town Hall on April 3rd to consider the question. In the unavoidable absence of the Lord Mayor Mr Alfred Darbyshire presided. Members of the following societies were present · the Geographical Society, the Association of Engineers, the Section of the Institution of Electrical Engineers, the Chemical Club, the Medical Society, the Pathological Society, the Clinical Society, the Microscopical Society, the Society of Architects, the Amateur Photographic Society, the Geological Society, the Field Club, and the Society of Chemical Industry At present these 13 societies, as one of the speakers remarked, "have to meet in some hired room, usually in an hotel, and speaking from experience this was not at all satisfactory and did not tend to promote the dignity of the meetings" The various medical societies have long felt this state of things as a great inconvenience and attempts have been made more than once to obtain more suitable quarters but the cost has been found to be prohibitive. The Medical Society at present is accommodated at Owens College, in the rooms of which its library of 26,000 volumes is lodged, but the requirements of the college as to space are continually growing and this arrangement cannot be looked upon as permanent. Dr T Harris (Medical Society) moved that a committee should be formed, with power to add to its number, to consider the question of a central meeting place and to prepare a scheme or schemes. This was carried and it may be hoped that by coöperation the societies will succeed in accomplishing what they cannot do singly

The Medical Inspection of Schools

Dr Arnold W W Lea has drawn attention in the local papers to the great need there is in Manchester and Salford for more thorough medical inspection of public elementary schools and of the scholars. The Salford School Board appointed a medical officer some years ago and the Manchester School Board has recently decided to do so. Attendance at school being compulsory it is only just that the school authorities should see that the health of the children does not suffer and that they should, as far as possible, be protected "from the infectious and loathsome diseases so prevalent in schools" The London School Board by means of elaborate instructions and pamphlets hopes that the teachers may become sufficiently skilled and that they will be on the alert, to detect disease among the children" But, as Dr Lea says, this "can really form no part of a teacher's work and is of comparatively little value." Much the same may be said of the appointment of nurses as adopted in some schools and approved apparently by the Board of Education "to detect and treat diseases, though it admits that for this purpose they would require special skill and instruction." This would seem to be adding another class of "inferior," but no doubt "certificated," practitioners who by degrees seem to be ousting the unhappy general practitioner In Manchester there are about "40,000 children daily attending elementary schools" and it is impossible for one man to supervise the hygienic conditions and the health of the children, even if the whole of his time were devoted to the work, which, it is stated, is not expected Dr Lea says that in America the medical supervision is very completely carried out, though most European countries seem to have done more than we have in this direction In Boston, U S A., a medical officer attends each school every morning between 9 and 10 A.M He sees all children observed by the teachers to be ailing or whose parents wish for an examination. If the child is not fit to be at school a card telling the nature of the complaint and advising as to the steps to be taken is sent to the parents. The inspector does not undertake the treatment which must be carried out through the parents. The child is again inspected before being allowed to return to school. The same system is carried out in many other cities. "The expense of such a system would be by no means great and would be more than balanced by (1) a diminution in the number of cases of infectious disease; (2) increased school attendance; and (3) improved health of the children." The Manchester School Board estimates that through measles alone the elementary schools of Manchester lose £2000 per annum. In view of the acknowledged rapid "physical deterioration of the youth of our great cities" it is of high importance to neglect no means of checking what is already a national peril.

Poisoning by Mond Gas.

An inquest was held at Leeds on April 3rd on the body of a man who was found unconscious, face downwards, on a pipe conveying Mond gas. Artificial respiration was tried to no purpose. It was thought that in repairing a leak in the pipe he "had slipped and, knocking his head against one of the pipes, had become unconscious" and so had inhaled the gas. Mr. F. W. Halliday, the surgeon who was called in, said that he was satisfied that death was due to carbon monoxide poisoning. Shortly after the accident it was found that one sample contained 10·2 and another 12·6 per cent. of the monoxide. One point tending to the prevention of accidents is that the smell is said to be "awful" and can be detected 30 yards away. This is due to the tarry matter in the coal. The managing director of the works said that the gas was not dangerous to the public or to the workmen "with ordinary care" and, the coroner agreeing with him, the jury returned a verdict of "Accidental death." It is obvious, however, that leakage of the gas should be carefully guarded against, first, because of its large percentage of carbon monoxide, and secondly, because it would be a serious nuisance.

Barrow Hospital Inquiry.

His Honour Judge Parry held an inquiry on April 5th at Barrow concerning complaints of delay in the treatment of patients at the hospital. As his report has not yet been given it is undesirable to comment on the case, but it seems to turn very much on whether the one house surgeon of the hospital can be always on duty.

April 8th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Memorial to a Northumberland Volunteer.

ON Saturday, April 5th, in North Gosforth Cemetery, Sir George Hare Philipson unveiled a monument erected in memory of the late Dr. W. L. Walker, of Seaton Burn, Northumberland, who was killed in action at Modderfontein, South Africa, on Jan. 31st, 1901, whilst endeavouring to save a comrade. The monument, which is of grey polished granite and about 10 feet in height, is surmounted by a red granite Latin cross. On the base is the following inscription:

> In memory of William Longstaff W. Walker, M.D., B.S. (Durham), of Seaton Burn, civil surgeon, 2nd South Wales Borderers. Killed in action at Modderfontein, Transvaal, South Africa, January 31st, 1901. Aged 26 years. For his country. Erected by friends of Seaton Burn and Dinnington Collieries and District.

Sir George Hare Philipson spoke of the brilliant career of the deceased as a student at Durham College of Medicine, Newcastle, as well as of his late valuable work in the Royal Infirmary and the Dispensary, Newcastle. Dr. Walker, he said, won the esteem of all with whom he was there brought into contact. Animated by a desire to serve his Queen and country, when the war in South Africa broke out he volunteered, along with his brother Allan, for active service and in the year 1900 he was sent out as a civil surgeon with the 2nd South Wales Borderers. He proved an active and gallant volunteer and took a full share in the operations at Bloemfontein, Krugersdorp, Magersfontein, and Modderfontein. On Jan. 31st, 1901, whilst endeavouring to save an orderly, he received a wound which speedily proved fatal. That heroic act was but a sample of the self-sacrifice which constituted a prominent feature of his noble character. His bravery was conspicuous everywhere and even the Boer commanders bore testimony to his gallantry in the field. Though his body had been laid to rest on a kopje with the remains of the orderly whose life he had endeavoured to save they believed his soul was now with his Maker. The beautiful memorial bore silent but eloquent testimony to the regard which they all felt for his memory.

Death of James M. Fraser, M.B., C.M. Edin., Coxhoe, Co. Durham.

Dr. J. M. Fraser died at the Davy Lamp Surgery on April 3rd, where he acted as assistant to Dr. W. A. Hepburn of Coxhoe. It appears that at about 2 P.M. on that day he told his housekeeper that he was going to lie down, as he was tired, and he asked her to awaken him at about 6 o'clock. She went to awaken him at that time but could not do so. She then sent immediately for Dr. Hepburn, who when he arrived did everything possible for him but without avail. An inquest was held two days later and the jury returned the following verdict: "Death from the effects of an overdose of morphia, but whether taken intentionally or otherwise we are unable to decide."

Durham University Convocation.

A Convocation will be held in the library of the College of Medicine, Newcastle-upon-Tyne, on Saturday, April 26th, at which it is proposed to confer the honorary degree of D.C.L. on Sir William Selby Church, Bart., President of the Royal College of Physicians of London, and Professor Thomas Annandale, Regius Professor of Clinical Surgery in Edinburgh University.

Small-pox.

Cases of small-pox have now been occurring in this district for the last two months but with two or three exceptions the infected area has been confined to North and South Shields. The number of cases in North Shields since the outbreak is 42, while there are at present 13 cases in the hospital at South Shields. A meeting of the health committee of Durham County Council was held in the Shire Hall, Durham, on April 7th, to consider the question of isolation accommodation in the county in view of the possible increase of the disease during the summer months.

Newcastle-on-Tyne, April 8th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Typhoid Fever in Brecknockshire.

DURING the past 30 years the population of the rural district of Crick[illegible] has fallen from 8514 to 7116 and for a great [illegible] of the same period typhoid fever has been ende[illegible] the district. In the year 1883 the then medical officer of health stated that with regard to one locality "newcomers usually have the disease during the first year of their residence there." Last year among a group of some 200 houses 40 cases were reported and as the infection was attributed by the medical officer of health (Mr. P. E. Hill) to the pollution of springs supplying water to the houses affected an inspection of the locality was made in September last on behalf of the Local Government Board and the report of the inspectors, Dr. R. J. Reece and Mr. Sandford Fawcett, A.M.I.C.E., has now been published. This report discloses a most unsatisfactory condition in the rural district, where springs used as domestic water-supplies are not only contaminated with cesspools and slop drains but also from the leaking pipes of a length of sewer which carries sewage from the adjoining urban district of Brynmawr. After detailing certain recommendations the writers of the report go on to say: "What is brought home to us in our inquiry is the fact that if the rural district council had carried out the recommendations first made to them in 1872 by Dr. Gwynne Harries (an inspector of the Local Government Board) many deaths and much suffering would in all probability have been prevented."

Small-pox.

During the week ending April 5th there were seven fresh cases of small-pox in Swansea, all the patients being men, and it is probable that they were infected from the same source. There are three cases of small-pox in the county of Hereford. One patient is a man who had tramped from London; the other two are children who have presumably been infected from some tramp or other person passing through the district.

The Examination of Children's Teeth

A committee of the Cardiff Board of Guardians recently had before it a communication from the honorary secretary of the South Wales Branch of the British Dental Association in which the importance of a regular examination of the teeth of the children under the committee s charge was urged. According to the report in the local newspapers the communication was received with "bursts of ironical laughter' If this reception is a measure of the manner in which the pauper children of Cardiff are cared for in other respects it is exceedingly probable that a large number will become, and will remain, pauper men and women The members of the committee appear to forget that as regards the children under their care they are *in loco parentis* and at the present time a parent who has any regard for the comfort and future welfare of his children recognises that a regular visit to the dentist is as essential as the provision of suitable food or of seasonable clothing

The Manufacture of Ice cream

The health committee of the Bristol Corporation has been considering the expediency of obtaining local powers for the more effective control of ice-cream manufactories within the city, and has recommended that in the next Bill promoted by the corporation certain powers should be inserted with this end in view The provisions suggested by the committee are that every maker of, or dealer in, ice cream shall give immediate notice to the medical officer of health of any outbreak of infectious disease amongst the persons employed in the business and that no persons shall be employed in the manufacture or sale of ice-cream while he is suffering from diarrhœa, typhoid fever, scarlet fever, diphtheria, or other infectious disease or from any infectious skin disease Further suggestions are that ice-cream shall not be made in a room in which there is any inlet or opening to a drain in a room used as a living or sleeping room or which communicates directly with a privy or ashpit, or where the articles used in the manufacture are likely to be contaminated The frequent washing or scalding of utensils used in the process of manufacture, the lime washing of walls and ceilings twice yearly, and the washing of floors once a week are provided for, and, finally, the use of ice from ponds, canals, or streams in the neighbourhood of the city is prohibited.

April 7th

IRELAND.

(From our own Correspondents.)

Curious Defence for Poor Milk.

At the Belfast Police-court on April 7th two men were summoned for selling milk which was 13 3 per cent. deficient in normal fats. The defence was that the milk was sold as it came from the cow at the end of February in cold snowy weather and that there were times, especially in the winter, when through cold or change from one temperature to another there might be a falling off in fats In such circumstances the animal itself had to fall back to a slight extent upon the fats which were in its composition for the purpose of keeping up the heat and that might be a reason for the falling-off in the fat and for the alteration in the character of the milk It was stated that there had been a decision in England in which the magistrates held that though the milk was pure milk it was of bad quality and that they had fined the defendant but that on appeal to the King's Bench Division it was held that the conviction could not stand. In order that the decision might be looked up the case was adjourned for two weeks.

The Royal Commission on University Education in Ireland

This Commission met in Belfast last week and held two sittings (morning and afternoon) on April 2nd, 3rd, and 4th and a morning session on the 5th—that is, altogether the members of the Royal Commission have devoted three and a half days to Belfast. During this time they examined or, to be more accurate they heard (for of any real attempt at examination there was almost none) written statements from 32 different witnesses dined one evening at Queen's College with the professors, and attended an afternoon reception on the 4th at the house of the President of Queen s College. Among members of the medical profession the following gave evidence Professor J Symington, Professor J W Byers, Professor J A. Lindsay, Professor T Sinclair, Dr A. Dempsey, Dr W Calwell (honorary secretary to the medical and surgical staff of the Royal Victoria Hospital), and Dr R. W Leslie (secretary of the Royal University Graduates Association) The chairman (the Right Hon Lord Robertson) was most courteous and showed himself determined to give everyone a full hearing, but, writing quite candidly, I may say that public opinion in Belfast and the north of Ireland has not been reassured by the circumstance, so little concealed, that little or no attempt should have been made, as was done in other places, to question the witnesses. The Commissioners, rightly or wrongly, have given the impression to the public, conveyed probably through the witnesses, that their desire was to get through work as rapidly and as civilly as possible, that they had already heard enough evidence and that their minds were made up The result is that public opinion in Belfast, which has always been hostile to the Commission from the fact that there was not a single member appointed on it who was regarded as holding the views of the majority of the Belfast people, has become more antagonistic, and the statement made in one of the local papers that the evidence of Mr F Hugh O Donnell and also that of Professor Hartley and Professor O Reilly (of the Dublin College of Science) has been refused has not tended to improve matters. There may be clear and definite reasons for the exclusion of these witnesses, but after their public declaration on the matter the Commission should give some explanation on the subject. The evidence will not be printed for some time, but the features of it specially canvassed are the statement of the President of Queen's College that he wished that institution to be a university in everything but in name, the extraordinary revelations in reference to the working of the Royal University in its relation to the Belfast medical school, the strongly expressed views advocating a complete reform in the government of the Queen s College, Belfast, the divergence of views as to the settlement of the question of university education in Ireland, the strong case made out for a women's college in Belfast, the claims of the Belfast and Ulster Roman Catholics to be consulted in the settlement, and the views of the graduates The Commissioners met at Magee College Londonderry, on April 7th, and heard two witnesses, and on April 8th, in the afternoon, they met at Galway They will now go to Cork and it is said that later they will hear, at their concluding session in Dublin, some more witnesses after which it is believed they will try to come to some decision on this vexed question.

The late Michael M'Donnell, M R C S Eng , J P , of Belfast

I regret to announce the death of Mr M. M'Donnell, a most highly respected and greatly beloved medical man at his residence in Belfast on April 3rd For a long time Mr M'Donnell practised in Randalstown, where he was certifying factory surgeon and medical attendant to the Royal Irish Constabulary He obtained the Membership of the Royal College of Surgeons of England in 1847 and was one of the senior medical practitioners of the North of Ireland A short time ago he gave up the active duties of his profession and came to reside in Belfast, where his son is in practice

Training of Nurses in Lurgan Workhouse

At a meeting of the Lurgan Board of Guardians on April 3rd it was decided to adopt the recommendations of the committee of the infirmary who had advised that the salary of Dr J S Darling the visiting medical officer of the workhouse should be increased by £25 per annum, that the nursing staff of the establishment should consist of four charge nurses and eight probationers, and that probationers should be employed for two instead of three years as proposed and that the only salary paid to probationers should be £6 for the second year The result of this decision is that Lurgan will be accepted as a training school for nurses

April 7th

PARIS

(From our own Correspondent)

The Insanity of Dr Boileux

Some six years ago Dr Boileux and Dr de la Jarrige were convicted of procuring criminal abortion and were sentenced to five years imprisonment. They were released on completing half their sentence At the time of the trial many persons believed that a gross miscarriage of justice had taken place. The facts were as follows. Dr. Boileux curetted the uterus of a woman who had been sent to him by his colleague, Dr. de la Jarrige, with a diagnosis of metritis. In the course of the operation Dr. Boileux found that the woman was pregnant. However, he went on with the curetting and finally perforated the uterus. This set up peritonitis from which the woman died despite a laparotomy being performed. The circumstances attending the operation were somewhat mysterious. Dr. Bolieux did not operate on the patient in his private hospital but in his own private house, making her go to bed in his own room. Some correspondence between the lover of the woman and Dr. de la Jarrige, which was seized, showed that the latter at least knew perfectly well that his patient was pregnant. The lover committed suicide at the beginning of the trial. It was never clearly established that Dr. Boileux knew of the pregnancy and it is quite possible that he was led into error by trusting to the diagnosis of Dr. de la Jarrige. Once out of prison the unhappy Dr. Boileux led a miserable existence. After trying to get a living as assistant to a surgical instrument-maker and then as secretary to a medical man he tried to recommence practice, incited thereto by some of his friends who believed in his innocence. But his name was enough and he got no patients. Some few days ago he became furiously maniacal and going into a restaurant commenced to smash everything that he could lay his hands on. The unhappy man is now in a lunatic asylum.

Raw Vegetables and Sewage.

M. Baudin, Minister of Public Works, is much exercised at the effects which fruits and vegetables which have been watered with sewage may have on the public health of Paris when they are eaten raw. He has therefore written a letter to the President of the Council proposing that measures should be taken to obviate this risk and pointing out that there is every reason to fear that fruits and vegetables contaminated by sewage efflux which has been insufficiently purified arrive at the markets infected with microbes and organic débris. The water used for irrigation distributes the pathogenic organisms and boiling makes these harmless. Cooked vegetables and fruits which are peeled before being eaten are therefore free from risk, but it is very far from being the same with vegetables and fruits which are eaten raw, such as salads and strawberries. M. Baudin only sees one way of obviating this risk and that is to have a clause in the contracts between the Paris authorities and the users of sewage for cultivation forbidding the latter to use sewage for fruits and vegetables intended to be eaten raw. In accordance with this proposal the Consultation Committee of Public Health nominated a sub-committee which has decided that such a clause shall be inserted in forthcoming contracts.

The Diagnosis of the Nature of Blood-stains.

At the meeting of the Academy of Medicine held on March 25th M. Linossier and M. Lemoine gave an interesting account of the present methods of diagnosing the origin of a blood-stain. Until quite lately the expert could only say with certainty that the stain gave corpuscles which were nucleated and elliptical as in birds or discoidal as in mammals (except the camel) and occasionally in very favourable specimens he could differentiate human globules from the very small ones of the musk deer, but no difference could be certainly ascertained between the globules of man and those of the dog or of the rabbit. Experts in forensic medicine have therefore taken great interest in the method newly proposed by Uhlenluth, founded on the serum precipitation process of Tschistovitch and Bordet. The method is as follows. A rabbit is given gradually increasing doses of human serum which is toxic for the rabbit. After a certain time the rabbit becomes immune and then the serum of its own blood when brought into contact with human blood gives under the microscope a characteristic precipitate. If then a number of prepared rabbits were kept in readiness the expert would be able, it was claimed, to recognise whether a blood-stain is human or not. However, other observers contested this statement and said that the blood of other mammals besides man gave a similar precipitate. Thus confusion arose which made the method of little value. In their communication of March 25th M. Linossier and M. Lemoine showed that the method could be rendered accurate by taking the precaution to use serum diluted with water. Rabbit's serum in a strength of 1 in 1000 always gave a precipitate with human blood but not with that of another animal.

The Overcrowding of the Paris Hospitals.

During the winter and the early spring the Paris hospitals are much overcrowded and in order to overcome this difficulty the Director of the Assistance Publique caused notices to be posted in all the out-patient rooms to the effect that the Paris hospitals existed for the use of the inhabitants of Paris only. However, of course, if a patient shivering with fever presented himself for admission the physician in charge had to take him in. The director of the Assistance Publique has now come to a decision which it is hoped will have the result of relieving the overcrowding. All patients who are so far advanced in convalescence as not to need constant care will be transferred to their own homes. There they will still be provided with medical attendance and medicines free of charge and they will besides be allowed a sum of one franc per diem for the space of one month, which term may be extended to three months on a certificate signed by the medical attendant. This new rule will not, of course, be strictly enforced except in the case of those who have a fairly good home and some relation capable of looking after them.

April 8th.

SWITZERLAND.

(From our own Correspondent.)

A New Water-supply for Zürich.

At present the town of Zürich has a double water-supply. Water for household purposes derived from the lake, properly filtered in double sand filters, flows into almost every house in the town and amply provides for purposes of street-cleaning, &c. It is for the most part bacteriologically so pure that a majority of the population use it for drinking purposes, though about 200 public fountains supply pure and fresh water derived from springs (*Quellen*) situated in the forests above the town. During the 15 years from 1885 to 1900 the population increased greatly and it now amounts to 150,000. A daily supply of 45,000 cubic metres (9,900,000 gallons) is therefore required instead of 25,000 cubic metres (5,500,000 gallons) as before. The municipality has been fortunate enough to secure by purchase a number of springs situated in the Sihl and Lorze valleys, some 15 miles from the town at an altitude of 552 metres. This water, which is bacteriologically of the purest kind, is carried round the town through a circular system of pipes from which branches will eventually supply 200 new fountains to be erected in suitable situations throughout the city. The total quantity of water available amounts to 23,000 cubic metres (5,060,000 gallons) per diem, thus securing an ample supply of the best and purest drinking-water for Zürich for a long course of years. Running water was deemed essential by the hygienists consulted (Professor Oscar Wyss and Professor Roth) as ensuring purity. The town will spend a sum of 3,200,000 francs (£128,000) to complete the work. The aqueduct is already made, 7500 cubic metres (1,650,000 gallons) of water are already available, and the rest of the fountains will be built at intervals in the course of the next three years.

Medical Students at Swiss Universities.

The total number of medical students inscribed for the winter term of 1901–1902 amounted to 1493. The special feature at present is the progressive increase of foreign female students, which is so rapid that the men will in two or three years' time be in the minority. There were 665 women and 828 men. Only 600 students (580 male and 20 female) were Swiss and the rest (893) were foreigners of whom 645 women. The number of students at the different universities was as follows: Basle, 147; Lausanne, 202; Zürich, 291; Geneva, 396; and Bern, 457. There were only five female students at Basle; the ladies have a great preference for Bern, where they number 283 and leave the men in a minority of 174.

Zürich, April 4th.

Protection for Football Players. — An American inventor has patented a "head harness for football players." The specification and a drawing will be found in the weekly number of the official *Gazette* of the United States Patent Office issued on March 11th, 1902.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the Primary Examination the following candidates passed in the subjects indicated :—

PART I.

Biology—S. F. H. Everill, Birmingham, and C. E. Pring, Royal Free Hospital.

Chemistry.—S. F. H. Everill, Birmingham, and J. C. Fletcher, Royal Free Hospital.

Materia Medica and Pharmacy.—M S. Jevons, Royal Free Hospital; T. Lea, Glasgow and Bristol; J. G. Lewis, Cardiff; E. H. Price, Birmingham; and E. Sergeant, Royal Free Hospital.

PART II.

Anatomy—G. H. Almond, Cambridge and Leeds; A. Bernfeld, Royal Free Hospital; E P. J. Dawes, Birmingham; L Doudney, Guy's Hospital; A. G. O. Findlay, University College Hospital; A. G. Gamble, Leeds; H. S. Gettings, Birmingham; G. P. K. Grey, Middlesex Hospital; C. Homer, St. Mary's Hospital and Bristol; L. J. Paterson-Clavier, Guy's Hospital; J. W. Peatt, London Hospital; J. O. Sergeant, Leeds; F. A. K. Stuart, St. Mary's Hospital; R. J. C. Thompson and J. A. R. Wells, St. Thomas's Hospital; and P. B. Whitington, London Hospital.

Physiology.—A. Bernfeld, Royal Free Hospital; L. Doudney, Guy's Hospital; F. C. M. Gabites, Edinburgh; H. S. Gettings, Birmingham; J. O. Johnson, Middlesex Hospital; J. G. Lewis, Cardiff; G. B. Messenger, Westminster Hospital; L J. Paterson-Clavier, Guy's Hospital; J W Peatt, London Hospital; R. J. C. Thompson, and J. A. R. Wells, St Thomas's Hospital; and P. B. Whitington, London Hospital.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of Bachelor of Medicine (M.B) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B., Botany; Z., Zoology; P., Physics; C., Chemistry).

George Victor Anderson (P., C), James Montgomery Anderson (Z , C.), Andrew Hamilton Arnott (P), George Duncan Morrison Beaton (P.), Donald Price Bremner (Z., P.), William Archibald Campbell (Z., C.), Donald Livingston Carmichael (C.), Charles Game Angus Chislett (B.*, C), Henry Howard Christie (Z., C.), John Sawers Clark (Z., C.), Andrew Donaldson Cowan (B *, P.), Thomas Lawson Craig (Z.*, C.) Arthur Muir Crawford (Z., C.), Robert Donald (Z.), Richard John Driscoll (B), James Dunbar (B.), Allan Dunsmuir (Z.), Eric John Dyke (P.), Ernest Milne Eaton (Z *, C.), William Miller Fairlie (Z., C), Thomas Scott Forrest (P., C.), James Wilfrid Georgeson (Z., P.), William Gilbert (Z., C *), William Gilfillan (C.), Percy Frederick Grant (Z., C.), Arnold Harris Gray (B., Z., P.), Robert Neil Guthrie (Z.*, C.), John Hammond (P.), William Towers Hardie (Z.), Robert M'Cowan Hill (P.*), John Keys (Z., C.), James Dunlop Kidd (Z), George Hugh Logan (B., P.), Angus Macaulay (B.), Alexander M'Call (Z , C), John M'Cartney (P.), Thomas M'Cosh (P., C), David MacDonald (Z., C), James M'Farlane (Z., C.), John Robert M Gilvray (Z , C.), William Anderson M Kellar (Z.), Thomas Cooper Mackenzie (Z.), William Ferguson Mackenzie (Z.*, C.), William Macleod (B , P., C.), John M'Millan (B., Z. P , C.), Alister Argyle Campbell M Neill (Z., C), Charles James Colquhoun Macquarie (Z.*, C.), Andrew Maguire (Z., P.), Robert Marshall B., Z), Robert May (P.), Allan Frederick Miller (C.), John Miller (Z.*, C.), Robert Stewart Miller (Z), William Miller (Z.), Peter Mitchell, M A. (B.*, Z.*), Robert Wright Mitchell (Z.*), William Struthers Moore (B , P.*), Archibald Naismith (B , Z), Patrick Joseph O Hare (B., P.), John Oswald (Z , P), James Hogg Paul (Z , C), Daniel M'Kinlay Reid (Z., P.), John Reid (B., P.), Frederick Gordon Robertson (Z., C.), James Henry Anderson Robertson (Z., P.), Murdoch Mann Rodger (B.) William James Rutherfurd (Z., C.*), John Sharp (Z., C.), Robert Wilfrid Simpson (P.), Robert Alexander Slater (C.), Thomas Baillie Smith (Z , C), James Stevenson (C), John Stevenson (Z * C.), Archibald Stewart (Z., P.), John Torrance Weir Stewart (B., Z.), Thomas Strain (P.), David Laurence Alexander Tate (B., Z), Charles Samson Thomson (Z. C.), Hugh White (Z.), David John Williams (Z.), George Haswell Wilson (Z. C), Samuel Wilson, M.A (Z., C.), William Alexander Wilson (P.), and Thomas Winning, M.A. (B., Z.).

Women.—Jeannie Montgomery Andrew (P.*, C.), Annie Rennie Bird (P., C.), Rose Isobel Hudson (P *, C.), Agnes M'Phun (Z.), Edith Oversby (P., C.), Vera Dagmar Reis (P.*, C.), Margaret Baillie Taylor (C.), and Christina Gibson Thomlinson (B., Z.).

The following have passed the second professional examination for the degrees of Bachelor of Medicine (M.B) and Bachelor of Surgery (Ch.B.) in the subjects indicated (A., Anatomy; P., Physiology; M., Materia Medica and Therapeutics) :—

Scott Campbell Adam (A., P.), Archibald Craig Amy (A., P., M.), Henry Graeme Anderson (A., P.), James Richard Sumner Anderson (A.), John William Arthur (M.), Allan Robertson Barrowman (A., P.), George Beattie (P., M.), Robert Daniels Bell, M.A. (A., P.), David Blackley (A., P., M), George Thomson Bogle (M.), Robert George Bradford (A.), Forrest Brechin (A., P., M.), Thomas Brodie (P., M), Charles Brown (P., M.), John Brown (A.), George Yuille Caldwell (A., P., M.). Peter Carrick, M.A. (A., P., M.), Robert Buchanan Carslaw, M.A. (A.*, P.*), James Alexander Cowie, B.A., B.Sc. (A., P., M.), John Craig Crawford (P., M.), Thomas Thornton Macklin Dishington (A., P., M.), Hugh M'Millan Donaldson (A.), George Horn Downie (A.), Charles Milligan Drew, M.A. (A., M.), Hugh Harvey Fulton (A.*, P.*), William Harold Gillatt (A., P), James Glover (M.*), David Livingstone Graham (A., P.), John Graham (A.*, P.*), Donald John Gollan Grant (A., P., M.), George Munn Gray (A.*, P.*), Louis Leisler Greig (A., P.), Alexander Robertson Forrest Hay (A., P.), John Cochrane Henderson (A., P.), Arthur Innes (A.*, P.), Alexander Jamieson (A.), Robert Dallas Kennedy (A.), John Kerr (M), George Notman Kirkwood (A., P.), Robert Thomson Leiper (A., P.*, M.), Thomas Symington Macaulay (A., P.), Donald Carmichael M'Cormick (A., P.), Joseph Glaister M'Cutcheon (P.), John Finlay Macdonald (M.), James Boston M'Ewan (A., P.), Tom Duncan M'Ewan (A., P.), Duncan Macfadyen (A., P.), John M'Farlane (A., P.), Robert Macfarlane (A., P), Robert Clark M'Guire (A., P., M.), James M'Houl (A., P.), Milne M'Intyre (A., P., M), Ronald Mackinnon (A., P., M.), David James M'Leish, M.A. (A.*, P.), Roderick MacLeod (M), Norman Smith MacNaughtan (M.), Andrew Brown M'Pherson (P., M.), William Main (A., M.), Andrew Meek (A., P , M.), Peter Millar (A.), Gavin Denholme Muir (P), John Muir (A., P), Macdonald Munro (A , P.), Alexander Harper Napier (A.), George Clement Neilson (A., P.), Thomas Orr (P., M), Howard Henderson Patrick (A., P.), Arthur Geoghegan Paxton (M.), John Clegg Pickup (A., P.), Alexander M'Millan Pollock (M.), Andrew Maclean Pollock (A., P.), James Porter (A., P.), William Murdoch Rae (A., M) Donald Ronald Reid (A., P., M.), Daniel Stevenson Richmond (A), James Watson Richmond (A.), Berkeley Hope Robertson, M.A (A., P.*), Robert Thin Craig Robertson (P.), Campbell Ross (M), John Samson (P.), Lawrence Drew Shaw (A.), Malcolm Alexander Sinclair (P., M.), George Goldie Smith (A., P.*), James Alexander Somerville (P., M.), John Stewart (P.), Norman Burgess Stewart (M), William Craig Stewart (A., P., M), Murray Ross Taylor (A., P. M) William Templeton (A., P.*), James White Thomson (A.*, P.*) Robert Watson (A.), Archibald Cromble West (A., P.), George Henry Wildish (A), George Wilson (P., M.), Robert M Nair Wilson (M.*), James Wynor (P., M.), and Watson Young (A.).

Women.—Jeanie Auld (A), Annie Agnes Baird (A., M.), Annie M'Caig Black (A), Agnes Wallace Cameron (A), Roberta Campbell (A., P., M), Ethel Lily Chapman (A., M.), Jane Hamilton M'Ilroy, M.A., B Sc. (A.), Jane Stark M'Lauchlan (A., P , M.), Alice Wesley Maclean (A., M.) Margaret Walker Millar (M), Jessie Emily Munro (P.), Charlotte Reid Park (A., M), Ethel Jane Mildred Pryce (A., M.), Jane Reid Shaw (A., P), Lily Smellie (A., P.), Elizabeth Taylor Talbert (M), and Annie May Yates (P.)

The following have passed the third professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B) in the subjects indicated (P., Pathology; M., Medical Jurisprudence and Public Health :—

Robert Adam (P., M), William Kirkpatrick Anderson (P., M.), Thomas Ballantyne (M), Andrew Farm Bell (M.), Thomas Bennett, M.A. (M), Archibald Grainger Bisset (P., M), Alexander Blair (P., M.), James Campbell Bringan (P., M.), Robert Bruce (M.), Daniel Lyall Carmichael (M.), Alexander Erskine Clark (M.), Andrew Connal (P., M), Hugh Collin Davies (P., M.), Mitchell Innes Dick (P) David Dickie (P., M.), David Garfield Dykes (P., M.), James Eadie (P., M), Cunison Charles Finlator (P., M.), Eric Dalrymple Gairdner (P., M), John Ritchie Gilmour (P.) John Hanson, M.A (P , M.), William Harvey (P.), Leslie Charles Broughton Head (P , M.) Neil M'Coll Hutchison (P., M.) Malcolm Hutton, M A., B Sc. (P *, M), John Muir Kelly (P., M.), Alexander Dingwall Kennedy (M.), Robert Laurie (P., M.), Archibald Leitch (P , M), Thomas Walker Love (P., M), Donald Macaulay (P), James Duff M Culloch (P., M.), David Duncan Fraser Macintyre (P., M), John Matheson Mackellar (P.), Norman Alexander Macleod (P.), James Anthony Macrea (P. M), Harry Somerville Martyn, M.A. (M.), Alexander Matheson, M.A. B Sc., (P *, M.), Spencer Mort (P., M.*), Gavin Muir (P., M.), David Penman (M.), William Rankin, M.A. (P., M), Daniel Falconer Riddell, M.A. (P., M.) Peter Hamilton Robertson (P), Frank Donald Scott (P), William Garrow Shand (P., M.), John Black Stevenson (P) William David Henderson Stevenson, M.A. (P *), William Stewart (P , M.), Arthur William Sutherland, M A. (P., M), John Wilson Sutherland (P.*, M.), Peter Lindsay Sutherland (P * M *), John Restell Thomas (P.), John Turnbull (P.) Joseph Walker M.A. (P), Hugh Fleming Warwick (M.), William Norman West Watson (P , M), Robert Tait Wells, M.A. (P.), John Forrest Weston (P), Griffith John Williams (P., M.), James Wilson (P., M.), Eldred Wright (P , M).

Women.—Mary Charlotte Cameron (P., M.), Jane Campbell (P., M), Jessie Galloway Duncan (M), Kate Fraser, B Sc. (P., M.), Mary Lauchline M Neill (M), Anna Pollock Martin (P. M.), Eliza Jane Miller (P , M.), Isabel Deans Mitchell (P., M.), Margaret Hossack Smart (P , M), Jessie Marie Stewart (P., M.).

* Passed with distinction in the subjects indicated.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin*: Professor Beckmann of Leipsic has been appointed to the chair of Pharmaceutical Chemistry, with which is combined the charge of the newly-established Institute for Pharmaceutical Chemistry —*Budapest*: Dr. Emerich Havas, *privat docent* of Dermatology, has been promoted to an Extraordinary Professorship. Dr. Krompecher has been recognised as *privat-docent* of Physiology.—*Freiburg*: Dr. Hugo Sellheim, *privat-docent* of Midwifery, has been promoted to an Extraordinary Professorship.—*Halle*: Dr. H. Winternitz has been recognised as *privat-docent* of Medicine. —*Heidelberg*: Dr Alexander Nehrkorn has been recognised as *privat-docent* of Surgery.—*Innsbruck*: Dr. Max von Vintschgau, Professor of Physiology, is about to retire —*Lemberg*: Dr. Roman Rencki has been recognised as *privat-docent* of Medicine.—*Munich*: Professor J. von Bauer has been appointed to succeed his late father-in-law Professor von Ziemssen, both in the chair of Medicine and in his hospital appointment. For the vacancy thus caused in the second chair of Clinical Medicine the following names have been selected by the Medical Faculty: (1) Professor Friedrich Müller of Basle; (2) Professor Krehl of Tübingen; and (3) Professor Stintzing of Jena.—*Philadelphia (Polyclinic)*: Dr. John H. Gibbon has been appointed to the chair of Surgery in succession to Dr. Morton, resigned.—*Prague (Bohemian University)*: Dr. Scherrer has been promoted to an Extraordinary Professorship of Infantile Diseases.—*Rome*: Dr. Attilio Bonanni has been recognised as *privat-docent* of Physiological Chemistry.—*Strasburg*: Dr. Paul Manasse, *privat-docent* of Otology, has been promoted to an Extraordinary Professorship.—*Tübingen*: Dr. L. Krahl, Professor in the University of Greifswald, has been appointed to the chair of Clinical Medicine in succession to the late Professor von Liebermeister.—*Turin*: Dr. Edmondo Trombetta has been recognised as *privat-docent* of Ophthalmology.—*Vienna*: Dr. Theodor Escherich, Professor in the University of Graz, has been appointed to the chair of Children's Diseases in succession to the late Professor von Widerhofer.

Hospital Saturday.—The Council of the Hospital Saturday Fund will hold its annual special collection in the workshops and business houses of the metropolis on Saturday, Oct. 11th. At the quarterly meeting of the board of delegates held at the central offices, Gray's Inn-road, W.C., on April 5th it was announced that during 1901 28,207 letters of recommendation to the medical charities had been issued upon the application of the collectors. The receipts from the workshops, &c., from Jan. 6th to March 15th, amounted to £2170 14*s.* 7*d.*, as compared with £2387 at the corresponding period of last year. The March number of the "Hospital Saturday Fund Journal" among other interesting matter contains an admirable paper by Dr. T. D. Acland on "Our Fight against Small-pox, or Common Sense and Vaccination."

Donations and Bequests to Hospitals.—By the will of Miss Anne B. Miles of Highgate £3000 are bequeathed to the Mission to Deep Sea Fishermen for a hospital mission ship to be called the Joseph and Sarah Miles Mission Ship. To the North-West London Hospital, the London Fever Hospital, the Great Ormond-street Hospital for Sick Children, the Cripples' Home in Marylebone, the Mount Vernon Hospital for Consumption, the Ventnor Hospital for Consumption, and the Royal Sea-bathing Infirmary at Margate £100 each are given, and £50 to the North London Nursing Association, Upper Holloway.—Mr. Arthur Ocran Crooke of St. Margaret's-on-Thames has bequeathed to his trustees £20,000 in trust for such hospital or hospitals in the counties of London and Surrey and convalescent homes in connexion with such hospitals as the trustees may choose.—By his will Mr. O. Sellers of York has bequeathed £1050 to the York County Hospital and £500 to the York Dispensary.—Mr. W. J. Clutton of York has left by his will £1000 to the York County Hospital.

The Fernley Observatory.—In his report for the year 1901, Mr. Joseph Baxendell, meteorologist to the Southport Corporation and director of the Fernley Observatory, supplies a variety of interesting details relative to the working of some of the instruments, and in particular of Dines's pressure-tube recording anemometer, Dines's non-oscillating pressure plate maximum anemometer, Baxendell's recording anemoscope, and Halliwell's float-pattern self-recording rain gauge. The last-named instrument has been found to furnish a faithful and distinct record alike of the heaviest tropical downpour and of a wet fog or misty drizzle. In order that snow which has fallen may be melted and for the purpose of preventing damage to the instrument from frost it can be warmed by a Notkin carburetter which will continue to act although not attended to for a week or even a month at a time. The highest temperature registered at the observatory during the year was 87·2° F. on July 20th; the lowest was 21 0° on Jan. 9th and also on Dec. 22nd. The heaviest fall of rain on any one day was 1·76 inches on Nov. 11th.

International Congress of Americanists.—It is announced in the April number of *Man*, a journal published by the Anthropological Institute, that the thirteenth session of the International Congress of Americanists will be held in the American Museum of Natural History, New York, from Oct. 20th to the 25th, 1902. The subjects to be discussed by the congress relate to the origin, distribution, physical characteristics, &c., of the native races of America and the history of the early contact between America and the Old World. All persons interested in the study of the archæology, the ethnology, and the early history of the two Americas may become members of the congress by signifying their desire to the general secretary of the commission of organisation, Mr. M. H. Saville, American Museum of Natural History, New York, together with a remittance of $3. Communications may be oral or written, and in French, German, Spanish, Italian, or English.

Death of a Medical Centenarian.—The March number of the *Pacific Medical Journal* states that Dr. Henry Carson, of Forest City, Pennsylvania, has died at the age of 108 years, and that he practised his profession up to last October.

Royal Alexandra Hospital, Rhyl.—It is announced that the Prince and Princess of Wales will on May 12th visit Rhyl for the purpose of opening the new buildings of the Royal Alexandra Hospital, the foundation-stone of which was laid by Her Majesty Queen Alexandra in 1894. The cost is estimated at over £40,000 and £2500 are still required to complete this estimate. Some 700 patients are received each year at the hospital, mostly from the large towns of Staffordshire, Cheshire, Shropshire, Warwickshire, Lancashire, and other English counties,

Gloucester Infirmary.—A special appeal, signed by the Earl of Ducie (lord lieutenant of the county) and Colonel Curtis-Hayward (chairman of the committee), has just been issued on behalf of the Gloucester General Infirmary and Eye Institution which needs the sum of £10,000 to bring it up to the needs of modern requirements. The Earl of Ducie heads the appeal with a subscription of £500; Mr. W. E. Price gives £300; Lord Fitzhardinge gives £200; and 14 other subscribers give £100 each.

Bristol Eye Hospital.—The annual meeting of the subscribers to this institution was held on March 26th, under the presidency of the Right Hon. Lewis Fry. The ninety-first annual report, which was read, stated that 5503 new out-patients were treated during 1901, and that the in-patients admitted to the hospital numbered 402. The financial statement showed that the expenditure exceeded the income by nearly £350, and that there still remained a debt of £1900 on the recent extension of the hospital which was carried out at a cost of £7300.

Presentations to Medical Practitioners.—At Barnstaple on March 24th, Mr. Mark Jackson, M.D. R.U.I., M.R C.S. Eng., L.S.A., who is leaving Barnstaple, where he has been medical officer of health for the past 15 years, was presented by the residents with a cabinet of table silver, a silver kettle, and an album bearing the names of the subscribers, as a mark of respect and esteem. The members of the Barnstaple Congregational Church have presented Dr. and Mrs. Jackson with a silver inkstand.—The members of the Princetown (Devon) Branch of the St. John Ambulance Association, on March 21st presented Mr. Daniel Brough, M.B., C.M. Edin., L.R.C.P. Lond., M.R.C.S. Eng., with a silver-mounted inkstand as a mark of appreciation for his services as honorary lecturer.—Mr. George Henry Temple, M.B., C.M. Edin., of Weston-super-Mare, who recently rendered assistance to a police constable in the arrest of a violent prisoner, was on March 23rd presented with a silver cigarette case, subscribed for by the local members of the constabulary, in recognition of his valuable services on that occasion

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Beer Bill.

In connexion with the order for the second reading of the Beer Bill Mr. Flower has given notice that he will move as an amendment: "That this House declines to proceed with the consideration of a Bill interfering with freedom in the manufacture of beer in this country which, whilst it imposes upon the scientific development of British brewing industries arbitrary restrictions that cannot be enforced upon foreign competitors, in no way provides safeguards for the public health or secures for consumers a guarantee as to the purity of the materials employed."

The Midwives Bill.

The consideration of this Bill as amended by the Grand Committee has been put down for Wednesday, June 4th, when there is considerable possibility of its being taken.

HOUSE OF COMMONS.

TUESDAY, APRIL 8TH.

The Use of Lead Pills.

Mr. COGHILL asked the Home Secretary whether his attention had been called to an inquest held by the coroner for North-West Staffordshire, on March 18th, on a married woman residing at Porthill, when the coroner, in summing up, stated that it appeared that the deceased was a milliner and had never been employed in occupations likely to produce lead-poisoning, and consequently could not have got this condition in the course of her trade; that it could not be difficult to find out where this lead was obtained; and that if this had been done and the person who supplied it knew for what purpose he would find himself charged with manslaughter at least; and, in view of the fact that the jury returned a verdict to the effect that death was due to lead poisoning brought about by deceased taking pills for a certain purpose, whether he would cause inquiries to be instituted as to the person who supplied the deceased with the lead pills.—Mr. RITCHIE said: I understand that active inquiries have been made and that no clue has been obtained to trace the person who supplied the pills.—Mr. COGHILL: May I ask the right hon. gentleman whether in the course of the inquiries made it has been found that this practice is at all common.—Mr. RITCHIE: The inquiries have not been directed to that general question but to the question of where the particular pills were bought.

Equipment of Military Hospitals in India.

Mr. WEIR asked the Secretary of State for India whether arrangements could be made for the military hospitals in India to be provided with surgical instruments of modern pattern, and would surgical instruments with wooden handles either be withdrawn or refitted with metal handles.—Lord GEORGE HAMILTON said: I am informed that all instruments sent to India in recent years have metal handles, but I will inquire more fully into the matter and if there is any reason to suppose that a large proportion of the surgical instruments now in use in India are not of the most approved pattern the Government of India will, I have no doubt, be anxious to replace them with as little delay as possible.

The Small-pox Epidemic in London.

Mr. BARTLEY asked the President of the Local Government Board whether he could state approximately the cost which the present epidemic of small pox had involved in the London area up to March 31st last.—Mr. LONG replied: I understand that the epidemic has involved an expenditure of about £250,000 on the part of the managers of the Metropolitan Asylums Board during the half year to the end of March last. This amount includes a sum of £225,000 in respect of special expenditure in connexion with small-pox accommodation and transport. I have no information at present as to the amounts expended by boards of guardians and other local authorities in London in connexion with the epidemic. There may be further information later and if the hon. Member moves for a return I shall be prepared to grant it.

Vaccination Statistics.

Mr. CORRIE GRANT asked the President of the Local Government Board (1) whether he had observed in the weekly returns of the Registrar-General that an infant, born on the hospital ship *Atlas* on March 1st, was vaccinated on that day and died from small-pox on the 12th, and that many other similar cases occur in the returns; (2) whether in view of these results he would consider whether the vaccination of such children after infection should be abandoned; and (3) as in several cases of death from small pox after vaccination the dates of vaccination were omitted and the words "vaccinated during the incubation period" or "vaccinated only after infection" were employed, whether he would direct the hospital authorities to supply exact particulars to the Registrar General, so as to obtain uniformity in these statistics.—Mr. LONG replied: As regards the first paragraph the answer is in the affirmative. With respect to the second I could not undertake to recommend the course suggested. As to the third paragraph I have communicated with the Registrar-General, who states that it is impossible to obtain uniformity in all cases, and that under the circumstances he considers that the terms employed are the best that can be devised.

The Supply of Government Lymph.

Mr. BARTLEY asked the President of the Local Government Board whether he could state what progress had been made in the supply of Government lymph; whether the Local Government Board had been able to overtake the demand for it; and whether any arrangements had yet been made to supply private practitioners as well as the public vaccinators with Government lymph for primary and secondary vaccination at about cost price.—Mr. LONG replied: I am glad to say that since the early part of last month I have been able to meet all the demands made by public vaccinators for lymph not only for primary vaccinations but also for revaccinations. As regards the last part of the question I have carefully considered the matter, but I regret that I have not seen my way at present to comply with the suggestion of my hon. friend.

BOOKS, ETC., RECEIVED.

BERGMANN, J. F., Wiesbaden (F. BAUERMEISTER, 49, Gordon-street, Glasgow).

Uber die Ätiologie des Carcinoms, mit besonderer Berücksichtigung der Carcinome des Scrotums, der Gallenblase, und des Magens. Von Dr. Gustav Futterer, Professor der Pathologie an der Universität in Chicago. Price M. 4, or 4s.

Arbeiten aus der Pathologisch Anatomischen Abtellung des Königl. Hygienischen Instituts zu Posen. Von Professor Dr. O. Lubarsch. Price M. 9, or 9s.

Vier Vorlesungen aus der Allgemeinen Pathologie des Nervensystems, gehalten vor dem Royal College of Physicians of London, am 19., 21., 26., und 28. Juni, 1900, von Frederick W. Mott, M.D. Lond., F.R.S. Übersetzt von Dr. Wallach. Mit einem Vorwort von Professor Dr. L. Edinger. Price M. 2.80, or 3s.

Die Berufskrankheiten des Ohres und der Oberen Luftwege. Von Dr. med. Friedrich Röpke, in Solingen. Price M. 5, or 5s.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

Excess of Salt in the Diet, with Three Other Factors, the Probable Causes of Cancer. By James Braithwaite, M.D Lond. Price 1s.

Hare-lip and Cleft Palate. By R. W. Murray, F.R.C.S., Surgeon, David Lewis Northern Hospital, Liverpool. Price 3s.

A Synopsis of Surgery. By R. F. Tobin, F.R.C.S.I., Surgeon to St. Vincent's Hospital, Dublin; Examiner in Surgery, Royal College of Surgeons, Ireland. Second edition. Price 6s. 6d.

The Operations of Surgery. Intended especially for the use of those recently appointed on a Hospital Staff and for those preparing for the higher examinations. By W. H. A. Jacobson, M.Ch Oxon., F.R.C.S, Surgeon, Guy's Hospital, and F. J. Steward, M.S Lond., F.R.C.S., Assistant Surgeon, Guy's Hospital. Fourth edition. Vols. I. and II. Price £2 2s.

CLARK, R. AND R., LIMITED, Edinburgh.

The Causes of Death among the Assured in the Scottish Widows' Fund and Life Assurance Society from 1874 to 1894 inclusive. Reported by Claud Muirhead, M.D., F.R.C.P.E., Medical Officer of the Society.

ENGELHARD AND CO., G. P., 358-362, Dearborn-street, Chicago, Illinois.

The Standard Medical Directory of North America, 1902. A Directory of Practising Physicians in the United States of America, Canada, Cuba, Mexico, and Central America. Price to Physicians $10.00.

HIRZEL, S., Leipzig.

Lehrbuch der Kinderkrankheiten für Aerzte und Studirende. Von Dr. Adolf Baginsky of Berlin. Seventh enlarged and revised edition. Price M. 18.50.

LEWIS, H. K., 136, Gower-street, W.C.

A Concise History of Small pox and Vaccination in Europe. By Edward J. Edwardes, M.D Lond., M.R.C.P. Lond., Author of "Vaccination and Small-pox." Price 2s. 6d. net.

MACMILLAN AND CO., LIMITED, London (THE MACMILLAN COMPANY, New York).

The Climates and Baths of Great Britain, being the Report of a Committee of the Royal Medical and Chirurgical Society of London. Volume II. The Climate of London and of the Central and Northern Portions of England, together with those of Wales and of Ireland. Price 12s. 6d. net.

The Treatment of Injuries by Friction and Movement. By Wharton P. Hood, M.D. St. Andrews, M.R.C.S., L.S.A. Price 4s. 6d.

NATHAN, FERNAND, 18, Rue de Condé, Paris.

La Santé de l'Écolier. Par le Dr. C. Delvaille, de Bayonne, Membre du Conseil d'Hygiène, &c., et le Dr. A. Breucq, de Bayonne, Médecin-Inspecteur des Établissements scolaires, &c. Troisième édition. Préface de M. le Dr. A. J. Martin, de Paris. Price not stated.

NAUD, C., 3, Rue Racine, Paris.

Les Fonctions Hépatiques. Par MM. A. Gilbert, Professeur à la Faculté, et P. Carnot, Docteur ès Sciences. Price 6 francs.

PENTLAND, YOUNG J., Edinburgh and London.

The Study of the Pulse, Arterial, Venous, and Hepatic, and of the Movements of the Heart. By James Mackenzie, M.D. Edin., Burnley. Price not stated.

SELL, HENRY, 167, Fleet-street, E.C.

Sell's Dictionary of the World's Press and Advertisers' Reference Book. 1902. By Henry Sell. Price 7s. 6d.

SOCIETÀ PER GLI STUDI DELLA MALARIA, Roma. (WILLIAMS AND NORGATE, London).

Atti della Società per gli Studi della Malaria. Volume II. Price not stated.

WRIGHT, JOHN, AND CO., Bristol (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., Limited, London).

An Introduction to Dermatology. By Norman Walker, M.D. Lond., F.R.C.P. Edin. Second edition. Revised and enlarged. Price 9s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ANGUS, H., M.D. Aberd., has been appointed Medical Officer of Health to the Bingley Urban District Council.

BENNETT, C. J., M.R.C.S., has been re-appointed Medical Officer of Health to the Chapel-en-le-Frith Rural District Council.

BURTON, H., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health to the Marple District Council.

BYTHELL, W. J. S., B.A., M.B. Ch.B., has been appointed Junior Anæsthetist to the Manchester Royal Infirmary, vice J. Turville Smith, resigned.

CLAPHAM, LUCY B., M.B. Lond., has been appointed Obstetric Physician to the New Hospital for Women, Euston road, and Assistant Anæsthetist to the Royal Free Hospital.

Cope, Ricardo, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Dorset County Hospital, Dorchester.

Dalby, Augustus William, L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health of the Frome (Somerset) Rural District.

Fry, W. W. B., M.B., M.S. Edin., has been re-appointed Medical Officer of Health to the Builth Rural District Council.

Greenwood, G. S., M.R.C.S., L.R.C.P. Lond., has been re-appointed Medical Officer of Health to the Ossett Corporation.

Harman, N. Bishop, M.A., M.B. Cantab., F.R.C.S. Eng., has been appointed Ophthalmic Surgeon to the Belgrave Hospital for Children, vice Treacher Collins, resigned.

Harnett, Charles J., M.D., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Assistant Visiting Surgeon to the Royal Sea Bathing Hospital, Margate.

Hodgson R. E., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Resident Surgeon to the Royal Sea Bathing Hospital, Margate.

Jeffery, H. Foster, M.B., Ch.B. Vict., has been appointed Honorary Surgeon to the Bury Infirmary and Police Surgeon for Heywood.

Kempe, C. M., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health to the Shoreham Urban District Council.

Liston, Mary F., M.B., B.S. Glasg., has been appointed Junior Assistant Medical Officer to the Govan Parish Council.

Marshall, Frank E., M.B., Ch.B. Vict., L.S.A., has been appointed Honorary Surgeon to the St. George's Hospital for Diseases of the Skin, Liverpool.

Mather, R. O., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health to the Billinge Urban District Council.

Prior, Percival Underdown, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the Destitute and Aborigines in the district of Penola, South Australia.

Verco, W. A., M.B., Ch.B. Adel., has been appointed Assistant Gynæcologist to the Adelaide Hospital, South Australia.

White, Margaret M.B. Melb., has been appointed House Surgeon to the Children's Hospital, Adelaide, South Australia.

Wilson, T. G., M.B., Ch.M. Syd., has been appointed Assistant Gynæcologist to the Adelaide Hospital, South Australia.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bethnal Green Infirmary.—Third Assistant Medical Officer. Salary £100 per annum, with apartments, board, and washing.

Biggleswade Rural District Council.—Medical Officer of Isolation Hospital and Small-pox Hospital. Salary £60 a year, additional fee of £5 5s. a week if and when patients are treated in the small-pox hospital.

Birmingham and Midland Hospital for Skin and Urinary Diseases, John Bright-street, Birmingham.—Surgical Assistant. Honorarium 50 guineas per annum.

Birmingham Workhouse Infirmary.—Assistant Resident Medical Officer. Salary £100 per annum, with apartments, rations, attendance, &c.

Bradford Royal Infirmary.—Dispensary Surgeon, unmarried. Salary £100 per annum, with board and residence.

Brentford Union Workhouse and Schools, Isleworth.—Assistant Medical Superintendent, unmarried. Salary £120 per annum, with apartments, rations, washing, &c.

Bridgwater Infirmary.—House Surgeon. Salary £80 a year, with board and residence

Cambridgeshire, etc., Lunatic Asylum, Fulbourn, near Cambridge.—Assistant Medical Officer (unmarried). Salary £150 per annum, with board, lodging, and attendance.

Central London Sick Asylums at Cleveland-street or Hendon.—First Assistant Medical Officer. Salary £120 per annum, with board and residence.

City of Nottingham Parish Infirmary.—Assistant Medical Officer. Salary £160 per annum and rooms.

Cornwall County Asylum, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary £120, rising to £150, with board, apartments, &c.

Cosford Union, Suffolk, Bildeston District.—Medical Officer and Public Vaccinator. Salary £72 per annum (exclusive of fees approximating to £76 per annum).

Cosford Union Workhouse, Suffolk.—Medical Officer. Salary £50 per annum, with fees.

Crewe Borough.—Medical Officer of Health. Salary £350 per annum.

Croydon County Borough Lunatic Asylum, Warlingham, Surrey.—Medical Superintendent. Salary £450 per annum, with unfurnished house, fuel, light, washing, &c.

Cumberland and Westmorland Asylum, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £130, rising to £150 per annum, with board, lodging, &c.

Durban, Natal, South Africa.—Medical Officer of Health. Salary at rate of £750 per annum.

Durham County Asylum.—Junior Assistant Medical Officer wanted. Salary £150, rising to £180 a year, with apartments, board, laundry, and attendance.

Durham County Hospital.—House Surgeon and Assistant House Surgeon. Salary of Senior House Surgeon £100, Junior £65, with board and lodging in each case.

Fisherton Asylum.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

Grove Hall Asylum, Bow, London, E.—Junior Assistant Medical Officer. Salary at rate of £120 a year, with board, apartments, attendance, and washing.

Guy's Hospital.—Demonstrator of Bacteriology and Bacteriologist. Salary about £180, rising to £200 per annum.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, washing allowance £2 10s., with board and residence. Also Medical Registrar. Honorarium 50 guineas a year.

Kent and Canterbury Hospital.—Surgeon.

Leeds General Infirmary.—House Physician for six months. Board, lodging, and washing provided.

Leeds Hospital for Women and Children.—House Surgeon, non-resident, for six months, eligible for renewal. Salary at rate of £125 per annum.

Lincoln Hospital for the Insane, The Lawn.—Assistant Medical Officer. Salary £100 a year.

Liverpool, County Asylum, Rainhill.—Assistant Medical Officer, unmarried. Salary £150 per annum, with prospect of increase, with apartments, board, attendance, and washing.

Liverpool Stanley Hospital.—Third House Surgeon. Salary £70 per annum, with board, residence, and washing.

London County Asylum, Horton, near Epsom, Surrey.—Junior Assistant Medical Officer. Salary £150 per annum, with board, furnished apartments, and washing. Also Dispenser. Salary £140 per annum, rising by £10 a year to £150, with dinner daily.

London Temperance Hospital, N.W.—Assistant Resident Medical Officer for six months. Honorarium at rate of 50 guineas per annum, with board and residence.

Manchester Southern and Maternity Hospital.—Resident House Surgeon. Honorarium £50 per annum and board.

Newcastle-on-Tyne Dispensary.—Visiting Medical Assistant. Salary £160, rising to £180.

Norfolk and Norwich Hospital.—House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

Nottingham General Dispensary.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, increasing by £10 every year, with apartments, attendance, light, and fuel.

Oldham Infirmary.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

Parish of Hammersmith Temporary Infirmary, Ducane-road, Wormwood Scrubs, S.W.—Visiting Medical Officer. Salary £50 per annum.

Poplar and Stepney Sick Asylum at Bromley, Middlesex, E. Second Assistant Medical Officer. Salary £100 per year, with rations, apartments, and washing.

Public Dispensary, 59, Stanhope-street, Clare Market.—Resident Medical Officer, unmarried. Salary £105 per annum, with furnished apartments, coals, and gas.

Stoke-on-Trent Infectious Diseases Hospital, Bucknall.—Resident Assistant Medical Officer. Salary £80 per annum, with board, residence, and washing.

Teignmouth Hospital, S. Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing, and allowance of £6 in lieu of stimulants.

Unbridge Wells General Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, apartments, and attendance.

Wallasey Dispensary and Victoria Central Hospital, Liscard.—House Surgeon, unmarried. Salary £100, with board and residence.

West End Hospital for Nervous Diseases, Welbeck-street, Cavendish-square, W.—Honorary Dental Surgeon.

West London Hospital, Hammersmith-road, W.—Honorary Officer in charge of the X Ray Department.

West Norfolk and Lynn Hospital, King's Lynn.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

Births, Marriages, and Deaths.

BIRTHS.

Harrison.—On April 5th, at 320, Humberstone-road, Leicester, the wife of L. K. Harrison, M.B. Cantab., of a son.

Holden.—On April 6th, at Castle-hill, Reading, the wife of George Herbert Rose Holden, M.A., M.D. Cantab., of a son.

Potts.—On March 17th, at the Infirmary, Cambridge-road, Bethnal Green, the wife of W. J. Potts, M.D. Lond., of a daughter.

Ransome.—On April 6th, at Bungay, Suffolk, the wife of Gilbert H. Ransome, M.R.C.S., L.R.C.P. Lond., of a daughter.

MARRIAGES.

Collinson—Clarke.—On April 3rd, at St. Alkmund's church, Derby, by the Rev. A. E. Hunt, M.A. (vicar), assisted by the Rev. S. E. Collinson (the bridegroom's brother), Frederick William Collinson, M.D., of Preston, to Clara, daughter of the late Thomas Clarke, of Derby.

Henry—Farr.—On the 5th April, at Immanuel Church, Streatham-common, by the Rev. H. F. S. Adams, M.A., vicar, George Nicol Henry, M.B., fourth son of the late Andrew Henry, of Macduff, N.B., to Mary Louise, youngest daughter of the late Dr. George Frederick Farr, of Kennington and East Twickenham, and Mrs. Farr of Oakdale-road, Streatham.

Ormerod—Tyssen.—On April 8th, at St. Patrick's, Hove, by the Rev. Arthur Sutton, rector of Brant Broughton, Lincolnshire, cousin of the bride, assisted by the Ven. the Archdeacon of Lewes and the Rev. T. Rowland Hall, senior curate of the church, Ernest William Ormerod, M.D., elder son of the late Edward Latham Ormerod, M.D., F.R.S., to Janet Clara, eldest daughter of the Rev. Ridley Daniel-Tyssen, incumbent of St. Patrick, Hove.

Prior—Mallalieu.—April 3rd, at Christ Church, Glodwick, Oldham, by the Rev. Howard Chadwick, M.A., James Prior, M.R.C.S., L.R.C.P., of Brookroyd, Heckmondwike, to Amy, younger daughter of the late William Mallalieu of Oldham.

Rutherford—Mitchell-Withers.—On April 10th, at St. Michael's, West Retford, by the Rev. Canon Gray, M.A., assisted by the Rev. C. V. Collier, F.S.A., Allen Freer Rutherford, M.B. Edin., second son of Dr. James Rutherford of Dumfries, N.B., to Beatrice, younger daughter of the late J. B. Mitchell-Withers, of Parkhead, Sheffield.

DEATHS.

Chilton.—On April 2nd at Bristol, Reginald Horace Chilton, M.R.C.S., L.R.C.P. Lond., aged 31 years.

Fox.—On April 2nd, at Brislington House, near Bristol, Bonville Bradley Fox, M.D. Oxon., aged 49 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SYDENHAM AND THE OPEN AIR TREATMENT OF PHTHISIS

To the Editors of THE LANCET

SIRS —In the writings of Sydenham is a passage very like that quoted in THE LANCET of March 29th p 898 in allusion to Dr Bollington s work. It is apparent from it that his advocacy can be claimed for the open-air treatment of phthisis I transcribe from Pechey's translation of Sydenham s works published in 1740 He is proclaiming the advantage of horse-exercise in hepatic (?) disorder and *proceeds*:—

> Nor is this kind of exercise more beneficial to hypochondriacal people than to those that are in a Consumption whereof some of my relations have been cured by riding long journeys by my advice; for I knew I could not cure them better by medicine; of what value soever *or by any other method* *Nor is this remedy proper only in* small indispositions accompanied with a frequent cough and leanness but also in Consumptions that are almost deplorable, when the looseness above mentioned accompanied the night-sweats which are wont to be the forerunners of death in those that die of a Consumption To be short, *how deadly soever a Consumption is and is said to* be two-thirds dying of it who are spoiled by chronical diseases yet I sincerely assert that Mercury in the French Pox and the Jesuits Bark in Agues, are not more ffectual than the exercise above mentioned in Airing a Consumption if the sick be careful and the *sheets be well-aired and that the journeys are long enough* But this must be noted that those who are past the flower of their age must use the exercise much longer than those that have not yet arrived to it; and this I have learned by long experience which scarce ever failed me And though riding on horseback is chiefly beneficial to *people that have a Consumption, yet riding in a coach* is sometimes very beneficial "

Clearly the one thing common to riding and to driving is open-air exercise while Sydenham s injunction that the sick be careful and the sheets be well-aired" anticipates the regimen of the modern sanatorium *I am Sirs yours faithfully*

Leek, April 3rd 1902. DAVID A ALEXANDER.

P S —Is the Government making any special provision for soldiers n South Africa who have contracted phthisis during the rigors of the campaign? He has a very poor chance of recovery who comes home after his discharge to the closer air of the houses of our reeking towns.

A WARNING

To the Editors of THE LANCET

SIRS,—I think it might save other medical men from being victimised if you were to issue a warning in THE LANCET against a man giving the name of Captain Davys who has succeeded in borrowing money from me and from the wife of another medical man in this neighbourhood. His story is that he wants the medical man on whom he is calling to attend his wife in her approaching confinement that they are coming to an address quite close at hand on the following day but that at present they are living in the country He hopes the doctor will be able to call and see his wife the following afternoon as she is afraid of being upset by the journey He himself has ridden up on his bicycle from where they are living in the country and (quite incidentally) he has come away without any money It does not matter of course, as he has his bicycle, but it is awkward not being able to get anything to eat as he knows no one in London. He has made this story profitable in at least two doctors houses in Kensington and I hear that a very similar tale has been tried in other parts of London

I am Sirs yours faithfully

Kensington April 7th, 1902. P

REVOLVING SHELTERS

To the Editors of THE LANCET

SIRS —I shall be obliged if any of your readers can give me the names and addresses of makers of revolving shelters constructed of wood and glass I am Sirs yours faithfully

ROBERT MACKINLAY

Ashbank, Newton Mearns Renfrewshire April 7th, 1902.

THE TREATMENT OF SMALL-POX.

A CORRESPONDENT in view of the present prevalence of small pox forwards to us some interesting details of the methods of treatment found useful in the Sheffield epidemic of 1887-1888. Some 400 cases were *treated* at the patients *own homes*. *Diaphoretics* were found to be contra indicated after the second day and bromides were found useless to relieve the headache. On the other hand a brisk saline purge was found of great use. With regard to the local treatment of the eruption the following plan gave good results "Each pustule, not only on the face but on the limbs and body also was swabbed over with some antiseptic. At that time Little s phenyl was supplied by the local sanitary authority and this was used but izal or carbolic oil would do equally as well. A large needle was then passed through each pustule and the pus evacuated As many pustules as possible were thus dealt with on the eighth ninth and tenth days of the disease. The results in most cases were most satisfactory. Particularly in patients and especially in young subjects where many pustules occurred on the palmar and plantar surfaces of the hands and feet respectively and where such symptoms as insomnia and great nervous prostration were prominent, I found the treatment give great relief and natural sleep usually followed the general condition being also much improved." It was necessary to treat many cases of small pox delirium. If two minims of croton oil were rubbed on the base of the patient s tongue very free purgation quickly followed and within two hours the patient was found to be perfectly quiet

A SANITARY POWDER PUFF

THE powder-puffs commonly used by hairdressers evidently present facilities for the transmission of skin affections and other contagious diseases from one customer to another on account of the readiness with which clippings of hair loose epithelium and other *tonsorial débris adhere to their surfaces A powder-puff can hardly* be sterilised but an easy and satisfactory way of avoiding all risk is to use a new one each time The Odourless Retentive Disinfecting Cloth Company of 96 Leadenhall-street, London E.C supplies an article very suitable for this purpose, consisting of a disc *of stiff coloured paper about two inches in diameter faced on one* side with a thin layer of cotton wool We understand that the price of these sanitary powder puffs is so small that on financial grounds a barber can have no inducement to use them over and over again By this precaution, together with those described in THE LANCET of April 5th p 983 *the risk of contagion in hairdressers shops will be* reduced to a minimum

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W NASH A.M.S

THE *following* subscriptions have been received since *the last* notification —

	£	s	d		£	s	d
Major R H Clement R.A.M C	0	5	0	Lieutenant Colonel W T Martin A.M S (retired)	0	10	
Major H S Pecke R A.M.C ..	0	5	0	Previously acknowledged in THE LANCET ..	34	16	0
Lieutenant-Colonel H. K. Allport R.A.M C	0	10	0	Total	36	16	6
Colonel A. W Duke R.A.M C	0	10	0				

THE DUPLEX ROTARY BOTTLE AND DECANTER WASHER

MESSRS G RESTALL AND CO of 57 Park-road Regent s Park London N W have submitted to us an ingenious and simple device for the cleaning of bottles decanters, &c. It consists practically of a screw *drill attached at its top end to a shelf by means of a spring* The drill rotates rapidly by merely grasping a bobbin with a thread corresponding to that of the drill and moving it rapidly up and down It is the principle of the Archimedean screw but reversed In the place of a drill bit the brush is fixed or a double hoop of stout wire when the effect of a whisk is required The apparatus works well and very effectively removes the dirt in bottles or flasks of whatever shape they may be. It is particularly well adapted we have found for cleaning bottles which have contained milk A clean milk bottle is of course, of the greatest importance, but it is *not easy thoroughly* to cleanse a narrow necked bottle such as that in which milk is sterilised and which contains adherent and stale milk sediments The apparatus may be applied to a variety of purposes and can claim to be in the strictest sense a real sanitary accessory

RADCLIFFE *v* PRICE

To the Editors of THE LANCET

SIRS —I read with much interest your leading article in THE LANCET of March 29th p 902, on Radcliffe *v* Price, and I quite agree with your views as to the matter of costs in the case. I think the decision on this point, at *least, is a very unjust one and I trust steps will be taken to* set it aside. I wonder what Mr Justice Swinfen Eady would say to members of his own profession who very cleverly got themselves inserted in wills as residuary legatees " They have plenty of time to wind up the estate and it is some time before their share can be estimated and then for various and obvious reasons, it is hardly likely that any inquiry will be instituted. I know a case where something like £20 000 were obtained in this way by a respectable solicitor and where there was no other connexion than that as between lawyer and client. I am, Sirs yours faithfully

AN OLD SUBSCRIBER

April 1st 1902. (of nearly 40 years standing)

SADDLE SORENESS —VARICOSE VEINS

To the Editors of THE LANCET

SIRS —A warm comfortable, well-fitting perforated saddle-cloth made of thick felt is a great addition to a suitable cycle saddle such as Brook s saddles generally are, and tends to prevent saddle soreness, which I have also found I thought further prevented if going for a long ride say 50 miles by wearing ordinary bathing drawers which proved no inconvenience and were worn with great comfort when going to Oxford on my cycle with my son last October I was led to wear the drawers owing to being somewhat corpulent (I measure in girth, measuring round the umbilicus 42½ inches) and I found the drawers which reached well up to the navel a great support to the abdominal muscles and certainly they prevented the flatulency and dyspepsia that a long ride is apt to produce. I rode the whole distance, stopping at Winchester on the first night, with ease, and also rode most of the return journey on my cycle (after staying three days enjoying the sights of the classical city) with great comfort and no saddle soreness. It occurred to me that the information might be useful to your readers.

You have, Sirs, in a leading article on March 22nd, p. 833, usefully directed attention to varicose veins and Mr. Pearce Gould's excellent and comprehensive lecture. I think many of your readers who are cyclists, and who are often asked if a youth who suffers from varices may ride, may perhaps, be glad to know that I have found cycling most beneficial for varicose veins, from which I have suffered all my adult life, and sometimes severely, having had three attacks of phlebitis in my left leg, the first after a long row from Hammersmith to Kingston in 1865. Previously to my marriage in 1866 I consulted Mr. T. W. Nunn, then surgeon to the Middlesex Hospital, as to whether he would advise Mr. Lee's operation for me, at that time the operation not being as successful as it is now. After careful examination, Mr. Nunn did not advise operative treatment but suggested that I should wear elastic stockings which for many years I generally did, especially on the left leg, and I had no further inconvenience from them until after a serious illness with very high temperature in 1882, sometimes 105° F. (not rheumatic). My temperature very easily goes up. I have more than once gone about seeing my patients with a temperature of 103°. I remember once calling my eldest son's attention, then a medical student, to this rather *interesting fact when we were in Antwerp and were going before breakfast* to the swimming baths—"Now, look here, my temperature is now 103° [verified by thermometer]. You will find after my swim [the water was very cold] it will go down to 98° or 99°"; and so it did, and did not rise as high again. I was not feeling well, of course, although no one would for a moment have thought I had a temperature of 102° or 103°, but after each morning swim it was lower and within a week remained normal. I had a third attack of phlebitis in 1898 and suffered a great deal of pain, especially in going down to Hastings, but this time the inflammation subsided by sea air, rest, and iodide of lead and opium lotion without forming abscesses, and on recovery from illness the veins were *in statu quo antea*. After my residence here I did not keep carriages and learnt to cycle, using my machine like a hack and deriving more pleasure and health from its perpetual and daily use when fine than I did from my horses and I have now no varicose veins, at least no nodes—merely slight dilatation of the superficial veins of the left leg. Cycling has cured them.

I am, Sirs, yours faithfully,

FREDK. H. ALDERSON, M.D. St. And.

West Bournemouth, April 5th, 1902.

INCONTINENCE OF URINE.

To the Editors of THE LANCET.

SIRS,—Your correspondent "S. S. B." will find the following useful: sodii benzoas, 10 grains; sodii bicarb., 10 grains; tr. hyoscyami, 30 minims; barley water to one ounce, to be taken every night two hours before going to bed.

I am, Sirs, yours faithfully,

Windsor, April 5th, 1902. W. B. HOLDERNESS.

To the Editors of THE LANCET.

SIRS,—The following extract from my note-book, copied from a medical paper about 13 years ago, has given excellent results: "M. Perrett recommends giving to children from five to eight years of age one to two grammes of antipyrin every evening—one part taken at 7 and the other at 9 o'clock. Treatment continued eight days, then a week's respite, and again administered. Two weeks of treatment is generally sufficient for a case." I may add that in my experience the older the boy the more successful the result.

I am, Sirs, yours faithfully,

Batley, Yorks, April 4th, 1902. JOHN H. WOODS, L.R.C.P. Irel.

To the Editors of THE LANCET.

SIRS,—I believe that in many cases of boys who wet the bed the habit is due to masturbation, and this should be carefully looked for. It is also advisable that the amount of liquid taken in the evening should be restricted as much as possible.

I am, Sirs, yours faithfully,

April 9th, 1902. G. F. B.

THE ANTI-VACCINATIONIST IN HIS TRUE COLOURS.

WE have received a most interesting communication from a gentleman named W. D. Stokes, who lives at 14, Waterloo-place, Brighton. Mr. Stokes is of opinion that the "vast majority of the community are unconverted and are yet sceptical as to the efficacy of the operation of vaccination to prevent, or even to mitigate, an attack of small-pox." Mr. Stokes is good enough to forward us a "bill" which he hopes "may be of some service in enlightening you touching the subject in question." We must allow that Mr. Stokes's bill has given us some information of which we were quite ignorant. Here are some of the things he tells us. "It is the opinion of honest physicians that vaccination is causing the death of 100,000 people in the United Kingdom every year." "As the late Royal Commission did not give to the Government a true statement respecting the effects of vaccination, *some honest doctors* say that the great majority of the members of the Royal Commission deserve penal servitude for the remainder of their lives, for they have been the means of keeping up the wholesale murderous practice." "We have the testimony of 232 medical men that vaccination has within their own experience caused 55 different diseases ...... including internal diseases, ulcerated stomach, liver disease, consumption, cancer ...... inflammation, paralysis, ricketts (*sic*), scarlatina, leprosy, and many other diseases. ...." Mr. Stokes has the courage of his opinions, such as they are. Like the public-house orator we are not going to argue with him, we are going to tell him, and we will do so in his own words: "All such dishonest, untruthful, deceitful, wicked people (doing differently from that which they would be done by) will find themselves at the left hand of God in the Great-Judgment Day and will then receive their just reward." So much, then, for the circular forwarded to us by Mr. Stokes himself. It appears that he is also distributing circulars to the public, and a correspondent has sent us one of these. In it Mr. Stokes makes the following statement: "A great many are losing their arm by amputation soon after being vaccinated, in many such cases the employers having to allow a pension for life." We have no hesitation in saying that this statement is, to put it politely, not true.

THE "WILLIAM MARTINDALE MEMORIAL."

AT a meeting of the former colleagues and friends of the late Mr. William Martindale, held at the Pharmaceutical Society on March 4th last, the following resolution was passed:—

> "With the view of perpetuating the memory of the late Mr. William Martindale, a past president of this society, it is desirable that steps be taken to procure a bust of our late deceased friend, to be placed in the house of this society, and in the event of the response being satisfactory, a medal or some other encouragement for the advancement of pharmacy be also provided, the exact nature of which shall be determined at a subsequent meeting of subscribers."

Subscriptions of any amount not exceeding two guineas are invited by the committee and should be addressed to the honorary secretary, Mr. G. S. Taylor, at 17, Bloomsbury-square, London, W.C. Postal orders and cheques should be made payable to the treasurer, Mr. Michael Carteighe, 180, New Bond-street, W., and crossed London and Westminster Bank, Westminster Branch.

◆

M.D.—The firm can have no monopoly of the appointment. If the post is publicly declared vacant any local medical man can apply for it. But it is not necessarily kind or wise to do a thing even when it is permissible. It would be better if the intending candidate consulted a prominent medical man in the locality.

Liverpool.—This was the subject of an address delivered at a meeting of the Wimbledon Medical Society on Nov. 8th, 1901. It was published in the *Clinical Journal* of Jan. 8th, 1902, and will reappear with Dr. Poore's Milroy Lectures shortly to be issued by Messrs. Longman.

C. J.—We think that the attention of the well-known medical man in question should be called to the fact that his name is being used to advertise diabetic beverages. But it is not necessary to do this publicly as there is no evidence that he is aware of the fact.

J. K.—We do not endorse our correspondent's view as to the limited knowledge of her particular condition exhibited by the medical profession. We recommend her to consult her medical attendant as to the scientific literature that she reads.

Subscriber.—We fear that our correspondent will have great difficulty in finding any appointment for which his previous experiences have fitted him. If he will more fully define his wants to us in a private letter we will endeavour to aid him.

Justice.—We shall have pleasure in replying in full if our correspondent will send us all the papers that he has with reference to the club—annual reports, balance-sheets, rules for admission of members, &c.

Senex, in writing on "Incontinence of Urine," has omitted to furnish us with his name and address.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 10th, 1902.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall	Solar Radia in Vacuo.	Maximum Temp Shade.	Min Temp	Wet Bulb	Dry Bulb.	Remarks at 8.30 A.M.
April 4	29·86	W.	0·03	98	54	36	40	44	Fine
" 5	29·87	S.W	0·01	72	52	42	44	45	Raining
" 6	29·89	N.W.	0·06	88	45	41	39	41	Cloudy
" 7	30·31	N.E.	0·04	62	47	39	39	42	Overcast
" 8	30·23	S.	...	56	45	40	38	41	Overcast
" 9	30·10	E.	...	96	50	38	39	42	Overcast
" 10	30·06	E.	...	63	48	39	39	41	Overcast

During the week marked copies of the following newspapers have been received:—*Dublin Evening Telegraph, Southampton Echo, Islington Gazette, Belfast News, Birmingham Daily Mail, Lancaster Guardian, Bradford Observer, Sheffield Daily Telegraph, Municipal Reformer, Echo, Daily Mail, Daily Express, Yorkshire Post, Standard, Bristol Mercury, Windsor and Eton Express,* *Reading Mercury, La Caducée, Hong-Kong Weekly Press, Herts Advertiser, Times of India, Aberdeen Free Press, Blackburn Gazette, Bournemouth Guardian, Lancashire Post, Plymouth Morning News, Western Mercury, Yorkshire Post, Pioneer Mail, Citizen, Architect, Builder, Devon and Exeter Express, Burnley Express, Manchester Dispatch, Glasgow Citizen, Scotsman, Ipswich Times, &c., &c*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (19th).—Royal Free (9 A.M. and 2 P.M.), London (2 P.M.) Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (14th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Clinical Evening. Dr. P. Weber: The Infantile Form of Rheumatism associated with Chronic Changes of Spleen, Liver, and Lymph Glands.—Dr. W. Ewart: Case of Chronic Nephritis illustrating the Treatment by Drainage and Feeding.—Mr. B. Dawson: (1) *Fibrosis of Lung* probably Syphilitic; (2) Aortic Incompetence with marked Diastolic Thrill; (3) Tubercular Disease of Lung and Knee-joint in conjunction with Albuminuria and Paralysis of Left Sixth and Seventh Cranial Nerves; (4) Hypertrophic Osteo-arthropathy.—Dr. StClair Thomson and Mr. A. Carless: Epithelioma of Epiglottis and Back of Tongue Removal by Transhyoid Pharyngotomy.—Dr. H. D. Rolleston: Pigmentation (blue line) of the Lip.—Dr. StClair Thomson: Ulceration of the Left Ala Nasi probably Syphilitic but unchecked by treatment.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—4.30 P.M. Report by Mr. A. H. Cheatle on the Examination of the Ears of 1000 School Children will be presented and discussed. Members of the profession on presentation of their cards will be welcomed to take part in the debate.

TUESDAY (15th).—PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M. Paper:—Dr. A. Henry: Chinese Drugs.

PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Council Meeting. 8.30 P.M. Bacteriological Section. Mr. A. G. R. Foulerton: A Case of Tuberculosis in a Sheep.—Mr. H. J. Waring: A New Method of Separation of the Toxin of Tetanus from the Solid Viscera of the Human Body.—Dr. F. W. Andrewes: The Recognition of Tetanus after Death by the Isolation of the Toxin from the Viscera.—Dr. J. W. Washbourn and Dr. J. W. H. Eyre: The Pathogenic Actions of Strains of Pneumococcus Isolated from Various Sources.—Mr. N. B. Harman: Further Contribution to the Bacteriology of the Veld Sore.

WEDNESDAY (16th).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussion on Chronic Affections of the Kidney and Morbid Conditions of the Urine arising therefrom, in relation to Balneological, Climatic and Dietetic Treatment (re-opened by Dr. L. Williams). (A report of the discussion will be found in THE LANCET of April 5th.) Dr. S. Thompson, Mr. W. B. Davies (Llandrindod), Dr. A. Morison, Dr. B. Thorne, Dr. M. Dockrell, Dr. Bagshawe (St. Leonards), Dr. Bain (Harrogate), Dr. Aubrey (Weston-super-Mare), Mr. A. H. Dodd (Brighton), Dr. Felkin, Dr. Inglis (Hastings), Mr. C. H. C. Cosens (Paignton), Dr. L. Wainwright (Folkestone), Dr. Snow (Bournemouth) and others are expected to take part in the discussion.

FRIDAY (18th).—EPIDEMIOLOGICAL SOCIETY (11, Chandos-street, Cavendish-square, W.).—8 P.M. Council Meeting. 8.30 P.M. Meeting.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-st., W.).—Cases will be shown by Dr. E. Cautley, Mr. S. Stephenson, Dr. D. McKenzie. Specimens will be shown by Dr. J. H. T. Walker. Papers:—Mr. R. H. A. Whitelocke (Oxford): Notes on a Case of Double Inguinal Hernia in a Female Child, each Sac containing an Ova-like Organ.—Dr. G. Carpenter: A Case of Malignant Endocarditis which developed Optic Papillitis, Sub-retinal Hæmorrhages, a Simulated Choroidal Tubercle, and other Changes in the Fundus Oculi.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. T. C. Fox: Clinique. (Skin.)

TUESDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. Ewart: Clinique. (Medical.)

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Dr. A. Macfadyen: Recent Methods and Results in Biological Inquiry.

WEDNESDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. H. Marsh: Clinique. (Surgical.)

THURSDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. Dewar: The Oxygen Group of Elements.

FRIDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. N. MacLehose: Clinique. (Eye.)

ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Sir John H. A. Macdonald: The Autocar

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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X.—X. Y. Z.

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The Goulstonian Lectures

ON

SOME ABNORMAL PSYCHICAL CONDITIONS IN CHILDREN.

Delivered before the Royal College of Physicians of London on March 4th, 6th, and 11th, 1902,

BY GEORGE F. STILL, M.A., M.D. CANTAB., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN FOR DISEASES OF CHILDREN, KING'S COLLEGE HOSPITAL; ASSISTANT PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

LECTURE II.[1]

Delivered on March 6th

MR. PRESIDENT AND GENTLEMEN,—In my first lecture I drew your attention to some points in the psychology and development of moral control in the normal child and then considered the occurrence of defective moral control in association with general impairment of intellect; before going further it may be well to review briefly the points which have been raised. Moral control, we saw, is dependent upon three psychical factors, a cognitive relation to environment, moral consciousness, and volition, which in this connexion might be regarded as inhibitory volition. Moral control, therefore, is not present at birth, but under normal psychical conditions is gradually developed as the child grows older. The variation in the degree of moral control which is shown by different children at the same age and under apparently similar conditions of training and environment suggested that the innate capacity for the development of such control might also vary in different individuals.

Proceeding, then, with our inquiry as to the occurrence of defective moral control as a morbid condition in children we considered the occurrence of this defect in association with idiocy or imbecility and saw that whilst defect of moral control is often associated with general impairment of intellect there is no constant proportion between them; the child with only slight intellectual impairment may show far greater moral defect than a child with more impaired intellect. There appeared to be no grounds for connecting any particular type of imbecility specially with moral defect, and beyond the fact that such physical changes in the brain as produce general impairment of intellect may also produce defect of moral control, it was impossible on the clinical evidence available to attribute the moral condition exclusively to any particular structural abnormality Whatever the cause of the defect may be, it seems clear that in these cases there is a morbid limitation of the capacity for the development of moral control, and the fact that this limitation is not necessarily proportionate to the limitation of capacity for general intellectual development seems to make it at least conceivable that the mental processes involved in moral control may be affected altogether apart from those concerned with more general intellectual acquirements. I propose now to bring forward evidence that this isolated affection of moral control does actually occur.

MORBID DEFECT OF MORAL CONTROL ASSOCIATED WITH PHYSICAL DISEASE.

In considering defect of moral control apart from general impairment of intellect it must, I think, be recognised that the morbid character of such a defect may be shown not only by its degree as compared with our empirical and arbitrary standard for the age and by its non-correspondence with the influences of environment, but also by the fact that the failure of moral control is entirely at variance with the previous habit, if I may so say, of the particular child; and this is a point of some practical interest, for, as we shall see, in some cases comparatively trivial manifestations which, if they were habitual in the child, would be regarded as quite within the limits of normal variation, assume a considerable importance as premonitory symptoms of physical disease.

Perhaps the most conclusive evidence of the morbid character of deficiency of moral control in some cases where it is not associated with general impairment of intellect is to be found in its close relation to physical disease, which I shall now consider. Naturally one turns first to cases with gross lesions of the brain, for here, if anywhere, we should expect that physical disease might cause alteration of moral control. Unfortunately for the purposes of my argument, where the lesion causes any psychical change, it is so apt to produce also some general disorder of intellect that many such cases—for instance, cases of infantile hemiplegia—fall rather into the group which I have already mentioned than into that now under consideration. There are, however, a sufficient number in which the moral alteration is unaccompanied by any general disturbance of intellect, to establish the fact which I wish to insist upon.

Cerebral tumour.—A girl, aged 10 years and nine months, was under my care about six months with symptoms of pontine tumour, paralysis of the sixth and seventh nerves on the left side, and paresis of the right arm and leg, only occasional headache, and then not severe, no vomiting, no fits, and no optic neuritis up to a few weeks before death. The child's general intellectual power seemed unimpaired up to the last time I saw her, about a fortnight before she died; but about two or three months after she first began to ail (the whole duration of the disease was about nine months) a change was noticed in the child; she had previously been good-tempered and obedient, she now became extremely passionate, if the food at meals was not exactly to her liking she would fling it across the table and the slightest thwarting of her wishes by her seven-year-old sister produced an outburst of rage in which she would attempt to strike her sister on the head, she was extremely self-willed and the mother repeatedly complained of the difficulty of managing her. This child was at the same time extremely emotional, a point to which I shall refer again. The necropsy showed a new growth infiltrating the pons, but more on the left side than on the right; there was some flattening of the cerebral convolutions and the whole cortex was unduly hyperæmic. The ventricles were little if at all dilated; there was no trace of new growth above the level of the pons.

Very similar was the case of a boy, aged seven and a half years, who had symptoms of intracranial growth, occasional occipital headache, fits involving chiefly the right side, vomiting and optic neuritis, with some weakness of the left external rectus and exaggeration of the knee-jerks 12 months after the first onset of symptoms the mother noticed a change in the boy's behaviour, without any general disturbance of intellect, he became extremely passionate, the least irritation—for example, his brother accidentally and very gently pushing against him—threw him into a passion in which he clenched his fists and screamed; these outbursts occurred many times a day, sometimes he would attack his brother in his passion; he had also become very disobedient, whereas previously he had been a good-tempered and obedient child.

Infantile hemiplegia may, as in a case I mentioned in my previous lecture, cause moral deficiency in association with general intellectual impairment, but in the following case it affected only the moral condition. A boy, aged about four and a half years, had left hemiplegia dating from the age of 20 months; he was an attractive child, very intelligent, and talked brightly, he was, however, extraordinarily spiteful, for instance, if knives or forks were available he would suddenly throw them at people when they were not looking, and the mother was afraid that he might do some serious injury; whilst walking in the street he had attacked with a stick children who were quite strangers to him; he had been sent to school, but was quickly sent home again as too spiteful to be allowed with other children; he was extremely passionate and if crossed in any way threw himself on the floor and screamed. Corporal punishment had been tried at times but the mother said that it made not the least difference in the boy's behaviour

Meningitis, as is well known, is sometimes ushered in by symptoms like mania but without any such profound intellectual disturbance; loss of moral control may be an early, if not the earliest, symptom. For instance, a girl, aged about 10 years, was reported by her school teacher to have unaccountably changed from an obedient well-behaved child into an extraordinarily disobedient and unruly one About a week later she became drowsy with headache and other symptoms, which pointed unmistakably to tuberculous meningitis, from which she died. In another case a boy, aged four years, after recovery from posterior basic meningitis became ludicrously passionate, beating himself in fury if meals were not ready directly he wanted them.

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[1] Lecture I. was published in THE LANCET of April 12th, 1902, p 1008.

Epilepsy also has a close relation to moral deficiency. As I have already pointed out, the imbecile with epilepsy is apt to be distinguished by his lack of moral control; as I shall show later, convulsions or epileptic attacks not infrequently figure in the early history of children who in later childhood come under observation for defect of moral control. Moreover, quite apart from any general impairment of intellect, the approach of an epileptic seizure is preceded in some children by a definite moral change. A girl, aged 10 years, who had had frequent fits since the age of 14 months, was always troublesome to manage, self-willed, disobedient, and passionate; on one occasion at the age of six years on receiving some new clothes which did not please her she flew into a passion and tore them up. These characteristics were noticeably increased for one or two days before the onset of an epileptic attack, the child at such times becoming extremely disobedient and difficult to manage. Another child, a boy, although much younger (just over three years old), may serve to illustrate the same change. He had had fits for the previous four months; their onset was said to be preceded by extraordinary excitability and spitefulness, which began two or three days before the fit, and at such times he had bitten people, and, indeed, bit a baby, aged 11 months, sufficiently severely to draw blood. Neither of these children who suffered from epilepsy showed any general disturbance of intellect.

Head injury in a boy, aged six and a half years, appeared to be the cause of a temporary loss of moral control. The boy fell down some steps, striking the left side of his head and producing a large hæmatoma which covered the whole of the parietal bone. Within a few days after the fall it was noticed that the boy's behaviour was "different altogether," so the mother said, from what it had been previously. He had now become spiteful, passionate, disobedient, and destructive. When given bread-and-milk which he did not want he flew into a passion and knocked it off the table; when told to do something against his wishes he struck his mother in the face; he had also struck the baby only nine months old; and when a little boy and girl of whom he is usually very fond came into the room he threatened that if they did not go away he would throw his toys at them, which he forthwith did; when told that his little brother, of whom he is particularly fond, was going away from home he said he was glad to get rid of him; he also tore up books and threw them in the fire. He showed no general disturbance of intellect, unless one remark made on the fourth day after the injury can be taken as evidence of a delusion. He said that his toast at breakfast was "poisoned" and he would not eat it; but there was no other evidence of any delusion, and it seems doubtful whether this remark was not rather an exaggerated expression of dislike than an actual delusion.

But it is not only with physical disease or injury directly affecting the brain, but also in relation to physical disease of more general nature, that loss of moral control is seen.

Typhoid fever in children, as in adults, is sometimes followed by a temporary insanity, but without any such general disorder of intellect the moral character may undergo a definite alteration. A girl, aged 10 years, was in the Children's Hospital suffering from typhoid fever which was severe and complicated by otitis media. For several months after this the child, who had previously been a well-behaved child, was extremely disobedient and unruly; she was spiteful and passionate. Her general intellectual condition appeared to be normal. The moral alteration persisted for some months, after which the girl gradually regained her former condition.

Diphtheria was followed by a similar change in a boy, aged five years and two months, who after the acute illness seemed nervous and excitable. He became extremely passionate; he threw a knife at someone who had crossed his wishes and on the slightest provocation he would scratch, kick, or bite; he also became disobedient and mischievous and a few days before I saw him he deliberately set fire to some clothes, apparently in a spirit of defiance, having just been warned of the danger. The boy showed not the least general impairment of intellect but there was a history of epilepsy in his sister and probably also in his uncle and aunts.

Scarlet fever in a case recorded by Dr. Hack Tuke[2] had a similar sequel. "A gentleman's son, a boy of five years old, favourably circumstanced in his moral surroundings, had an attack of scarlet fever. He recovered, but his moral character had undergone a remarkable change. Instead of being a truthful, he became a very untruthful, lad. For a time he was honest, then he began to take what was not his own without the slightest occasion for doing so. A further stage was reached—he evinced a disposition to injure others." Subsequently as a young man he had to be placed under special supervision to prevent some criminal act. In another case,[3] recorded in America, a girl was normal in every way until seven years old, when she had scarlet fever, with convulsions and delirium. On recovering from the fever she appeared to have lost her moral control. She could no longer be made to obey, she displayed violent paroxysms of passion, she had become untruthful, and when eight or nine years old she showed a marked tendency to sexual immorality. It was specially noted that there was "no intellectual impairment; she was, on the contrary, exceptionally bright." "She keenly distinguished right from wrong and only seemed lacking in the power or will to control herself." It was noteworthy that the father of this child had been melancholic and had committed suicide.

Acute rheumatism seemed to be directly related to moral alteration in a boy, aged nine years, who after an attack of rheumatic fever at seven years of age was ailing with pain in the præcordium and frequent palpitation of the heart; there was no bruit and no obvious dilatation of the heart. These symptoms lasted for some months after the acute onset and about six months after the rheumatic fever the boy, who had previously been a good-tempered, tractable child, became violently passionate; in his rage he would attack anyone with extreme fury. These attacks occurred once or twice a week, generally after some slight provocation. He was spiteful and recently had shown a disposition to kill himself. The boy had a furtive look, and whilst in the hospital he was found one morning with a draw-sheet twisted round his neck, but otherwise he showed nothing abnormal. All these symptoms gradually diminished, but at about 12 and a half years of age he had rheumatic fever again and after this again became more spiteful, taking pleasure apparently in wantonly inflicting pain on his brothers and sisters and laughing immoderately when he had succeeded in hurting them; he was also at this time extremely passionate, clenching his hands and turning pale with rage, and then pouring forth abuse. He got on well at school and seemed to be perfectly normal in intellect apart from his lack of moral control. He had convulsions during his second year and his mother had epileptic attacks for two years, from 16 to 18 years of age. Dr. Savage has referred to a similar occurrence,[4] a severe attack of rheumatic fever being followed by moral perversion.

In all these cases it seemed clear that there was a close relation between the psychical and the physical conditions, that both in fact were morbid manifestations, and in none of the cases was there evidence of any general disturbance of intellect. So that here we have, I take it, instances of a morbid alteration of moral control without any general impairment of intellect. In almost all these cases the moral change consisted in a loss of already acquired moral control; but had the physical disease occurred at an earlier age, before the development of moral control, it seems only reasonable to suppose that the moral development would have been arrested or delayed; and, indeed, this appeared to have happened in the case of infantile hemiplegia to which I have referred. This point is of some importance in its bearing on the etiology of the group of cases which I shall consider later.

The loss of so complex a mental function as moral control in children with physical disease is no doubt in part referable to its recent development, and therefore "unstable equilibrium," if one may so say; and one might compare with this the loss of speech which sometimes occurs in very young children as the result of any illness whilst speech is still in process of acquirement, and we must remember that moral control is later and much more gradual in its development than speech. This, however, is only a comparison, and whilst it seems probable that some of these cases do indicate such a retrograde change to the conditions of an earlier age, in others there would seem rather to be a morbid perversion of one or other of the mental processes concerned in moral control; in some of them there is evidently an insufficiency of inhibitory volition, as may be seen from the general excitability and emotionalism which accompanies the moral failure; in others there would seem to be a perversion of moral consciousness, which one might compare with the perversion of appetite, the craving for disgusting substances, such as earth, tallow, &c., which one sometimes sees in children who are out of health and who lose their unnatural craving when their general health improves. Whatever may be the psychical alteration in these cases they at any rate emphasise the point upon which I have already insisted—namely, the differentiation of moral control from other mental functions, albeit dependent upon the same fundamental processes of mind activity, and the differentiation, as we have now seen, is sufficient to allow of a morbid diminution of moral control without any impairment—at any rate, recognised impairment—of those other combinations of mental processes which are involved in general intellectual development.

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[2] Journal of Mental Science, July, 1885, p. 178.

[3] American Journal of Insanity, October, 1883.

[4] Journal of Mental Science, July, 1881.

So far, then, we have seen, not only that defect of moral control may be the result of congenital limitation of the capacity for its development by some morbid condition of the brain dating from antenatal life, but also that it may be due to arrest or delay of its development by physical disease occurring in infancy, and, further, that after there has already been considerable progress in its development it may be lost to a greater or less degree as the result of physical disease, particularly lesions of the brain and certain febrile conditions.

Defect of Moral Control as a Morbid Manifestation, without General Impairment of Intellect and without Physical Disease.

I turn now to the question whether similar morbid failure of moral control may not occur in children without any general impairment of intellect and without evidence of gross lesion of the brain or any more general physical disease. That moral alteration may occur as a symptom of insanity in adolescents and adults is well known, and the occurrence during adolescence of more limited psychoses affecting only the moral qualities has been pointed out by Dr Clouston. But the period to which I am referring is the period of childhood—which, if one includes infancy, extends from birth up to the age of puberty—and this, as I have already said, is the period in which moral control makes its first appearance and is gradually developed. At what age its development ceases it would be hard to say, but there can be no doubt that its most active development is in the period of childhood—from non-existence at birth up to a varying but large measure at puberty. No doubt in the years that follow puberty and which make up the period of adolescence with new and more permanent relations to environment moral control attains to a fuller degree, but its development at this period is rather the widening and strengthening of an already present function than the evolution of a new one as we see it in the infant and the young child. If, therefore, defect or delay may occur in the development of moral control apart from the associations which have been already considered it is in this earlier period that one would naturally look for its incidence. Moreover, if in adolescence instability of moral control is related to the growth and changing conditions of that function, as has been suggested, then *a fortiori* in childhood one would expect to meet with disturbances of the newly acquired function as well as failure in its development.

In considering deficiency of moral control in children apart from general impairment of intellect and apart from physical disease we are met at once by a grave difficulty. On what grounds are we to decide whether the lack of moral control is the manifestation of a morbid condition? As I have already pointed out, some range of variation is the natural outcome of differences of environment, using that term in its widest sense; but, granting this, we must also admit that with conditions of environment which are as closely as possible identical—for example, in children brought up in the same family with training and general influences apparently in every way similar—there are such wide variations in moral control as seem to point to some difference in the innate capacity for its development. Within certain limits such variation is arbitrarily recognised as normal; at any rate, it excites no suspicion of a morbid mental state, but there are certain children who show so marked a deficiency of moral control that even in large institutions containing some hundreds of children they can be picked out at once as different in this respect from all the others. This excessive degree of the defect, the outrageous character of its manifestations, is one point which, although insufficient as evidence of morbidity when taken by itself, may be important evidence when taken in conjunction with other facts.

A further point is the absence of any correspondence between the deficiency of moral control and the child's training and environment, even when allowance is made for the considerable range of variation which we arbitrarily recognise as normal at the particular age. For instance, when a boy of wealthy family, brought up by high-principled parents, surrounded with every care and refinement, and, moreover, liberally supplied with pocket-money, is expelled from school after school for petty thefts, as has happened in several cases either under my own observation or brought under my notice by others, this in itself is strongly suggestive of a morbid mental state which in almost all these cases is corroborated by other evidence to which I shall refer later. There is also another point in connexion with the manifestations of the moral defect which may have some bearing on the question of morbidity—namely, the oddity, if I may speak thus vaguely, of the child's misdoings in some cases. In his thieving, for instance, there is sometimes a handsome generosity; the child steals, but he does not want or keep for himself what he has stolen. one child pilfered repeatedly at school but on returning home would present his ill-gotten gains most dutifully to his mother, to her great distress. Or he steals but makes no use at all of the stolen property—his theft appears to be the gratification of mere acquisitiveness. Again, in their lying there is sometimes an apparent absence of any efficient motive, their lies are often picturesque inventions which remind one of the romancing which is sometimes shown by perfectly normal children during an earlier period of childhood (at about two to four years of age). I say "apparent absence," for no doubt there is always a motive, if only in self-aggrandisement. In the same connexion must be mentioned the extraordinary failure of punishment to have any deterrent effect in many of these children. In some of the cases to which I shall refer the child would commit the same misdemeanour within a few hours after punishment, although he had shown extreme fear at the time of punishment. The mother of one little girl (the child who showed permanent loss of moral control after scarlet fever) expressed this by saying that when the child was whipped "she seemed to mind it at the time but it never did her the same good it did the other children." But it is not merely to the exceptional degree of the moral defect, or to the unnatural character of the particular misdoing, that we must look for evidence of its morbid character; the antecedents, and, as later events show in some of the cases, the sequences of the lack of moral control, link it on almost indisputably to other morbid mental states. Family history throws no unimportant light on this condition, and the after-events in the career of these children, where it has been possible to trace them, should, I think, make us not merely "wise after the event" but capable of discriminating between those defects which are merely the result of faulty training and environment and those which are, indeed, the manifestation of a morbid condition. I shall refer more fully to these points in my third lecture and also to the very significant association of other psychoses and mental peculiarities with the moral deficiency in some of these children. A further indication of the morbid character of the defect which must also be considered and which is certainly sometimes of importance when taken in conjunction with those already mentioned is the presence of so-called "stigmata of degeneration." As we shall see, peculiarities of physical conformation are often associated with failure of moral control, as in other children they are associated with general impairment of intellect.

So far as my own experience goes the occurrence in children of defective moral control as a morbid condition, apart from general impairment of intellect and apart from physical disease, would appear to be by no means common. The facts and conclusions recorded here refer chiefly to 20 cases which have come under my own personal observation, but even this small number was collected partly by special effort to see such children. My observations have, however, been confirmed by comparison with the notes of a much larger number of unpublished cases, for the use of which I am deeply indebted to the kindness of Dr. Savage. In almost all these cases medical advice had been sought on account of the moral defect which had suggested to the parents or guardians that there must be some morbid mental condition. Of the 20 cases five were girls and 15 were boys, a disproportion which, I think, is not altogether accidental; at any rate, it would seem from recorded cases that boys are more frequently affected than are girls. The age at the time of observation varied from four years and eight months up to 13½ years. But there was a notable difference in the ages at which the manifestations of defective moral control had first attracted attention. In none of the cases was any such defect noticed until after the age of infancy (the end of the second year), but in three of them the child was noticed to be unusually troublesome through passionateness or spitefulness as early as the third year; in two cases nothing abnormal was noticed until the fifth year, in two probably in the sixth year, in two not until the eighth year, while in others this point was not ascertained. No doubt this difference in the dates assigned for the earliest manifestations is in some degree attributable to differences in capacity for observation on the part of the parents; moreover, one parent would not consider abnormal the early phenomena which to another were suggestive of mental disorder. But after full allowance has been made for these fallacies it seems clear that whilst in some cases the failure of normal control dates from very early in its development, in others an arrest of this development, or perhaps a loss of already acquired control, occurs at a later period of childhood.

The manifestations did not differ in character from those seen in the cases already considered. An extreme degree of passionateness was the most constant feature; but, as in the previous cases, there were in almost all the children other manifestations of defective moral control which will perhaps be shown most clearly by an account of some of the actual occurrences.

The cases fall, I think, naturally into two groups corresponding with differences in the date of the first manifestation of the morbid defect: (1) cases in which there is a morbid failure of the development of moral control; and (2) cases in which there is loss of already acquired moral control. These groups are, in fact, the counterpart of those which we have already considered, where the moral defect was associated in the one case with general impairment of intellect and in the other with physical disease.

Morbid failure of the development of moral control.—At first sight it might appear that the defect in such cases was necessarily congenital in origin, but the history in some of them strongly suggests that it is not always so; it would seem, indeed, that, as in idiocy and imbecility, while the defect may be due to a congenital limitation of the capacity for the particular development—moral in the cases under consideration, general intellectual in the idiot and imbecile—it may, on the other hand, be due to some morbid process occurring during infancy and arresting the development of moral control at a very early stage, as in other children it arrests the general intellectual development and leaves the child an idiot. A boy, aged five years and four months, was sent to me from an orphanage where he had been since the age of two and a half years. There he was thought to be different from all the other children in being of ungovernable temper; in his rage he would scratch and bite and scream. He was also very spiteful and seemed to take a delight in tormenting the other children; he sometimes took away their toys and threw them in the fire and then laughed at their grief, as the teacher said, "most hideously." He was also deceitful but had not been caught stealing. No animals were kept in the home so that there was little opportunity for the display of cruelty, but the other children had complained that he was cruel to such insect life as he could find in the garden. He was a very pleasing child to talk to, and the teacher said that he was "perfectly intelligent." His head measured 20¼ inches in maximum circumference—that is to say, it was slightly above the average; the forehead was narrow and low, there was a marked epicanthic fold, and his palate was rather narrow and high. The rest of his body was well formed. His sister, aged seven and a half years, was in the same institution and showed no abnormal moral defect. The father from his earliest years was extremely passionate, quarrelsome, and jealous; he killed the child's mother, and was then placed in a lunatic asylum. In this case the deficiency of moral control which was sufficient to mark the child as unique in an institution containing a very large number of children, together with certain, albeit slight, peculiarities of conformation, and the history of insanity in the father, all these are points which seemed to indicate that the condition was a morbid one; and judging from the very early date at which it was present (details of the child's life before two and a half years of age were not obtainable but are of no great importance as the morbid nature of a moral defect is, for the reasons already stated, hardly appreciable at so early an age), one seems justified in concluding that here there was a failure in the development of moral control, and the family history, with its suggestion of heredity, seems to point to a congenital limitation of the capacity for the development of moral control.

As another instance of this morbid failure of development I may quote the case of a boy who from a very early age, indeed almost from infancy, so the mother said, had shown a propensity for stealing. At first he would take food and articles of little value out of the cupboards, but since the age of seven years he had stolen money whenever he had had the opportunity. He was very untruthful and made every effort to conceal his thefts, hiding the stolen property in his boots or even in his stockings. This he had done again and again in spite of severe punishment. When sent on an errand he would appropriate part of the money and explain its absence by saying that there was no change or that he had lost it. When I saw him, at the age of nine years, he was filthy in his habits and frequently passed his fæces in his bed, not because of any morbid inability to control the sphincter, but because it was too cold, so he said, to get out of bed, which he refused to do. He seemed to have no shame whatever for his misdoings, and when caned for it took his punishment silently and sullenly, and no amount of punishment seemed to have any deterring effect. So far as school attainments go, he was reported by his schoolmaster to be an average boy, and there was nothing in the boy's appearance or in his conversation to suggest even the slightest degree of imbecility; but he had a furtive and sullen manner which I have noticed in other children with similar moral defect. On careful inquiry it was evident that in spite of his schoolmaster's testimony he had been backward in his earlier years, he had not learnt to walk until he was two years old, and he talked first at three years old. He had had convulsion twice at the age of 15 months, but none since. There wa difficulty in obtaining information as to the family histor except that the father had been a disreputable characte The boy had been brought up by his mother and step father, apparently with every care and endeavour to trai him properly. There seemed to be nothing in the boy's environment to account for his lack of moral control; the father had deserted the mother shortly after the child was born, so that the influence of his example could be excluded.

The next two cases which I shall mention may illustrate the morbid failure of moral development as the result of its arrest by some cerebral disturbance in early infancy. A girl, now aged 13½ years, had been unruly and difficult to manage from her earliest years; she seemed to be lacking in natural affection for her mother, she was untruthful, and she had stolen money which she used for herself. She seemed to have very little idea of obedience and at school was the plague of her teachers. She was sometimes wantonly filthy; for instance, one day she amused herself by spitting all over a shop window; she would expose herself indecently in the streets and was always "running after" the opposite sex, and on at least one occasion was said to have encouraged one of them to indecent or immoral practices with her. This child was slow and backward at school; she seemed to lack power of attention, although the schoolmistress said that she was "quite teachable" otherwise; except in her backwardness at school she might pass for a normal child. This was a tall girl with a dull expression; she had a very narrow frontal region; the maximum circumference of the head was 21⅛ inches; the palate was very high and narrow. She had never had convulsions, but birth was instrumental and very difficult, the establishment of respiration was much delayed, and there was still evidence of the difficult parturition in very slight weakness of the left arm which had apparently shown Erb's paralysis up to the age of four years. Whilst, however, the asphyxia seemed to be a probable cause for the morbid mental state it was noteworthy that the child's father was of feeble intellect and deserted the mother before the child was born.

Another child, a boy, aged five years, was brought to me with the history that he had been unusually spiteful from the age of two years; he would bite his mother and strike anyone with a stick in wanton spitefulness, a few days before he was brought to me he had thrown a glass at a child and cut its hand severely He was also extremely passionate, for instance, on two occasions when put out of the room for being naughty he had taken up a stone and flung it through the window He frequently stole, after having a good meal he would steal food out of the cupboards, he would also steal purses and hide them, but he did not use the money He was said to be very quick at school. He read small words well, knew "twice times" perfectly, and seemed to be quite up to the average in ordinary intellectual attainments, and in this respect passed for a normal child. He was, however, curiously distrait, for instance in saying "Good night' he went round the family five times one night, apparently not noticing that he had said it before, and he had done the same with his prayers. He showed also a curious perversion of appetite, almost amounting to "pica," to which I shall refer again in my last lecture. There was no history of insanity in the family, but the child had had a large number of convulsions, together with some illness which was called "compression of the brain," between one month and four months of age. He was rather late in learning to walk (he began at one year and 10 months) and also in learning to talk which he began at two years. His head measured 20¼ inches in maximum circumference—that is, about three-quarters of an inch above the average for the age. This child could not have been called backward in school attainments, there was no general intellectual impairment but none the less the peculiarities to which I have referred pointed to an abnormal mental condition underlying the failure of moral control and the history of severe cerebral disturbance in early infancy suggests that the moral development had been arrested thereby

Loss of already acquired moral control—In this second group, as I have said, the earliest manifestations of moral defect appear at an age when some considerable progress has already been made in the development of moral control the child who has hitherto been a normally well behaved, perhaps an exemplary child, shows an unaccountable change of character, the good tempered, tractable child becomes violently passionate and unruly, the truthful and honest child seems to have lost all sense of honesty, and natural affection seems to have disappeared And here, again I would point out that this group probably includes cases which are not altogether similar in character—at any rate, they differ markedly in the course which they run, for whilst in one case the loss of moral control appears to be permanent, if one may judge from a duration of years, in another it lasts only a few weeks or months, and in a third, as I shall show, it would seem to be a recurrent disorder Whether in any of these cases moral control is fully up to the average standard before the defect attracts attention may be doubtful, but it is clear that the manifestations to which I refer are in marked contrast with the child's previous behaviour

A boy, aged nine and a half years, has been under my care for the past 12 months. Up to the age of seven years and one month he was a very obedient, well behaved child but he was said to have been always rather bad tempered He learnt to walk at 18 months, and talked well at two years. He had convulsions repeatedly at the age of 10 months but otherwise he was thought to be a perfectly healthy child until the onset of the present condition Just after the age of seven years he seemed to alter altogether; he became extremely disobedient, taking little or no notice of commands. He was very self willed, for instance, on receiving a new hat he refused to wear his old one and, rather than do so, disposed of it altogether, the mother thinks, by burning it, and if he did not like his clothes he would tear them to pieces. He showed also an unnatural cruelty, he was found one day cutting up a rabbit alive with scissors and was already, so the mother said, "smothered in blood." At another time he was found beating chickens with a stick, taken to Sunday school he was so outrageously unruly and quarrelsome that he had not been allowed to go again, and at day school he was a continual trouble. For some time past he had pilfered small articles at home and quite recently he had stolen half a-crown from his mother On being taxed with these and other misdemeanours he denied them flatly and on being driven into a corner, so to speak, invented the most plausible tales to account for them. Although extremely frightened by corporal punishment he would commit the very same offence almost directly afterwards. When I first saw him he would smear his fæces about the wall of the water closet and sometimes about his bed, but he had not done this recently With this history one might expect to see a child of obviously defective intellect, if not an actual idiot, but the facts are far otherwise. He is a bright, attractive little fellow with a pleasing face, his conversation also is bright and intelligent, he is backward in school attainments but his attendance has been very irregular and he shows that lack of attention which is very noticeable in many of these cases and which no doubt accounts to a considerable extent for backwardness in school acquirements. In such a case the degree and persistence of the moral deficiency as shown in the manifestations which I have described, and also the contrast between the present and the previous condition without any apparent explanation in changed influences or environment—these alone might warrant us in regarding the loss of moral control as the manifestation of a morbid mental state, but here there is confirmatory evidence in the family history the child's maternal grandfather attempted suicide three times, his great grandfather was thought to have done the same, the paternal grandfather is now insane, and the mother's uncle died in a lunatic asylum. The boy shows no "stigmata of degeneration" unless the unusual size of the head be considered as such, in its maximum circumference it measured 21⅜ inches at the age of eight years and three months. I may add that before this boy came to me he had been seen by three medical men all of whom were, quite independently of each other I believe of opinion that, owing to his cruel and dangerous propensities he ought to be placed under restraint in some asylum

Another boy was brought to me at the age of five years with a history that for two months he had been very excitable and had at the same time become extremely spiteful, throwing things at people apparently in wanton spitefulness and attacking strange children in the street without any provocation, he had expressed a wish one day to "chop his mother's head off with a chopper, and was caught one day in the act of putting the cat into the fire, and on a subsequent occasion he attempted to put it into a copper of boiling water I saw this boy 18 months later when he was said still to be very excitable and extremely passionate, kicking or striking anyone who offended him Nine months previously he had hit his mother on the head with a big toy gun because he could not have some trifling thing that he wanted, he was also said to be spiteful to other children. He was untruthful, but his lying was of the purely romantic type, so much so that it was difficult to imagine that the boy intended to deceive His head was unusually large, measuring 21⅛ inches in maximum circumference at the age of six and a half years He is a heavy looking but well grown boy and he is fully up to the average in school attainments. His maternal grandfather had diabetes one maternal uncle attempted suicide twice and two other maternal uncles have become confirmed drunkards. The boy's parents are respectable middle-class people and seemed to give the child excellent care

Of course without watching such a case for a much longer period one could not be certain that the condition was permanent, but its already long duration with very little improvement suggests that it is so The same doubt must attach to the case of a boy aged five years and 10 months who was brought to me on account of persistent stealing and lying Nothing of the kind had occurred until about five months previously when he brought home two door keys and said that he had found them. It was proved that he had taken them out of the doors at school He was severely punished but three weeks later he brought home an inkpot which he presented to his mother, saying that he had found it, this also had been stolen out of a school cupboard Soon after this he stole a chain from one of his schoolfellows, and when suspicion was aroused by it at home he invented a plausible tale of receiving it in exchange. The stealing had become so frequent when I saw him that it was necessary to search him daily before he left school The parents were much distressed and had evidently taken unusual pains to train the child aright. The boy seemed perfectly bright and intelligent but he had only learnt to walk at 21 months and did not talk until he was two and a half years old, and then only said single words There was no family history of insanity or neurosis and the boy showed no "stigmata of degeneration"

In other cases the subsequent history has shown that the loss of moral control was temporary. For instance, in a girl, aged four years and three months, nothing abnormal was noticed until the age of four years and then almost suddenly she became so passionate that she was brought to the Children's Hospital with the idea that there must be some mental disorder. The least thwarting of her wishes would produce an outburst of rage in which she would tear her clothes and fling china or anything near down upon the ground, and she would scratch or bite anyone who offended her. Sometimes in her rage she would bang her head against anything near and twice she had been sent home from school for fear she should injure herself. These manifestations lasted for nearly four months and then ceased. She is now, five years later, not a good-tempered child but she shows no abnormal defect of moral control. She is fully up to the average in school attainments; but her palate is extremely high and narrow and she shows marked fidgety, almost choreiform, movements such as Dr. Warner called "microkinesis"; the mother is also a very nervous woman and says that she has frequent twitchings in her limbs and face; the child's brother has recurrent outbursts of rage and excitement to which I shall refer in my next lecture. There was no insanity in the family.

Another child, a boy, aged four years and two months, was brought to the hospital because he had recently changed in disposition; he seemed to have lost all sense of obedience, so as to be almost unmanageable; he was restless and he was also spiteful. He showed at the same time an interesting association in a temporary diurnal incontinence of fæces—a condition which, as is well known, occurs specially in children of unstable nervous equilibrium. After a few weeks the lawlessness and spitefulness were much less marked and then very quickly disappeared; there had been no recurrence when I heard of the child again two years later.

It would seem, then, from clinical evidence, that, as was suggested by the lack of any constant proportion between general intellectual and moral defect in imbeciles, a morbid defect of moral control may occur apart from any general impairment of intellect. The possibility of such an occurrence was confirmed by the relation of moral defect to physical disease in certain cases where there was no general impairment of intellect. We have considered, also, the occurrence of a morbid defect of moral control apart from obvious physical disease, and we have seen that we can recognise in children both a morbid failure in the development of moral control and also a morbid loss of already acquired moral control. In my next lecture I shall mention a further variety of these manifestations, and consider more fully some of the grounds upon which these defects are regarded as morbid

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The Lumleian Lectures

ON

THE COMPREHENSIVE STUDY OF THORACIC PHTHISIS.

Delivered before the Royal College of Physicians of London on March 13th, 18th, and 20th, 1902,

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LECTURE III.[1]

Delivered on March 20th 1902.

III.—CLINICAL HISTORY AND INVESTIGATION.

MR. PRESIDENT AND GENTLEMEN,—The clinical aspect of thoracic phthisis opens up a very wide field, but here again I must confine myself to the discussion of my subject on very general lines. An intelligent conception of the clinical history and manifestations of thoracic phthisis can only be founded on a fairly comprehensive and systematic knowledge of the pathological conditions which have been dealt with in the preceding lecture and of their effects. Moreover, for the practical investigation of individual cases it is essential that the observer should have had an adequate training in the study of symptoms as well as in, at any rate, the ordinary skilled methods of examination, the application of which is absolutely necessary in order to form a positive and reliable diagnosis. I venture to remind the modern medical student that the ability to investigate, or what may be termed the "art of examination," even in a common case of "consumption," is not acquired or mastered in a day or without intelligent effort on his part and the more personal experience which he has enjoyed in relation to these cases the more competent and capable will he become to recognise and understand them in practice. To anyone thus qualified there ought to be little or no difficulty in dealing with the large majority of such cases from the diagnostic point of view or in estimating the significance of all the important clinical facts which may be noted. But to suppose that any uneducated, untrained, and ignorant impostor who claims to have discovered a "cure for consumption" is in the least degree competent to determine or to comprehend the conditions with which he is dealing is obviously most absurd and preposterous.

Cases of thoracic phthisis come before the practitioner under very different aspects and, assuming that he has the requisite knowledge and skill, there are certain general principles in dealing with them which need to be strenuously urged at the present day. In the first place, as we are all now so eager to detect the disease in the very early stage, with the view of arresting and curing it, it follows that we cannot be too much on the alert in watching for it when it is not definitely revealed or known to exist, especially under circumstances in which its advent is not improbable. From this point of view there is no excuse for ignoring or neglecting suspicious symptoms, however slight; and it is highly desirable to impress upon the community generally this important principle, for undoubtedly patients themselves are often to blame in this matter. If an individual is known to have had an attack of pleurisy with effusion or pneumonia particular attention should be paid to the case, and it would be well as a precautionary measure to examine the chest from time to time even if there are no symptoms. It cannot be doubted that from a neglect of this practice a large number of cases of phthisis have made considerable progress before the mischief is discovered, the disease having by that time gained a firm hold upon the lungs or other structures. Secondly, it is necessary to be always prepared for cases which do not fall in with the usual conception of phthisis, especially those of a more acute nature, as otherwise very serious mistakes in diagnosis are liable to be made. Thirdly, when a case of recognised thoracic phthisis comes under the care of the practitioner he *should never* deal with it in an offhand and casual way but should take the trouble to study it clinically in all its aspects and to try to understand the actual conditions with which he has to deal within practical and rational limits. If this were done more generally and as a matter of routine I venture to say that treatment would be founded on a much more definite and sound basis than it often is at the present time.

The clinical study of thoracic phthisis naturally presents itself under the three divisions of: *A.*—Mode of onset or manifestation; *B.*—Personal clinical investigation; and *C.*—Course and terminations. I now proceed to deal, so far as time permits, with these several aspects of the subject in turn.

A.—MODE OF ONSET OR MANIFESTATION.

Under this head I desire to indicate not only how thoracic phthisis may actually begin but in what ways it may be manifested in ordinary practice. Excluding cases originating under special and exceptional circumstances, the modes in which the complaint may be revealed clinically are as follows:—

1. With a *sudden*, more or less grave, symptom or lesion. Hæmoptysis and pneumothorax are the important events to be noted under this head, and especially the former, which is by no means uncommon. Their relation to phthisical changes has already been considered, and it will suffice to remark here that either of them may be the first definite manifestation of the existence of phthisis, quite apart from the fact that the practitioner may be called in to a case in which the disease is known to be present, though he is personally altogether unacquainted with the previous conditions. Under these circumstances it may be inexpedient to attempt, or

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[1] Lectures I. and II. were published in THE LANCET of March 29th (p. 867) and April 5th (p. 937), 1902, respectively.

impossible to arrive at, anything like accurate or complete diagnosis, but the possibility of pneumothorax should always be borne in mind.

2. As an *acute* or *subacute* illness definitely associated with the chest, though not always entirely confined to this region. Moreover, the thoracic changes may be secondary to some other affection, such as influenza, measles, or whooping-cough. Cases coming under this category are by no means uncommon and they may be briefly indicated as follows:—(*a*) Those which are merely a part of *general acute miliary tuberculosis* Here the pleuræ and pericardium as well as the lungs may be involved (*b*) *Acute miliary tuberculosis limited to the lungs*, it may be to one lung, associated with an old general pleuritic adhesion, of which I have met with a very interesting example (*c*) Cases of an *ordinary pneumonic* type, involving a lobe or an entire lung, or even both organs The consolidation as a rule breaks down rapidly but in some instances it remains as a more or less chronic condition, ultimately becoming disorganised, though occasionally most of it clears up I have a strong impression that a certain proportion of the rapidly destructive and fatal cases of acute pneumonia which are so disturbing nowadays are really tuberculous, and I have met with some such cases in which I could without doubt associate the condition with previous unrecognised chronic phthisical lesions. On the other hand, it is important to note that pneumonia occurring in a case of definite or even pronounced phthisis may end in recovery. There is rather a prevalent idea, I believe, that apical pneumonia is always tuberculous, but judging by the satisfactory results in several cases which have come under my observation I do not think that there is any real foundation for this notion (*d*) Cases of a *broncho-pneumonic* or *catarrhal pneumonic* type, combined with more or less diffuse tubercle, followed by rapid caseation and destruction of the pulmonary tissues. These cases are of much more common occurrence and form the larger proportion of those recognised as "galloping consumption" Both lungs are usually affected, either from the first or very speedily This form is not uncommon in children, especially after measles or whooping-cough, but it also occurs in adults and follows hæmorrhage in many instances (*e*) Cases which appear as *pleurisy*, sometimes with extensive and diffused patches of lymph-exudation and of a "dry" type, but as a rule with more or less abundant effusion. The more typical cases of tuberculous pleurisy with effusion often present striking features which cannot be overlooked They may come on in quite a latent manner without any prominent symptoms, but this is by no means always the case Usually the fluid increases steadily and shows no indication of absorption, while it tends to return again and again after removal by operation. The fluid is usually sero fibrinous, sometimes hæmorrhagic, but may be purulent, or becomes so later on. In some instances the pleurisy is bilateral or one side is attacked after the other As I have previously stated, the fluid in undoubted cases of tuberculous pleurisy is sometimes absorbed sooner or later, adhesions being subsequently formed. (*f*) Cases of a *mixed* character, in which both lung and pleura are involved in various degrees, the pulmonary lesions being either obviously pneumonic, or tuberculous, or both. This group of cases is quite definite and I have met with several instances. Possibly the pericardium may be implicated, but I cannot speak positively on this point from personal observation

3. As a *primary and independent chronic disease* of the lung and adjacent pleura in the large majority of cases beginning near the apex on one or both sides, and tending to progress in a downward direction, but usually slowly and often insidiously This is frequently accompanied with catarrh of the main air tube, or even some degree of bronchitis, or occasionally there is an asthmatic tendency. The symptoms are generally attributed to a "bad cold" or "cold upon cold" The changes may or may not be detected at an early period, but the mischief has often made considerable progress before it is discovered. The ordinary run of cases of thoracic phthisis belong to this category

4 As a *primary laryngeal tuberculosis* with prominent local symptoms and objective manifestations, followed by implication of the lungs and other thoracic structures. Sometimes the disease declares itself in both larynx and lung from an early period, so that it may be impossible to determine exactly where it started.

5 As a *complication* upon some previous morbid conditions affecting the chest which have been known to exist and are not uncommonly pronounced. Under this category I would draw special attention to cases of phthisis following prolonged chronic bronchitis, either alone or accompanied with emphysema; plastic bronchitis; extensive pleural adhesion or other remains of pleurisy; some forms of fibrotic lung; syphilitic lesions; and aneurysm. In the pleural cases the phthisical lesions often develop at quite a remote period after one or more definite attacks of pleurisy or pneumonia, which may have been entirely forgotten unless careful inquiry elicits a history of their occurrence. There may, however, be no history of such an attack and yet the adherent pleura is obvious enough. The phthisical changes which supervene in this group are generally chronic in their development, but sometimes an acute phthisis is set up.

6. As a *primary glandular affection* in the mediastinum, with obvious clinical signs, afterwards invading the lungs or other structures. This class of case is chiefly met with in children

7 As a *secondary manifestation of tuberculous disease*, either acute or chronic, in cases where similar mischief is known to exist in other structures, altogether remote from the chest.

8. As a *complication* in the course of one or other of the general or non-tuberculous local complaints with which thoracic phthisis is known to be associated Of these diabetes is a fairly typical example.

B—PERSONAL CLINICAL INVESTIGATION

I propose under this heading to give a general outline of the course of procedure which may be called for in the clinical investigation of a case of thoracic phthisis, and of the phenomena to be studied What may actually be required in individual instances will depend upon circumstances, and the practitioner must be guided in this matter by his knowledge, practical training, and experience, aided by intelligent judgment and common-sense. It cannot be too strongly insisted upon at the present day that the rational, and indeed essential, investigation of a case of thoracic phthisis involves a great deal more than the examination of sputum for tubercle bacilli, or the employment of other scientific modern methods which threaten to supplant the teaching and experience of the past. There are certain parts of the investigation which ought never to be omitted or neglected, while others are only required under particular circumstances.

Taking, then, a comprehensive survey of what may be termed the stages of clinical investigation for purposes of diagnosis which may be called for or which have been advocated in dealing with cases of thoracic phthisis, they may be thus enumerated 1. The observation and study of symptoms—symptomatology 2. Physical examination of the chest and its vicinity by the ordinary simple methods 3. Examination by special instruments or apparatus 4 Skilled examination of the sputum or expectoration 5 Examination of the throat and main air-passage, including laryngoscopy 6. Removal of fluid from the pleural cavity, or possibly of other morbid products from the chest, either for general examination or for further scientific investigation. 7 Inoculation with tuberculin. 8. Agglutination-test. 9 The use of the Roentgen rays. I will now discuss these several stages in the order in which they have been enumerated

1.—*Symptomatology*

The observation and study of the phenomena which in ordinary language we term "symptoms" is of the highest importance in relation to thoracic phthisis from different points of view Although in doing so I must necessarily be going over ground which is perfectly familiar to any well-informed medical practitioner I should hardly do justice to my subject if I did not indicate briefly the nature of these phenomena, and I trust, therefore, that I may be excused if I appear to trouble you with information which is needless and unworthy of the occasion. The symptoms may be primarily grouped under the following heads: (1) local, associated with the chest and upper air-passages; (2) general or constitutional, affecting the entire system more or less; (3) symptoms connected with the digestive organs; (4) symptoms resulting from tuberculosis of other structures remote from the chest and respiratory apparatus; (5) symptoms due to some general or local disease to which the phthisical condition is secondary, (6) symptoms associated with various complications, non tuberculous but related to the phthisis, or it may be quite accidental and independent; and (7) mental symptoms The individual phenomena coming under these several groups present themselves in various degrees and combinations in different cases, and I now proceed to enumerate them.

1. The more common *local* symptoms include painful or other morbid sensations associated with the chest or air-passages; disorders of respiration of different kinds; cough; materials discharged as expectoration; hæmoptysis; and changes in the voice—especially huskiness or hoarseness, In certain conditions or exceptional cases there may be a troublesome welling-up of secretion from the air-passages which has to be cleared away by voluntary effort when it reaches the throat; obvious wheezy or other noisy sounds during breathing; a foul smell of the breath, or more particularly of the expired air after a cough; certain pressure symptoms; marked disturbance of the cardiac action, apart from mere change in its frequency and strength; or dysphagia.

2. Under *general* symptoms may be first noted any original delicacy of the individual, or the signs of a distinct tuberculous or strumous diathesis. The other chief phenomena are mere increase in temperature or pyrexia, as determined by the clinical thermometer; definite fever or febrile paroxysms, often accompanied with chilliness or actual rigors and of a hectic type, it may be accompanied with the "hectic flush"; a rapid pulse, with changes in its characters; wasting, culminating in positive emaciation, which may be extreme; anæmia, which may be a prominent early symptom; excessive sweating, often profuse, especially during the night, or rather in the early morning, or with sleep at any time, generally associated with fever; and subjective sensations of languor, fatigue on slight exertion, more or less weakness, exhaustion, or actual prostration and helplessness. Cessation of menstruation may be regarded as a symptom of general significance in some cases. A certain degree of œdema of the legs is not uncommon, apart from dropsy due to complications. Cyanosis is marked in certain acute cases, but is quite exceptional in uncomplicated chronic phthisis. Sometimes the skin is abnormally dry as well as hot, or the palms and soles burn. In advanced cases there are various general symptoms indicating profound failure of nutrition of all the structures, and these may be very pronounced in connexion with the skin, hair, nails, &c. At this period, also, the temperature often falls below normal, and there may ultimately be a condition of more or less collapse. Some writers attach special importance to certain particular symptoms as connected with phthisis, but even when present they only occur in well-marked cases and are of little, if any, significance. The characters of the urine vary considerably, and nothing definite can be said on this point.

3. Symptoms connected with the *digestive system* are of great importance in relation to thoracic phthisis and should always receive special attention. They may be pronounced at a very early period, even before there are any indications of chest trouble, but I must say I have not met with many cases presenting the definite "gastric onset" described by some writers or any particular form of dyspepsia. The symptoms to be particularly noted are impairment or loss of appetite, which may amount to total anorexia and entire aversion to food; thirst not uncommonly; a furred or red and irritable tongue and unhealthy condition of the mouth; nausea and tendency to sickness, or actual vomiting, especially after cough, though in some cases quite independent of this act; dyspeptic symptoms, such as acidity or flatulence; and constipation as a rule. The breath is also often peculiarly unpleasant. The red line which is sometimes observed on the gums in advanced cases is by no means peculiar to phthisis. It is a remarkable fact that even in acute or extensive chronic phthisis in its later stages there may be no gastric symptoms whatever, the patient enjoying his food thoroughly and digesting it without any difficulty.

4 The symptoms due to *tuberculosis affecting other structures* vary, of course, with the seat of the trouble, and they are sometimes decidedly complicated. Among the chief structures which are likely to be involved it will suffice to mention the mouth and throat, the intestines, the peritoneum, the absorbent glands, the urinary organs, the genital system in the male or female, and the central nervous system.

5 and 6. The phenomena coming under these groups and which are either associated with diseases preceding the phthisical condition, or with morbid changes occurring as complications during its progress, also necessarily differ in different cases, and I only allude to them in order to remark that they should always be borne in mind and duly recognised when present in individual instances.

7. As regards mental symptoms, it will suffice to note that they may be pronounced in acute phthisical cases and at the termination of chronic cases.

General remarks.—It is obviously quite out of the question to attempt any discussion of individual symptoms in these lectures, though I have notes of many practical points which I should have liked to refer to. I must content myself with offering a few general observations in relation to this part of my subject.

1. The frequent development of thoracic phthisis without any definite local symptoms for a variable period must always be borne in mind. Even in acute cases they may be practically absent for some time or throughout, while general symptoms are pronounced but are misunderstood. It is in the more chronic forms of the disease, however, that its development with little or no local symptomatic manifestations must be particularly remembered in order to avoid errors in diagnosis. There may be literally no symptoms whatever. Not uncommonly, however, slight symptoms are present, such as a hacking dry cough, slight shortness of breath, or huskiness, but they are thought to be of no consequence and it may be a considerable time before they excite any actual alarm, when it is found on examination that the mischief has gained a firm hold. Patients often attach much more importance to localised pain or tenderness and still more to the faintest suspicion of blood; but while these phenomena should always receive adequate attention they are really often of far less significance than those just mentioned. Pronounced tenderness or hyperæsthesia over the apical region of a lung should, however, never be disregarded. In these early cases without prominent local symptoms the careful observation and study of phenomena of a general nature may be of the utmost diagnostic service, as well as of symptoms connected with the alimentary canal and menstrual disorders in young females.

There is another class of case where the onset of thoracic phthisis is liable to be overlooked from a symptomatic point of view—namely, when the patient has suffered from chronic bronchitis, giving rise to more or less constant or frequent cough and expectoration; or when such symptoms occur habitually in the morning in connexion with catarrh of the throat and upper air-passage, usually traceable to definite causes. A similar difficulty may arise in asthmatic cases. Here, again, the study of general symptoms is highly important from a diagnostic point of view.

2. In definite cases of thoracic phthisis symptoms are, as a rule, more or less pronounced, and in most instances they can be recognised with little or no trouble, being often, indeed, but too evident. Still, it cannot be too strongly insisted upon that it is not sufficient merely to enumerate them casually, and that they ought always to be adequately inquired about or personally observed and investigated, so far as is practicable. I feel sure that there is far too much neglect in this direction, most cases being dealt with in a very summary fashion as regards their symptomatology, to the detriment of the patient in many ways. With respect to local symptoms it is highly important that they should be intelligently studied individually, in their mutual bearings, and in relation to the actual thoracic conditions which exist, as determined by physical and other methods of investigation. I particularly wish to draw attention to the diagnostic value of sputum as a mere symptom and also to the indications afforded by disorders of respiration. With regard to hæmoptysis there is, I have reason to know, an exaggerated impression even amongst members of the profession as to its supposed essential relation to phthisis. As a matter of fact it is absent in a considerable percentage of cases from first to last. Among the general symptoms, in the determination of the bodily temperature and weight of the patient the clinical thermometer and weighing-machine should be systematically employed, when obviously required and when circumstances permit. I cannot enter into any details here on this point, but investigation as regards pyrexia is highly important and some observers advocate that the temperature should always be taken in the rectum.

3. As regards the actual symptoms associated with thoracic phthisis we have to be prepared to meet with great diversity in their exact nature, severity, and combinations; while they often change markedly during the progress of the complaint should it be prolonged. Things are not

uncommonly very complicated in this respect, giving rise to much difficulty in treatment.

4. The study of certain individual symptoms is of the highest interest in connexion with the general subject of thoracic phthisis as well as in not a few individual cases. To these, however, I cannot now refer more particularly.

2.—*Physical Examination.*

Notwithstanding the advances which have been made in the scientific clinical study and diagnosis of thoracic phthisis, in my opinion physical examination of the chest still holds its own, and it is the greatest possible mistake to attempt to minimise its value or even to suggest to the rising and future generations of the medical profession that any other method of investigation can take its place in ordinary practice. Such examination is always immediately available, and I have no hesitation in affirming that if it were carried out more as a routine practice when there are any suspicious symptoms of phthisis, whether local or general, or more often both, and in cases of neglected cough, an early and positive diagnosis would be made much more frequently than is the case at present. But to be of any reliable service it must be performed on rational, comprehensive, and systematic lines, with some intelligent conception of the purposes for which it is intended. The actual course of procedure will have to be modified according to circumstances, and in dealing with acute or advanced cases of thoracic phthisis the examination must be particularly conducted with due regard to the condition of the patient so as to guard against unnecessary disturbance or positive injury.

At the outset it is desirable to recognise clearly the purposes which physical examination of the chest has in view in relation to thoracic phthisis and they may be thus summarised: (1) to recognise the mere presence of pulmonary tuberculosis, especially in its earlier stages; (2) to determine the extent of the mischief in the lungs and whether it is unilateral or bilateral; (3) to find out whether other thoracic structures are involved in any way and which; (4) to make out as definitely as possible what are the actual conditions present, both pulmonary and extra-pulmonary; and (5) to watch the progress of the disease in the lungs, especially when of an active type, and to be on the look-out for the development of acute or accidental complications or for other organic changes of a more chronic nature which may be of more or less importance.

Outline of the course of examination.—I propose now to give a sketch of the mode of procedure which may be conveniently followed in the physical examination of phthisical cases under ordinary circumstances, and to call attention to certain points which I think worthy of special notice.

A. It cannot be too strongly insisted upon that for several reasons the examination should always in the first instance include the whole chest, and it is often a source of serious error to confine it to the regions of the apices, on the supposition that the phthisical lesions always begin there. If there be no reason to the contrary the plan I habitually adopt is to get a comprehensive view for a moment of the stripped thorax; then, covering it with some suitable garment, to carry out further examination more leisurely, without needless exposure, of which not a few patients or their friends have an intense dread. When examining the upper thorax it is most important, not merely to study the apices in front, but also the supra-spinous and interscapular regions posteriorly, where the signs are not uncommonly well-marked when absent or indefinite anteriorly. Attention should also be paid to the supra-clavicular as well as to the infra-clavicular spaces and when percussing to the clavicular region. Moreover, when comparing the apices it must not be forgotten that both may be affected and the want of contrast in the signs may be decidedly misleading. Of course, the disease may possibly start in other regions or be disseminated, and this fact should always be borne in mind when examining the thorax for phthisis. The extent of the mischief can obviously be determined only by a comprehensive investigation of the entire region.

B. The four ordinary methods of physical examination—namely, inspection, palpation, percussion, and auscultation—should be thoroughly and efficiently made use of for the recognised purposes for which they are severally intended. I feel sure that the two simpler methods first mentioned are not employed systematically to anything like the extent that they ought to be and thus important diagnostic factors are lost sight of. Of course, percussion and auscultation afford the more definite and positive signs of phthisical and associated lesions and these always demand careful study. I dare say that auscultatory percussion may be useful sometimes but I cannot affirm that I have found it necessary to avail myself of its help. Under special circumstances we may elicit the "bell-sound" or bring out "succussion signs" in cases of thoracic phthisis, mainly, of course, in relation to pneumothorax and its accompaniments. For a practical plan of investigating and recording physical signs in connexion with the chest, which I think may be useful as a basis and guide in dealing with cases of thoracic phthisis, I venture to refer you to an article which I contributed to the *Edinburgh Medical Journal* in 1898 on "The Systematic Physical Examination of the Chest."

C. In the very early stage of pulmonary phthisis of a definitely tuberculous nature, involving the vicinity of the apex of a lung, examination has to be made with special care, behind as well as in front, and due weight must be given, not to any one sign, but to a combination of slight signs. It is necessary here, however, to warn against mistaking an apical adhesion for early phthisis. Even when tuberculosis actually exists physical signs are by no means always so definite at a first examination as to enable a positive diagnosis to be made, though I must say that sufficiently characteristic phenomena are sometimes not detected or duly appreciated from want of experience or of adequate examination. *Under these circumstances repetition of the* examination is obviously called for—it may be several times at short intervals—in cases which still give occasion for suspicion or anxiety, or where an apical adhesion exists. There are not a few cases of supposed phthisis in which the investigation shows at once and conclusively that there is nothing whatever the matter, so that it may be of negative as well as positive diagnostic value. As a matter of course, repeated examination is necessary at intervals, varying according to the nature of the case, when it is desirable to watch the progress of the lesions in definitely recognised phthisis.

D. The manifest purposes for which physical examination is intended in relation to thoracic phthisis are to recognise and to study the pathological conditions which I have previously discussed so far as they are revealed by physical signs. It may be well if I endeavour to explain briefly the practical application of the several methods from this point of view, and to indicate the course of procedure which may be conveniently followed as a matter of routine.

1. Particular attention should invariably be first paid to the *superficial structures*, especially to determine whether there is wasting and its degree, taking also into account the mammary glands. Should there be marked emaciation due allowance must be made for this condition in the further investigation, else serious mistakes in diagnosis are liable to be made. It must not be supposed, however, that these tissues are always atrophied in cases of phthisis, for the chest may be well covered even when there is extensive disease within. Any enlargement of veins or venules, glandular or other external evidences of tuberculosis, subcutaneous emphysema, or other superficial conditions should be noted and are hardly likely to be overlooked by an ordinarily careful observer.

2. It is always desirable to endeavour to make out what has been the *original state of the thorax* as regards conformation and capacity, independent of any changes due to actual phthisis. An abnormally small and contracted chest, inherent to the individual, is always a disadvantage, whether of the elongated and narrow or flattened type, or both, which is most common. In some instances it may be observed that the thorax has been unduly distended previously to the development of phthisis, and therefore a large chest must not always be regarded as a favourable indication.

3. Any preceding *deformity* must be duly noted and an endeavour made to understand its nature and origin and how far it interferes with the capacity of the chest or with its contents. When pronounced it is not likely to be overlooked, but the slighter malformations, such as pigeon-breast or rickety thorax, by no means always receive the attention they deserve. The changes in the shape and size of the thorax resulting from the intra-thoracic phthisical lesions constitute one class of definite signs of the complaint, and must be studied systematically from that point of view.

4. The next step is to determine the *degree of mobility of the thoracic framework*, which is more or less diminished in many cases of phthisis, and the chest may be absolutely rigid

and fixed. This difficulty is of much consequence in not a few instances, and I desire to emphasise the necessity of recognising it and endeavouring to estimate its degree as a matter of routine in cases of this nature, but particularly in those of a very chronic type and in elderly persons.

5. Abnormal physical conditions of one kind or another associated with the *pleura* are present in practically all cases of thoracic phthisis and should always be systematically looked for. They include morbid states of the surfaces, due to dry pleurisy or to tubercle; fluid effusions of different kinds; adhesions, varying in extent, often with more or less thickening; and the presence of gas or of gas and fluid in the pleural sac. Most of these are likely to attract attention when present and their signs are as a rule sufficiently characteristic. I must again, however, emphasise the necessity of always remembering pleuritic adhesions and endeavouring not only to recognise their existence but to estimate their effects in a particular case. It must also be borne in mind that the conditions mentioned may be variously combined and the physical signs are then sometimes difficult to understand.

6. The changes in the *lungs* are, of course, the most important to be studied by physical examination as a rule, and so far as the phthisical process is concerned they are practically of four kinds—namely: (1) primary consolidation, tuberculous or pneumonic, or both; (2) softening and breaking down of this consolidation; (3) cavities or vomicæ, presenting considerable varieties, with corresponding differences in the physical signs; and (4) fibrosis, giving rise to more or less dense induration and having peculiar signs of its own. In addition to these conditions, however, we have to bear in mind others which are so often associated with the more pronounced phthisical lesions, especially bronchitis, distension of portions of lung or true emphysema, pulmonary collapse in parts, bronchiectasis, and hæmorrhage or its remains.

It is altogether outside my purpose to describe the physical signs of the several conditions just mentioned in any way, as they must be quite familiar to anyone who has been properly trained in physical examination of the chest. There are two or three practical points, however, to which I desire to refer.

(*a*) I think that there is a very prevalent tendency to expect pronounced signs of consolidation in the early period or so-called "first stage" of phthisis and hence to fail to recognise the presence of the disease until it has made considerable progress. As a matter of fact it is often some time before the signs of pulmonary consolidation are at all characteristic, except, of course, in cases of an acute or subacute type with definite pneumonic lesions.

(*b*) In cases where the signs are practically of the nature of adventitious sounds or râles, heard on auscultation, there is much danger of regarding them as merely bronchitic, when they really indicate a grave type of tuberculous phthisis. Moreover, when bronchitis, especially with much emphysema, has previously existed as a chronic condition the supervention of phthisical lesions may be very difficult to detect and needs to be watched for with particular care. It may be affirmed as a general statement that adventitious sounds limited to the upper part of the chest, and especially to one side, even though there be no definite signs of consolidation, are not merely bronchitic and should always be regarded with suspicion and as usually indicating a phthisical process.

(*c*) Another mistake which I have found very prevalent is to expect the typical signs of a cavity or cavities in the lung before coming to a diagnosis that such a lesion exists. It not uncommonly happens that a vomica is so small that it gives no characteristic signs whatever and we have to rely simply on the character of the râles, commonly described by the comprehensive but somewhat indefinite term "crepitation," and especially *those brought out with or after the act of coughing*. Of course, it is difficult in certain cases to distinguish between mere softening and small cavities but I feel sure that the latter are not uncommonly overlooked when they ought to be recognised, and I have known cases where the lungs have become riddled throughout with cavities which were never diagnosed for the reason to which I have just referred. On the other hand, it must be noted that sometimes the signs of cavity are simulated when such a condition does not exist. When a cavity or cavities are present the signs should always be carefully studied in order to determine as accurately as possible the actual conditions with which we have to deal in relation to these lesions.

(*d*) I have been much struck by the fact how frequently the existence of pronounced fibrosis in cases of thoracic phthisis has been misunderstood, as distinguished from the primary consolidation, especially when limited to an apex. Many a time have I known such a condition diagnosed as the "first stage" of consumption when in reality it was the "fourth stage," if such terms should be applied to the pathological changes at all. The pronounced differences between the signs of early consolidation and those of late induration ought therefore always to be kept prominently in mind in order to avoid serious error.

(*e*) There is one factor which must not be overlooked in the class of cases known as "mechanical phthisis," as contributing to signs of consolidation, and that is the presence in the lungs of solid particles inhaled from without, which may ultimately form considerable and widely-diffused accumulations.

7. It is well to make it a rule in cases of thoracic phthisis always to examine the *heart* and in doing so not to forget the *pericardium*. The *great vessels* also should not be overlooked, especially in patients at or beyond middle life. The cardiac action may be important in itself, apart from the organic changes which have been already referred to. When the heart is extensively exposed the signs are so remarkable as to lead to the erroneous diagnosis of serious cardiac disease or aneurysm, if they are not properly understood. It may be noted that unusual conduction or abnormal quality of the heart-sounds may help in the diagnosis of changes in the lungs in cases of phthisis, or the cardiac action may bring out certain signs in connexion with cavities. Should an aneurysm be present it must receive special attention. A murmur over the subclavian artery, especially on the left side, is not uncommon in cases of chronic phthisis, due to pressure by thickened pleura; and sometimes a loud systolic bruit, or even a thrill, can be detected over the pulmonary artery or possibly over the aorta.

8. It will suffice to note that physical examination may reveal *glandular* or other *mediastinal* changes in cases of thoracic phthisis, and the structures occupying this region must not be overlooked. Moreover, owing to marked contraction of the lungs in very chronic cases, usually accompanied by firm adhesions to the diaphragm and to changes in this structure itself, the adjacent abdominal organs—stomach, liver, and spleen—not uncommonly are drawn up beneath the ribs to an abnormal height, and thus give rise to signs which are liable to cause confusion unless their cause is recognised.

If the course of procedure which I have thus endeavoured to sketch with regard to the application of physical examination of the chest in relation to thoracic phthisis is systematically carried out I venture to affirm that in the large majority of cases the conditions present can be determined without much difficulty, perhaps not in every detail but with sufficient accuracy for practical purposes. Sometimes, however, especially in very chronic cases, they are so extensive and complicated that they can only be made out by very thorough and careful investigation by an experienced observer, and even then it may only be possible to arrive at a proximate diagnosis as to the actual conditions which involve the thorax and its contents.

3.—*Special Instruments and Apparatus.*

To this point I shall refer only very briefly. I can well remember the time when much importance was attached by some authorities on phthisis to the employment of various instruments, to determine more accurately details as to the size and shape of the chest and the movements of respiration, and also of the spirometer. So far as I can judge these supposed "aids to diagnosis" have practically fallen into disuse and in my opinion rightly. Ordinary measurements or the cyrtometer may be of service under certain circumstances, but elaborate apparatus of any kind is, according to my experience, quite uncalled for and cannot be relied upon to afford any really useful information for diagnostic purposes in cases of thoracic phthisis.

4.—*Examination of the Sputum.*

The examination of the expectoration on scientific lines in cases of actual or suspected phthisis has taken such a firm hold upon the profession generally, and is now so familiar in all its details, that I almost feel as if I ought to apologise for doing more than giving the subject a passing notice in these lectures, especially as I can only deal with it very superficially. Still, there are certain practical points which cannot be passed over altogether in silence. At the outset it must be insisted upon that no practitioner who has any regard for his professional and scientific reputation, or who desires honestly to avail himself of every means of diagnosis at his command, can nowadays safely ignore or omit the systematic examination of the sputum in cases of this nature If he is not competent to do so himself or has not the time or opportunity, there are scientific laboratories, public and private, where everything that is necessary can be done for him, and, indeed, the more advanced methods of investigation can only be properly carried out by a bacteriological expert. It must be further noted that the examination has often to be repeated again and again at varying intervals.

I have already referred to expectoration as a mere symptom, but I must here again insist upon the great help to be derived from a careful general observation of the materials thus discharged, as regards their amount and characters, as indicating the actual morbid conditions and processes which are associated with the respiratory structures. It is necessary, however, to guard against attaching too much importance to so-called "nummular" sputum or other particular varieties supposed to be characteristic of "cavities" in the lungs Calcareous particles or masses may be present, to which patients attach much more importance than they deserve.

I think it may be affirmed that chemical examination of sputum is practically of little or no value in cases of thoracic phthisis. Microscopic examination in a general way, aided by staining in some instances, is useful in revealing blood-corpuscles or minute clots, fibrinous casts, pus corpuscles, various organisms—pneumococci, streptococci, staphylococci, aspergillus, &c.; and elastic tissue. The last-mentioned structure is demonstrated by a particular procedure which I need not describe and is of course important as indicating destructive changes in the lung, while it differs in its exact characters according as it comes from the bronchi, the alveoli, or the arterial walls. It is, however, to the investigation for *tubercle bacilli*, as must be familiar to you all, that examination of sputum is nowadays specially directed, and on this matter I desire to offer a few practical comments In an ordinary way it is only necessary to look for these organisms under the microscope, with their characteristic staining, but under certain circumstances cultures have to be prepared or their presence in expectoration can only be determined by the results of inoculation of animals. Details as to these matters are quite beyond my purpose

The positive demonstration of the presence of tubercle bacilli in sputum is obviously of the greatest value in diagnosis and is generally regarded as an infallible evidence of the existence of tuberculosis, while their number gives some indication as to the activity of the disease, especially at an early period. There can be no doubt that in a certain proportion of cases the positive diagnosis of phthisis can be thus made before physical signs are at all definite or characteristic; and in suspicious cases, particularly when chest symptoms are persistent, it is well to make it a rule to look carefully again and again for tubercle bacilli in any materials that may be discharged, including blood should hæmoptysis occur.

But there is an opposite side to the question. I feel sure that there is an impression abroad in the profession, as well as amongst the laity, that no positive diagnosis of phthisis can be made unless, and until, tubercle bacilli are detected in the sputum or their presence is proved in other ways. Now, it is an undoubted fact that for a considerable time, even in well-marked cases of phthisis, and, indeed, sometimes throughout there may be no expectoration whatever to examine, and I object strongly to the practice of making patients force something from the throat, naso-pharynx, or even the nasal cavities, in order to find tubercle bacilli which are not present, as I have known happen more than once. Moreover, when other symptoms and physical signs of thoracic phthisis are evident enough I do not see why we should wait to examine the expectoration, when it comes, before making a definite diagnosis And still further, it is a well-known fact that in undoubted phthisical sputum tubercle bacilli may be very difficult to detect and repeated examination by a bacteriological expert may be required before they can be positively demonstrated Moeller has recently advocated a remarkable course of procedure in relation both to the patient and the sputum in order to detect tubercle bacilli in suspected cases when they are not revealed in an ordinary way, but it seems to me that this is rather needlessly stretching the point. Another aspect of the matter is that in advanced cases of phthisis, with abundant pus-formation in cavities, tubercle bacilli may practically disappear, while *pyogenic cocci and other* organisms take their place. Expectoration may also become very slight or even cease when the lungs become fibrotic, and here, again, investigation for tubercle bacilli becomes of no value. I mention this point more particularly because I have known cases in which an arrested phthisis, with former cavity and dense fibrosis, was mistaken for "early consolidation" and the organisms were sought for again and again in the small amount of sputum that could be obtained in order to confirm the diagnosis, but without any result. And, lastly, it must be noted that tubercle bacilli can tell us nothing whatever about the various conditions met with in chronic cases of phthisis which I described in the preceding lecture.

The detection of tubercle bacilli in the expectoration in *acute* chest cases, the nature of which is doubtful, is of considerable importance and they may be present in great numbers. Care must, however, be exercised under such circumstances against giving a too positive unfavourable prognosis because these organisms swarm in the sputum, as I have learnt more than once from personal mistakes.

It is important to note that the inability to discover tubercle bacilli after repeated and efficient examination may be of decided negative value in diagnosis when chest symptoms are present, accompanied, it may be, with more or less general symptoms, as well as with physical signs pointing to some pulmonary mischief, particularly at an apex.

5.—*Examination of the Throat and the Main Air-passage.*

In all cases of definite thoracic phthisis it is desirable to inspect the throat, as morbid conditions in this region often aggravate cough and may be important from other points of view. Actual tuberculous lesions are very rare here in my experience, but they may be present, as well as on the tongue, causing much pain. Of course, examination with the *laryngoscope* is often called for, but it is not necessary or desirable to put the patient to the discomfort or distress of such an examination unless it is really indicated. It is not only useful for the recognition and study of tuberculous lesions affecting the larynx but also sometimes to observe similar lesions in the trachea. Further, laryngoscopy is valuable from a negative point of view as showing the absence of tuberculosis and that symptoms are merely due to catarrh or other less important conditions, or that there is only "accidental" motor disorder of the laryngeal muscles. In certain cases it may be desirable to employ rhinoscopy as well.

6.—*Removal of Fluid or other Morbid Products from the Chest.*

Apart from treatment it may be desirable to obtain fluid from the pleural cavity in cases of definite thoracic phthisis or in those of suspected tuberculous pleurisy. Its general nature and characters must be noted; and afterwards it may be investigated chemically, microscopically, and bacteriologically, according to circumstances. A tuberculous sero-fibrinous effusion or empyema is usually sterile or contains very few bacilli but in some instances they are definite enough Cultures may be obtained or the inoculation test applied as a means of diagnosis. Possibly other products, besides fluid, might be taken away from the thorax under particular circumstances for bacteriological investigation For the practical application of these methods the aid of a skilled bacteriologist is required.

7—*Inoculation of Tuberculin: Reaction-test.*

The inoculation of tuberculin, in order to bring out the reaction-test of Koch, with which I take it for granted you are acquainted, may be employed with advantage as an aid in diagnosis of tuberculous disease in the chest in difficult or obscure cases. At the British Congress on Tuberculosis Koch spoke strongly in favour of this method and it has been found useful by other observers, though it has not found much favour in this country as applied to the human subject, and personally I have never had occasion to employ it. I understand that it is now practised as a matter of routine in Osler's wards at the Johns Hopkins Hospital in Baltimore.

8.—*Agglutination-test.*

Certain observers have maintained that the serum of tuberculous patients will agglutinate the tubercle bacilli, on the same principle as in Widal's test for enteric fever but to a less degree. More recent researches have, however, not given satisfactory results, and have shown that the reaction is very inconstant and not specific and therefore cannot be relied upon in the diagnosis of doubtful thoracic tuberculosis.

9.—*Roentgen Rays—Skiagraphy.*

The Roentgen rays have been applied to the investigation of thoracic phthisis, more particularly with the view of its early detection but also for the determination of the exact conditions present. Personally I have no experience of the use of this method, which can only be carried out on a limited scale at present at any rate, and I must refer you to the writings of specialists in this department. There is a very interesting communication on the subject in the *Practitioner* for July, 1901, by Dr. E. Clifford Beale and Dr. Hugh Walsham.

C.—COURSE AND TERMINATIONS.

Cases of thoracic phthisis present great varieties as regards their mode of progress, duration, and actual termination, but there are certain facts relating to this aspect of the clinical history of the complaint which have an important bearing on prognosis and treatment, though I do not think that they are adequately realised. Time forbids me to discuss them at any length on the present occasion and I must content myself with submitting the following general propositions.

1. The natural tendency of phthisical mischief involving the lung, especially if definitely tuberculous, is to be progressive and even an early and limited lesion gives cause for anxiety with regard to the future.

2. There is no foundation whatever for the supposed "three stages" of the complaint, from a clinical point of view, corresponding to the pathological stages of consolidation, softening, and cavity. This is a popular error which the profession should do its utmost to suppress.

3. In not a few cases the progress of thoracic phthisis is very insidious, without any prominent local symptoms, and this may happen even in acute and rapid cases as well as in those of a chronic type.

4. It is very remarkable how in certain *acute* cases of pulmonary phthisis, if not too advanced, arrest of the disease takes place, sometimes ending in a practical cure, especially if the patient can be placed under favourable conditions. In other instances, after rapid progress, it settles down into a chronic and limited form of phthisis. *Acute pleuritic* cases of definitely tuberculous nature are, as a rule, very unsatisfactory in their progress but some striking exceptions are met with.

5. While recognising the tendency of phthisical lesions to advance progressively we must always be fully alive to the wonderful efforts of nature to oppose and withstand them, to check their progress, and to repair the damage which they have caused, even when the morbid changes are definite, extensive, and of a destructive nature. The more chronic the case is, the more likely are these results to happen. At the same time unaffected portions of pulmonary tissue may become developed and utilised for respiratory purposes, a development which it should be our business to encourage and to help.

6. It is quite extraordinary sometimes to note the combinations of chronic conditions affecting the chest with which patients may not only live but even get on fairly comfortably, especially when their circumstances and surroundings are satisfactory and they are prepared to exercise moderate care. As to cavities, which are generally regarded with such terror, there are thousands upon thousands of persons who go about with these lesions, many of whom do excellent work, public as well as private, and you must all be familiar with such cases.

7. Phthisical cases are always liable to variations in their progress, improvement or even apparent arrest of the disease taking place, followed by exacerbation and further activity. A considerable number of cases of "winter cough" are really of a phthisical nature. However quiescent a case may be, or even after a practical cure, the mischief, unfortunately, is liable to start afresh, it may be after a long interval; and this is not an uncommon experience after a supposed "cure" by the open-air treatment. Accidental complications, sudden or acute, not uncommonly interrupt the course of events, being either serious for the time but ultimately recovered from, or leading to an unexpected fatal termination very speedily or within a short period.

8. We must always be prepared for striking changes in the clinical aspect and phenomena of cases of thoracic phthisis during their progress, not only local, but also in relation to the various remote complications which may supervene. Hence a case often entirely alters in its features before the end comes. The final scene varies considerably in its characters and may be very distressing; but in many instances the end is calm and peaceful, while the patient is, as is well known, generally buoyed up with hope even to the last. Sudden syncope is sometimes the immediate cause of death. Acute mania may supervene towards the close of life in chronic phthisis.

9. Another important point to be borne in mind is that sometimes a phthisical patient lingers on indefinitely when apparently almost moribund, especially when kept alive by devoted nursing and care. And further, an individual in advanced consumption who appears to be rapidly approaching the end occasionally rallies and picks up in a wonderful way, living for a long time afterwards and it may be improving considerably. I remember several cases of this kind brought to the Brompton Hospital, their friends thinking that they had relieved themselves of all further responsibility, but the patients were afterwards returned on their hands vastly improved, sometimes much to their disappointment.

CONCLUDING REMARKS.

I need scarcely say, Mr. President, that I regard it as a very high honour to have been invited to deliver the Lumleian Lectures at this College and I desire to express my sincere acknowledgments that I have been thought worthy of standing in the position which has been occupied by so many distinguished predecessors. The task, however, has been a responsible one and by no means easy of accomplishment. I feel but too conscious of the imperfect manner in which I have performed it, but I trust that the subject which I have attempted to deal with is at least worthy of the occasion. It seems to me that the members of the medical profession, collectively as well as individually, have at the present day a specially grave responsibility in relation to consumption. Undoubtedly there are some aspects of modern teaching and practice which are unsatisfactory, to say the least, while others are distinctly disquieting. It is our manifest duty to look at the whole subject comprehensively and on a broad basis; to deal with our patients on rational and common-sense principles; to educate and guide the laity on right lines; to do our utmost to help in the so-called "campaign" or "war" against this terrible scourge; and to promote all measures, whether private or public, which really make for its prevention or eradication. But I think we ought to be particularly cautious and circumspect as to what we say and what promises and predictions we declare about the future of phthisis in general, as affecting communities, as well as in relation to individual cases. The "optimistic platitudes" which are now so widely and dogmatically expressed and written are, in my opinion, doing serious mischief in various ways. On the other hand, it is most important that every individual practitioner should recognise the practical advances which have been made in the treatment of this disease, and he cannot be too cautious as to what prognosis he gives of an unfavourable kind. There can be no doubt that very rash opinions are not uncommonly expressed as to the inevitably fatal termination of a particular case of thoracic phthisis within a short time, especially if it happens to be acute and active, which is then "given up," and the patient falls into the hands of some quack who, if improvement does take place, naturally gets the credit of having saved a "hopeless" case of consumption, which he is not slow to advertise by every possible channel. And I would further utter a word of warning against giving anything like a definite opinion as to the duration of a case of phthisis. No reliance can be placed on the general statistics collected by different writers on this point and every case must be thoughtfully studied on its own merits. Even then it is often quite impossible to give a safe forecast as to when the end will come.

While deprecating any extravagant ideas as to the ultimate extermination of thoracic phthisis there can be no doubt whatever as to the great diminution in the mortality from this cause which has taken place during recent years. I have been favoured with the opportunity of submitting to your notice some remarkable statistics bearing on this point, the outcome of personal investigation by Dr. John F. W. Tatham. These have not yet been published, but Dr.

Tatham has most kindly forwarded them to me with permission on his authority to make any use of them I please.

Mortality from Phthisis in England and Wales per 1,000,000 Living

Age groups	Males		Females.		Reduction per cent. in 1896-1900	
	1861-70.	1896 to 1900	1861-70	1896 to 1900.	Males	Females
All ages	2467	1527	2483	1129	38·1	54·5
Under 5 years	990	390	947	325	60·6	65·7
5 to 10 ,,	431	138	477	199	68·0	58·3
10 to 15 ,,	605	192	1045	408	68 3	60·9
15 to 20 ,,	2190	698	3112	1137	69·0	63·5
20 to 25	3883	1849	3967	1522	52·4	61·6
25 to 35	4094	2338	4378	1843	42·9	57·9
35 to 45 ,,	4166	3135	3900	2084	24 7	46·6
45 to 55 ,,	3881	3220	2850	1589	16·8	44 2
55 to 65 ,,	3297	2681	2085	1231	18·7	40·4
65 to 75	2024	1633	1239	794	24 3	35·9
Above 75 years	659	657	447	366	15·5	18 1

The above table speaks for itself and is a strong encouragement to the profession generally not to relax in the least degree the efforts that are being made to reduce still further the mortality from phthisis, to cure it in its earlier developments, to prolong the lives of those who are victims of the disease, and at the same time to mitigate their sufferings so far as circumstances permit. I submit, finally, that these objects can only be attained by the intelligent study of thoracic phthisis on a comprehensive basis, and the rational employment and application of preventive and remedial measures and agents founded thereon

The Hunterian Oration

ON

ORGANO-THERAPY.

Delivered before the Hunterian Society on Feb 12th 1902,

BY ARTHUR T DAVIES, M.D CANTAB,
F R C P LOND,

PHYSICIAN TO THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST AND TO THE METROPOLITAN HOSPITAL; PHYSICIAN (IN LONDON) TO THE ROYAL NATIONAL HOSPITAL FOR CONSUMPTION VENTNOR.

MR. PRESIDENT AND GENTLEMEN,—No one who undertakes the task of delivering the annual oration before this venerable society can do so without feeling the honour which it implies and the responsibility which it carries. I am deeply sensible of the former and am only too conscious of the latter

[Dr Davies after a few introductory remarks, proceeded to recall to his hearers how intimately acquainted John Hunter was with the profound influence of the essential generative organs upon the animal economy and mentioned that the primitive use of animal extracts seemed to have been that they were given with a view to influence sexual functions He gave references to, and extracts from, various authors dealing with the use of animal substances in medicine from the Ebers Papyrus B.C. 1500 down to the latest instances revealed in the recently published Blue-book about the concentration camps.[1] He then said]

Dr William Salmon in his work, "The New London Dispensatory," published in 1677, which is a kind of extra Pharmacopœia, gives an enormous number of preparations of extracts from the human body and from all kinds of animals Thus there is a preparation of the cor hominis in powder for epilepsy, also of the ox, the stag and the pig, the horn of the stag, the rhinoceros, and the unicorn, the liver of the wolf, the otter, and the frog, and the marrow of the goat, the ox, the stag, and the calf There are several preparations from a man's skull—thus there are the tinctura, the aqua oleum sal, and the essentia cranii humani, also a spiritus cerebri humani—and a number of preparations from the mummy, as well as definite directions for making artificial mummies He considers the body of a healthy young man as the best for the purpose We have an interesting reference to the use of the spiritus cranii humani in the case of King Charles II. The symptoms of his case and the medical treatment adopted by the 14 physicians have been well narrated by Sir Henry Halford[2] and Lord Macaulay[3] The latter, after describing the king's urbanity with which he apologises for the unconscionable slowness of his death, says "The patient was largely bled, a hot iron applied to his head, a loathsome salt extracted from human skulls was forced into his mouth" Macaulay adds "The 14 doctors who deliberated on the king's case contradicted each other and themselves Some of them thought the fit was epileptic and that he should have his doze out. The majority pronounced him to be apoplectic and tortured him during some hours like an Indian at the stake. Nothing better than dissension and vacillation could be expected from such a multitude of advisers. But many of the vulgar not unnaturally concluded, from the perplexity of the great masters of the healing art, that the malady had some extraordinary origin—i.e, murder' Sir Henry Halford states that the salt was given in a julep of 25 drops "ad refocillandas regis vires." He also states that he saw a prescription for the same preparation which was found in the house of Cromwell's apothecary in Duke-street, Westminster, and which was used in the case of Sir Nicholas Throgmorton

[Coming to the modern uses of organo-therapy Dr Davies proceeded]

TESTICULAR EXTRACT

The scientific use, and consequent revival of animal extracts as therapeutic agents in modern medicine may be traced to the lectures given in 1869 at the Paris School of Medicine by Dr Brown-Séquard, his principal object being to establish the fact that all glands with or without excretory ducts give to the blood by an internal secretion principles which are of great importance, if not necessary, and his experiments, made at Nahant, Boston U S A., in 1875, confirmed this view and he further thought that if the internal secretion of a gland taken from a living animal could be safely introduced into the blood of men suffering from lack of that secretion important therapeutic results would follow In 1889 he read a paper before the Biological Society of Paris in which he stated that he had found the means and that it consisted of subcutaneously injecting the liquid extract obtained from glands under pressure He first injected himself with the fresh extract of the testes of young dogs with the result that he experienced a return of vital energy and rejuvenescence with renewed and efficient peristalsis and control over the bladder and sphincter From these results he started the theory that the testes secreted into the blood certain products which powerfully influenced the bodily metabolism, more especially that of the nervous tissue. Pasteur, Bogroff, Variot, and many others confirmed his view, while others have entirely failed to obtain any result at all, in some cases it may be due to the fact that the glandular extract was not given fresh, as directed by Brown-Séquard, as sometimes it was boiled or dried or given by the mouth. Brown Séquard and D Arsonval have stated that, unlike the thyroid thymus or medulla of bones the sexual glands and the pancreas are inert if swallowed; they recommend either a subcutaneous injection or a rectal one, which is nearly as efficacious. They published in 1893[4] a remarkable series of 342 cases of locomotor ataxy which were either greatly ameliorated or cured. Depoux, Gilbert Victoroff of Moscow, and Ouspensky report 85 per cent. of successes in various scleroses of the spinal cord and 90 per cent. in locomotor ataxy. In 103 cases of cancer 97 were ameliorated, as shown by the healing of ulcers and cessation of pain and hæmorrhage, but the tumours themselves were unaffected. In phthisis Cornil, Hénocque, Lemoine and Variot, and others obtained favourable results, also Constantin Paul. Although Brown-Séquard's results have not been confirmed by subsequent experience, yet his general statement as to the restorative power of testicular juice when subcutaneously injected is practically admitted. It produces a steady increase of oxyhæmoglobin, cardiac force is strengthened, vascular tone is exalted, and oxygenation of waste products is promoted (as indicated by the increase in urea) and diminution of phosphoric acid in the urine. The mind becomes more clear and active. In anæmia the hæmoglobin has increased from 3 to 14 per cent. and in tuberculosis it has caused the cough to lessen with general bodily improvement and fall of temperature. In insanity its effects have been indefinite, except in some cases to improve the physical condition. Although the internal secretion of the gland has not been actually obtained the results of castration in children point to its existence, for it is well known that in such cases the hair does not grow, the skin remains soft, the arm and leg lengthen and the muscular state is poorly developed, the voice remains a treble, the mammæ undergo enlargement, and such persons in later life tend to grow fat. Grey Edwards[5] has published six cases in which much benefit was received by taking tabloids of orchitic extract. A. E. Wright[6] of Netley recommends the testicle minced up and locally applied for arresting surface hæmorrhage on account of the nucleo-albumin which it supplies.

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[1] For purposes of future reference we give a list of all authorities quoted by Dr Davies though we have not reprinted some of the passages quoted from them John Hunter: Animal Œconomy Spencer and Gillen: The Native Tribes of Central Australia. W E. Roth: Ethnological Studies among the North-west Central Queensland Aborigines Berdoe: Popular History of Medicine Official Gazette, Peking, 1870, and the Thakore Sahib of Gondal: History of Aryan Medical Science. Homer Democritus, B.C. 450 Hippocrates History of Physick written originally in French by Daniel le Clerc M.D and made English by Dr Drake and Dr Baden 1699 Aretæus. Pliny the Younger Dioscorides 200 A.D Galen Paulus Ægineta. Saxon Leechdoms Johannes Damascenus, 777 A D: Selecta Artis Medicæ Albucases Avicenna. Averroes Guido de Chauliac 1700 Albertus Magnus. Jerome Cardan. Paracelsus Adam Lonicerus: Naturalis Historia. Andrea Matthioli Thomas Sydenham Robert Boyle. Thomas Dover Liebault. Ulysses Androvandus. Daniel Beckherius. R Burton: Anatomy of Melancholy R Pitt M D., 1705 Sir Thomas Watson Dr O Möller: Hygiene and Demography of Denmark Dr Bass: History of Medicine —ED L.

[2] Deaths of Eminent Persons

[3] History of England, vol I. chap. 10

OVARIAN EXTRACT.

It is stated by Brown-Séquard that ovarian extract has a similar but less powerful effect than testicular extract and he quotes 63 cases of old women benefited by its use. That the ovary contains some secretion of powerful physiological influence over metabolism is seen in cases of young girls whose ovaries have been both removed—a practice apparently common in barbarous parts of Asia. In such cases the characteristic changes at puberty do not occur, the pelvis does not enlarge, menstruation is absent, and the mammary glands and genital organs atrophy; further, certain abnormal changes peculiar to the male occur, as pointed out by Hunter, such as growth of hair in the form of a beard or moustache; and the voice is more masculine than usual. Similar changes occur in a modified degree after double ovariotomy in adults, in whom this operation tends also to cause melancholia, palpitation, giddiness, and obesity. These symptoms are often relieved by the therapeutic administration of the ovarian extract which also often benefits such conditions occurring in the normal menopause. Cattle-breeders are well aware that removal of the ovaries in the cow increases the richness of the milk and also its quantity. That this condition occurs when all connexion with the spinal cord or sympathetic is severed points strongly to some internal secretion from the ovary into the blood influencing the mammary gland which favours metabolism. In favour of this it has been proved that double ovariotomy causes diminution of metabolism with increase of bodily fat and a lessened excretion of phosphoric acid. Bescon and Camboulois ("Le Suc Ovarien, Effets Thérapeutiques") have found great benefit in the use of ovarian extract after castration and in amenorrhœa with chlorosis and in the menopause.[7] Professor Landau used extract of pig's ovaries with beneficial results in climacteric troubles and in the symptoms following oöphorectomy and amenorrhœa from prolonged lactation and hysteria.[8] Bodon in a case of epilepsy developing at the menstrual period with scanty flow found ovarian extract of great benefit causing cessation of the fits and increased flow.[9] Ferré and Bestron state that ovarian juice can cause death in overdoses and that males are more susceptible than are females. Given to dogs in overdoses the ovarian extract causes erection and ejaculation of semen; in large doses it causes hæmorrhage into the spinal cord and death; it is also given as an aphrodisiac. Stanley Boyd, assuming from Beatson's work the influence of the ovarian secretion over the mammary glands, has performed oöphorectomy in 54 cases of cancer of the breast—19, or 35 per cent., were more or less benefited and 34 were not benefited, or only doubtfully. In Group 1 of successful cases life was prolonged on the average for six months and in 6 per cent. immunity was obtained for two and a half years. It is true that in some of the cases the thyroid extract was given, but it is difficult, as Stanley Boyd states, to estimate its value, for it was only administered when he had satisfied himself that oöphorectomy had failed; he seems to think that the drug has no real effect. Lastly, he points out that Beatson introduced this operation for *inoperable* cases of cancer. Butlin[10] considers the operation of oöphorectomy as useless and Roger Williams considers it as horrible.[11]

THE THYROID EXTRACT.

The study of the theories which have from time to time been put forward with regard to the action of this gland in the economy truly illustrates the drastic criticism of Dr. James Ward on scientific theories. In his work on "Naturalism and Agnosticism"[12] he tells us: "The story of progress is briefly this—divergence between theory and fact one part of the way, the wreckage of abandoned fictions the rest." But the experimental work of Schiff, von Esselberg, Kocker, Victor Horsley, Murray, and others has thrown a flood of light on the subject and has established that myxœdema and its infantile form cretinism are diseases caused by the loss of the colloid secretion of the gland due to atrophy of its substance. The clinical results obtained, first by grafting a portion of the gland, as suggested by Horsley, in myxœdema, and, secondly, by injecting subcutaneously a glycerine extract of the gland, according to Murray's method, are truly astonishing. A large number of cases have now been published of the remarkable results obtained.

Since 1889 I have had 17 cases of myxœdema under my notice. Four of the patients were men and 13 were women. I have been able to keep in touch with all the male cases and with nine of the female patients. My earliest case is that of a man who had suffered from myxœdema for 10 years. He came under my care in 1889 and I have shown him before the society on two or three occasions. He has now been under the thyroid treatment, first by injections and then by the dried powdered extract, for 11 years, and when I saw him last week he was in excellent health. In another case the patient has been under treatment for 10 years and he is well. Mr. F. E. Cockell a few days ago kindly gave me an account of a case which I saw with him in 1896. He states that the man is in very fair health and that he takes a thyroid tablet occasionally In the fourth male case also the patient after two years' treatment is well. Of the female cases one patient has been under treatment for 11 years, another for 10 years, and the others range over periods of seven years, six years, two years, and one year and are all keeping free from the disease. Of the remaining four patients one has died and three I have lost sight of.

In cretinism Murray, Byrom Bramwell, and Thomson have published some extraordinary results of thyroid treatment—in one case the patient grew four and three-eighths inches in one year and in another six and a half inches in six months—with marked diminution of the blurring of the features, enlargement of the tongue, and the pendulous abdomen. In a woman, aged 27 years, the growth was four and a half inches in three and a half years and a remarkable development of the mammary glands took place with return of regular and normal menstruation and improvement in the mental condition—the last feature, as Murray points out, is much more marked in patients under 20 years of age and is in proportion to the duration of the disease.

It is remarkable that cretinism, like myxœdema, is more prevalent in the female sex than in the male sex, though not by any means in the same proportion, it being practically two to one against seven to one in the latter. Further, there is an undoubted connexion between goitre and cretinism, as it has been well attested that in districts where both are endemic one generation may be affected with goitre and the succeeding one with cretinism. Besides myxœdema and cretinism Murray[13] has well shown that the simple parenchymatous goitres which occur in adolescents and young adults derive great benefit from thyroid administration, and further that it is often quite sufficient to obviate the necessity for surgical interference. It would seem that in these cases, as he suggests, the gland is called upon for extra secretion, that true hypertrophy is set up, and that the artificial supply enables the gland to rest and to undergo a partial atrophy and so diminish in size Under this treatment the enlarged gland may lessen to two-thirds, one-half, or even one-third of its former size In cases where there are adenomata or cysts this treatment causes diminution of the gland tissue itself in which they are imbedded and thus enables an operation to be carried out more easily Kennicut[14] collected 60 cases of non-malignant and non cystic cases of goitre, 14 of which were cured, 29 improved, and 17 not improved. Angerer[15] states that in 79 cases which he treated by thyroid extract the goitre was diminished in all of them Stabel reports improvements in 92 per cent of the cases and that when treatment was discontinued the goitre began to increase.

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[4] Comptes Rendus de l'Académie des Sciences, vol. cxvi., April, 1893.

[5] Brit. Med. Jour., vol. i., 1895, p. 1261.

[6] THE LANCET, Jan. 18th, 1896, p. 153.

[7] Congrès Français de Médecine, Montpellier, 1898.

[8] THE LANCET, July 4th, 1896, p. 62.

[9] Orvosi Hetilap (THE LANCET, May 1st, 1897, p. 1245).

[10] Brit. Med. Jour., Jan. 4th, 1902, p. 10.

[11] Ibid., Jan. 11th, 1902, p. 111.

[12] Naturalism and Agnosticism, vol. i., p. 153.

Besides the thyroid tissue itself there are four bodies in close anatomical relationship with it termed the "parathyroids" and it has been shown experimentally that when portions of the thyroid body are removed a compensatory hypertrophy takes place but that the structure thus produced is normal parathyroid tissue rather than normal thyroid Again, the structure of the thyroid body in exophthalmic goitre resembles more closely that of parathyroid tissue than *normal thyroid; and, lastly, experiment demonstrates another* remarkable fact, as yet unexplained, that removal of all the parathyroid bodies, small as they are, is followed by the same fatal effect that follows complete removal of all thyroidal tissue, and although the parathyroids do not contain colloid material yet Hutchison has found iodine in their composition. The removal of the parathyroids, according to Gleg, causes tremor, slow and unstable gait, and emaciation—a very different condition to the effects caused by removal of the thyroid itself, which, as Murray has shown, produces in the monkey subcutaneous swelling, dryness of skin, loss of hair, and a subnormal temperature. It is certainly remarkable that though the parathyroids contain iodine they have no effect when given in myxœdema and that in exophthalmic goitre, the symptoms of which partially resemble the loss of the parathyroid, they are in no way beneficial. From the symptoms of thyroidism and the clinical contrast of the two diseases it has been supposed that exophthalmic goitre is due to over-action of the thyroid gland and the administration of the thyroid extract, which was recommended at first, has not been considered advisable, indeed, in many cases it produces positive harm.

Tempting as the theory is that exophthalmic goitre can be explained on the "over action" theory, yet, as Hutchison points out, the absence of uniformity in the histological changes of the gland, the fact that the symptoms may be unilateral, and that the gland itself may not in some cases be enlarged in Graves's disease and can hardly be considered as over-acting, and the absence of any toxicity or alteration in the colloid secretion of the enlarged gland tends to destroy this hypothesis.

The thyroid extract has been used by Beadles,[16] Carter,[17] Claye Shaw,[18] and Woods,[19] and found useful in cases of myxœdema with insanity, and the latter condition has in some cases been entirely cured. Macpherson[20] and Dunlop, Bruce and Macphail extended the treatment to insanities generally—and these results met with so much success that many others have used the thyroid but with very varying results, *the recoveries being from 0 to 50 per cent.* Out of 1032 cases collected by Mabon and Babcock[21] 16 8 per cent. of the patients recovered, 24 per cent improved, and 59·2 remained unimproved Easterbrook treated 130 cases and had 12 per cent. recoveries, in cases which were intractable to other forms of treatment. Large doses were used in every case except in the myxœdematous form, and Easterbrook seems to think that it is the briskness and intensity of the metabolic reaction produced which is the valuable effect in large doses in insanity, and that the drug clears out of the system various transitional, and perhaps toxic, products of metabolism. All the patients who recovered improved physically as well as mentally He concludes by saying that the thyroid is a powerful metabolic stimulant and that the early quickening of the pulse, the phosphaturia, and nervous and mental symptoms, all point to a special affinity of the drug for the nerve centres, further, that while small doses were tolerated well by the patients in all of his cases large doses were badly borne by those under 20 years of age, and much more so by those over the age of 60 years, the former specially tending to lose weight and the latter to exhibit failure of the pulse, also by patients who were emaciated and those also who were obese, probably in the latter case due to fatty degeneration of the heart. In cases of valvular heart disease the drug was borne well, but these patients were also treated by rest and cardiac tonics Four of his patients had carcinoma of the lower lip, œsophagus, pylorus, and pancreas respectively No amelioration was produced except in the pyloric case, in which the gastric symptoms disappeared, the patient increased in weight and had a continuance of good health for two years when fatal hæmorrhage occurred, the diagnosis was confirmed post-mortem. The parathyroid extract has no effect in insanity except to raise pulse tension (Easterbrook The Medico-Psychological Association Prize Essay, p 38)

The therapeutic use of the thyroid extract has been *extended in many directions, to which* I will refer, although time does not permit me to do so as fully as I could wish. Byrom Bramwell,[22] struck by the marked changes in the condition of the hair and skin after thyroid treatment in myxœdema, determined to try its effect in certain skin affections and obtained some remarkable results in psoriasis, lupus, ichthyosis, and alopecia. In a paper read by myself before this society[23] *on Oct. 25th, 1894, I narrated cases of* psoriasis, ichthyosis, and chronic eczema which I had treated with much benefit in this way Abraham has published the results in 90 cases of different skin affections and has shown that there is a minority benefited by thyroid extract Pringle[24] has shown from a careful and systematic study that the thyroid produced the more easy formation of healthy cicatrix in cases of cutaneous tubercle properly and systematically treated and thus tends to prevent badly-developed and unhealthy scar tissue. The type of case which answers best is that with superficial ulceration and hyperkeratosis. Sir Hugh Beevor[25] showed before this society in 1898 two remarkable cases of universal alopecia successfully treated by thyroid extract. In tetany the extract has been used with marked benefit and success, which is interesting, as tetanic symptoms have often been observed after thyroidectomy It is also very useful in relieving spasmodic torticollis, also in fibroid of the uterus and uterine hæmorrhage of some kinds it is said to be useful Wooldridge showed some years ago that thyroid juice destroys anthrax poison In certain forms of obesity the thyroid extract has produced remarkable results and it has been found of use in promoting union of fractured bones (Gautier) and in progressive myopathy, according to Lépine, it is beneficial.

In 1896 Beatson of Glasgow introduced the operation of oöphorectomy *combined* with the administration of thyroid extract for cases of inoperable carcinoma of the breast and obtained some striking results and last year he reported another successful case Herman has reported eight cases which he has treated in this manner and which he has subsequently watched. In one the patient was alive and well four years after the operation, in the second and third life was prolonged by about 18 months of good health, in the fourth by one year, in the fifth and sixth no benefit occurred, in the seventh there was some benefit, and in the eighth there was decided benefit. Other surgeons, such as Watson Cheyne, Eve, and Lockwood, have obtained similar results, but Langton has stated that only from 18 to 19 per cent. are benefited by this treatment, and Butlin, who gave thyroid alone in his cases, obtained no benefit from it in any.

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[13] The Treatment of Simple Goitre in Young Adults Edinburgh Medical Journal, August, 1900.

[14] Transactions of the Congress of American Physicians and Surgeons 1897, vol iv., p 148.

[15] Münchener Medicinische Wochenschrift 1896, p 563

[16] The Treatment of Myxœdema and Cretinism, Journal of Mental Science July and October 1893

[17] Brit Med Jour., April 16th 1892.

[18] Ibid., August 27th, 1892.

[19] Transactions of the Hunterian Society, April 12th, 1894, p 50.

[20] Edinburgh Medical Journal, May, 1892 and 1893

[21] American Journal of Insanity, October, 1899

[22] THE LANCET, Jan 27th, 1894 p 210.

[23] Transactions of the Hunterian Society, 1894 p 76

[24] International Clinics fifth series April, 1895 p 343. British Journal of Dermatology vol. viii., 1896, p 43.

[25] Transactions of the Hunterian Society, April 12th, 189

A remarkable case is recorded by Mr. F. Page and Dr. W. H. Bishop[26] of a woman, aged 61 years, who was twice operated upon for carcinoma of the breast and its subsequent recurrence. As another recurrence took place a further operation was declined, and the thyroid treatment alone was tried for a period of 10 months, at the end of which time the disease had entirely disappeared, but six months afterwards there was another recurrence and the patient died.

THE SUPRARENAL EXTRACT.

In 1836 Brown-Séquard, struck by Addison's work, investigated the action of the suprarenal glands and published the results of his experiments in animals, which are as follows. 1. That removal of the two capsules in dogs, cats, and rabbits and other animals causes death rapidly and more so even than extirpation of the kidneys. 2. That if a long interval is left between the removal of one and that of the other capsules life may last long, but as shown by Tizzoni the animals die after considerable weakness or paralysis from a special organic disease of the nervous centres. 3. That the blood of animals deprived of the suprarenals is a poison acting powerfully on other animals, as shown by Langlois and Abelous. 4. That animals dying from the absence in blood of the secretion of these glands after removal can be revived at least for a time by the injection of the liquid suprarenal extract. These statements of Brown-Séquard were entirely confirmed by Abelous and Langlois and although the experimental work of other observers, amongst whom Tizzoni's must be considered as important, as pointing in a negative direction, yet all modern work tends to confirm strongly the conclusion that the suprarenals are functional glands of importance to the animal economy. In 1894 Chaufford[27] published an account of a female patient, aged 35 years, suffering from Addison's disease, whom he treated by subcutaneous injection of suprarenal extract prepared according to D'Arsonval's formula—13·5 cubic centimetres being given in the course of nine days; the result was doubtful. Similarly, Bra[28] recorded two cases—a man, aged 37 years, and a woman, aged 42 years —whom he had treated with negative results. Oliver[29] has published an account of a patient who took 45 grains daily of the extract; there was improvement in every respect, the bronzing became less, the appetite improved, and nausea seldom occurred. The case was under observation for two years and improvement was maintained so long as the treatment was kept up. He records, also, two other cases which derived benefit from the treatment and also another under the same treatment for 11 weeks without marked benefit. Box has recorded in the St. Thomas's Hospital Reports[30] the treatment of six cases of Addison's disease by the suprarenal capsule administered either by the mouth or by the rectum, but as four of the patients were in an advanced stage of the disease one cannot draw any conclusion; in two other cases, however, although large doses were given, amounting in all to 7200 grains in one case and 3256 in the other, no real improvement took place in either. Although, as I have stated, Schäfer and Oliver found that the active principle of the suprarenal extract is not destroyed by artificial digestion, Vincent could produce no physiological effects on dogs and rabbits by large doses, and Grünbaum failed to raise his own blood-pressure by taking the suprarenal extract by the mouth. Box states that in five out of seven cases the suprarenals were found to be caseous and he records an interesting fact that in one case, where there was no naked-eye evidence of tubercle, a guinea-pig was successfully inoculated with tuberculosis from it. Delépine had previously recorded a negative result. Rolleston, in his Goulstonian Lectures of 1894, records the case of a woman who had improved under suprarenal treatment. Lloyd Jones[31] also published a case of Addison's disease which derived marked benefit in large doses from the treatment, the patient becoming practically well. Similar cases are recorded by Sansom[32] and Stockton[33] Kennicut has recorded 48 cases of Addison's disease, of which six were reported to be cured, 22 improved, 18 unimproved, and two aggravated by the treatment. Ringer and Phear[34] record a case of a woman, aged 28 years, who temporarily improved for four weeks under 45 grains daily, increased up to a quarter of an ounce daily, but who subsequently died. It is interesting to note that Schäfer and Oliver obtained no results from suprarenals the medulla of which was caseous and the cortex of which was sclerosed, showing that there was no active principle. Dyer found the active principle in the suprarenal vein and considered it a true internal secretion. J. S. Bury[35] treated a case of Addison's disease in a girl, aged 13 years, with suprarenal extract without benefit. Douglas Stanley[36] considered that the suprarenal extract in a case of splenic anæmia produced a marked increase in red blood corpuscles. The benefit was temporary; post-mortem examination revealed sclerosis of the spleen, the pancreas, and the suprarenals.

The use of the suprarenal extract, like that of the thyroid extract, has been extended in other directions besides the one for which it was originally given. Langley[37] states that the extract has a specific stimulating action on nerve-endings and that it produces effects similar to the stimulation of some one or other sympathetic nerve. Oliver and Schäfer[38] have shown that it is one of the most powerful vaso-constrictor and cardiac tonics we possess and that it acts alike on striped and unstriped muscular tissue given either locally or by the mouth, and they consider that it might be of the greatest clinical value in cases of sudden cardiac failure due to shock, or hæmorrhage, or an overdose of anæsthetics, or for promoting uterine contraction, and recommend its very slow injection into a vein or, in extreme cases of cardiac failure, into the heart-wall itself. Gottlieb has shown that in animals poisoned with chloroform or chloral until the pulse has almost ceased the circulation is almost at once restored by injecting the suprarenal extract into a vein. Further, another remarkable property of the extract is the smallness of the active dose. Thus one-tenth of a dried gland produces a maximal effect on the heart and arteries of a 20-pound dog, and it is concluded from this that one-eight-hundredth part of a grain is capable of producing a well-marked physiological effect in an adult man, which is the smallest active dose on record of any drug in the Pharmacopœia, and when compared with the dose of digitalis and ergot required to produce a similar result, when subcutaneously injected, is markedly in contrast. Bates[39] has shown that the intravenous injection differs in effect from that of the hypodermic or from that when the extract is given by the mouth. This action of the gland explains very well the extreme muscular debility and weakness and the low arterial tension in Addison's disease where its influence is absent. Acting on the results he obtained Oliver suggested and also tested the value of the extract where there is loss of vaso-motor tension as in asthenia, anæmia, cyclic albuminuria, and diabetes mellitus, in which last condition, according to Pavy, a vaso-motor paralysis involving chylo-poietic viscera may stand at the foundation of the form of diabetes limited to defective assimilation of carbohydrates, also in exophthalmic goitre, heart disease, and capillary hæmorrhages. In one case of cyclic albuminuria Oliver states that the albumin disappeared and that in another it diminished. My experience in these cases so far is doubtful. In two out of three cases of diabetes mellitus under Bradford, Ringer, and Poore at University College Hospital the glucose was diminished. In a case of exophthalmic goitre the pulse-rate was lessened and the thyroid gland and exophthalmia were reduced. If exophthalmic goitre is due to over-secretion and absorption of the colloid material suprarenal extract ought to be of benefit as it has exactly the opposite effect on the vaso-motor system to the thyroid.

Valentine, Cleghorn, Cunningham, Kennicut, and Borulte have confirmed Oliver and Schäfer's results in the use of the suprarenal extract in heart disease. I have not been able to come to any definite conclusion as yet with regard to its value in these cases. Kenworthy has given the extract in 15 cases of hæmoptysis with good results. This I have tested in several cases with apparent good effects in some, but, as you are fully aware, there is no more *quæstio vexata* in medicine than to determine the *post hoc* and *propter hoc* action of drugs in checking hæmoptysis which often tends of itself to cease spontaneously. Cohen states that suprarenal extract is very useful in asthma associated with vaso-motor ataxia in neurotic subjects. T. D. Lister has informed me of a case of asthma with low pulse tension which derived great benefit from the extract. Douglas has found it of great service in hay fever when applied locally or given internally and Curtis has used sprays of it (half a drachm to one ounce). Floersheim[40] has shown that the suprarenal extract often restores strength and regularity to a feeble and irregular heart and confirms Schäfer and Oliver's statement that it does not cause rapidity of action, because it stimulates the inhibitory centre, but that if the vagus is divided the heart's action becomes more rapid and forcible. Bates[41] sums his conclusions as to its action on the heart as follows. 1. The internal administration does not affect the normal heart and normal blood pressure. 2. An intermittent pulse becomes regular and a weak pulse stronger. 3. It is temporary in action. 4. It is the most powerful cardiac stimulant known. He also states that cases of exophthalmic goitre are markedly benefited by it and that all inflamed tissues such as occur in congestion of the eye, the throat, and the larynx, are most decidedly relieved by its application, either locally or if swallowed, and that by its powerful astringent action it facilitates operations on these parts in congestion of the larynx and tuberculous laryngitis with marked benefit. In intra tympanic surgery Phillips has shown that the extract is of great service from its powerful vaso-constricting action. It is remarkable that the extract appears to have no toxic effect whatever, however frequently used internally or externally. As a local application it relieves pain occurring in cancer of the breast, œsophagus, and tuberculous laryngitis and periodontitis as recorded by E. A. Peters[42] and also its topical use successfully arrested severe epistaxis in a case of hæmophilia.[43] In insanity Easterbrook[44] considers the extract of use in cases of acute maniacal excitement where, as Maurice Craig has pointed out, there is low blood pressure and also because it lessens tissue oxidation.

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[26] THE LANCET, May 28th, 1898, p. 1460.

[27] La Semaine Médicale, 1894, p 74.

[28] La Méthode Brown-Séquard.

[29] Brit. Med. Jour., 1895, vol ii., pp. 561 and 653.

[30] St. Thomas's Hospital Reports, 1893.

[31] Brit. Med. Jour., 1895, vol. ii., p. 483.

[32] Transactions of the Medical Society of London, 1895.

[33] THE LANCET, Nov. 16th, 1895, p. 1226.

[34] Transactions of the Clinical Society of London, 1896.

[35] THE LANCET, June 19th, 1897, p. 1673.

[36] THE LANCET, Feb 16th, 1895, p. 413.

[37] Journal of Physiology, vol. xviii., p. 277.

[38] Brit. Med. Jour., Oct. 6th, 1900.

[39] New York Medical Journal, Oct. 16th, 1900.

Thymus Gland Extract

The experiments of Turelli on dogs show that extirpation of the thymus causes loss of strength and appetite, with diminution of red cells and hæmoglobin and increase of white cells. Abelous and Billard[45] state that the thymus in the frog is an indispensable organ, total ablation of it causes weakness, paresis, and paralysis, hæmorrhage, and œdema with death from auto-intoxication. Svehla[46] using a watery extract of thymus from man and animals says that intravenous injection in man, in the pig, and in the cat causes (1) lowering of blood pressure, (2) acceleration of the pulse from its action on the heart, and (3) in large doses restlessness with dyspnœa and death. Reinbach who applied the thymus clinically in Mackinley's clinic, says that it causes diminution in the size of goitre in cases of exophthalmic goitre, but in about 50 per cent. of the cases the goitre was unaffected. Hector Mackenzie[47] tested the action of the thymus in doses varying from several ounces to 10 or 15 grains a day on 20 cases of exophthalmic goitre. His conclusion is that it has no effect on the heart or goitre or exophthalmos, but that it appears to be a remedy of some value as it improves the general condition, and some of the patients were satisfied that it benefited them. On the other hand, 15 cases which he also collected are published by different observers—Tatz and Guérin, Arthur Maude, Parker,[48] Metcalfe,[49] Owen and Cunningham[50]—in 14 of which marked improvement took place in the pulse-rate, exophthalmos, and goitre. Dreschfeld[51] tried the thymus in three cases without benefit. Mobius in his work on Basedow's disease says that several patients improved but not more or sooner than under other modes of treatment. I have seen distinct improvement in two cases and also in two cases of tachycardia. Macalister has reported temporary improvement in pseudo-hypertrophic paralysis.

The Pituitary Extract.

Complete removal of the pituitary body causes lowered temperature, loss of appetite, twitchings, tremor, and death. Howell[52] has shown that intravenous injection of the infundibular part of the pituitary gland causes a rise of blood pressure, but that the hypophysial portion does not. This rise is accompanied by slowing of the pulse which still persists, though to a less extent, after division of the vagi. Schäfer and Swale Vincent[53] confirmed these statements and also found a second substance which produces a well-marked fall of blood pressure like cholin, but its action is not neutralised by atropine. Injection subcutaneously of a decoction of the infundibular part of the hypophysis shows a certain correspondence with the action of the suprarenal extract in causing contraction of the arterioles and augmentation of heart-beat. The conclusion of these observers is that at present our observations appear to indicate that there may be specific active substances in the infundibular part of the pituitary gland which usually do not occur in nervous matter.

The pituitary extract has been used in cases of acromegaly owing to its hypertrophy being considered as a primary cause of disease. Ransom[54] has obtained negative results in two cases with its use. H. D. Rolleston[55] has published a case treated by the combined use of thyroid and pituitary extract on the theory that the gland is sometimes enlarged in myxœdema and is vicarious in action, and though Schäfer and Oliver have shown that the intravenous injection of the infundibular part of the pituitary extract and thyroid are exactly opposite in effect, yet they have found a second body in it which, like the thyroid extract, produces a fall of blood-pressure. In Rolleston's case headache was relieved, but it is well known that this symptom may be relieved alone by the thyroid. A case of acromegaly was shown some time ago by our late President, Mr. F. Gordon Brown, who informs me that the thyroid extract continues to relieve the headache. Probably there is some connexion between acromegaly and exophthalmic goitre, as the former is sometimes associated with some symptoms of the latter, such as pigmentation, and Schäfer and Oliver have shown the similarity in action of the infundibular portion and suprarenal extract on the heart and arterial system. Kennicot has collected 13 cases of acromegaly treated by pituitary extract, seven showed varying degrees of improvement, five none, and one became worse. In two the violent headache and neuralgic pain in the limbs were lessened. R. Caton[56] reported a case of acromegaly which whilst under pituitary extract varied in condition, but showed marked and rapid improvement when the thyroid extract was given alternating with it. Parson[57] also reported a case where the headache was relieved and general improvement took place under thyroid extract. R. W. Dodgson[58] also reports a case of acromegaly in which the lethargy became less and memory improved under the pituitary extract. Von Cyon[59] has shown lately that the pituitary body regulates intracranial blood pressure and bodily metabolism.

Hepatic Extract

At the Thirteenth International Congress held at Paris in 1898 Gilbert and Carnot[60] gave an account of their experimental researches on extract of liver. Injections of the extract in rabbits and dogs, whether subcutaneous or rectal, caused acceleration of biliary secretion and increase in urea and they found that in cases of alimentary glycosuria in man, after absorption of the liver, that the total quantity of glucose eliminated is smaller, the results being more marked when the absorption takes place by the rectum than by the stomach. The liver extract appears, therefore, to stimulate the hepatic cells and to help it to store up more carbohydrates and to transform them better. If there is hepatic over-activity any specific stimulant would tend to still further exaggerate it. In diabetes mellitus due to functional debility of the liver Gilbert and Carnot found the liver extract to be beneficial and they record a case of a woman with diabetic gangrene of the foot in whose case the sugar was reduced from 160 grammes to 38 grammes in four weeks. The patient relapsed several times when the treatment was stopped but each time derived benefit when it was again resumed and the gangrene was healed. In cases of diabetes due to over-activity of the liver the extract does harm by increasing the sugar eliminated; it may be thus used as a means of diagnosis of an under-acting or over-acting liver, as well as a therapeutic agent. In alcoholic cirrhosis with ascites, jaundice, and œdema and hæmorrhages, the extract has proved very beneficial, also in a case of atrophic cirrhosis. According to these authors, pancreatic extract increases the sugar in diabetic cases which hepatic extract controls. I have used hepatic extract in one case of diabetic phthisis and under its influence the sugar apparently diminished. No other medicine was used.

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[40] New York Medical Journal, Oct. 6th, 1900.

[41] Medical News, March 24th, 1900, and Medical Record, March 17th, 1900.

[42] THE LANCET, March 2nd, 1901, p. 619.

[43] Brit. Med. Jour., 1901, p. 1009.

[44] The Medico-Psychological Association, Prize Essay, 1900, p. 48.

[45] Comptes Rendus de la Société de Biologie, Archives de Physiologie, October, 1896.

[46] Cbl. f. Phys., 1897-8, p. 477.

[47] American Journal of the Medical Sciences, vol. cxiii., p. 132.

[48] Brit. Med. Jour., 1897, vol. i., p. 528.

[49] American Journal of the Medical Sciences, vol. cxiii., p. 132.

[50] THE LANCET, August 22nd, 1896, p. 569.

[51] The Practitioner, August, 1896, vol. lvii., p. 154.

[52] Journal of Experimental Medicine, vol. iii., 1898.

[53] Journal of the Physiological Society, March 18th, 1897.

[54] Brit. Med. Jour., 1895, p. 1259.

[55] THE LANCET, April 25th, 1896, p. 1137.

[56] THE LANCET, Feb. 9th, 1895, p. 349.

[57] American Neurological Association.

[58] THE LANCET, March 21st, 1896, p. 772.

[59] Pfluger's Archiv für Physiologie, Band lxxviii., 1901, p. 565.

[60] L'Opothérapie Hépatique dans le Diabète Sucré, Section Thérapeutique, XIII. Congrès International de Médecine.

THE PANCREATIC EXTRACT.

Besides the action of the gland in aiding digestive processes it has been found by the experiments of Minkowski, von Mering, and others that it plays an important part in certain forms of diabetes mellitus. By *experimentally removing in toto the gland in dogs they* produced diabetes mellitus; further, Médon showed that if only a small portion of the pancreas be left, even if it has no intestinal connexion, diabetes is not produced, and that even a graft of the gland subcutaneously is sufficient to prevent diabetes. These experiments led Lépine to put forward the internal secretion theory that has been further elaborated by Tuckett who considers that the pancreatic secretion neutralises a toxic substance absorbed from the intestine through the lymph stream.

Although *experimental removal of the pancreas produces* diabetes mellitus it is a remarkable and interesting fact that injections of pancreatic extract, whether subcutaneous, intravenous, or peritoneal, and also pancreatic feeding, have not the slightest effect in preventing the glycosuria and clinically the same has been found to be the case. Dixon and Lépine have published interesting statistics on this treatment.

Hector Mackenzie[61] has published results of two cases treated by the liquor pancreaticus with the result of general improvement, increased strength, and lessened thirst and quantity of urine, but no diminution in the sugar. Neville Wood[62] obtained a similar result possibly due to pancreatic pills but in another case a negative result. Combe[63] has reported a case of diabetes of eight years' duration cured by taking pancreatic sandwiches. He considers that the internal secretion is a glycolytic ferment which renders inert circulating glycoses. Williamson[64] has published an interesting table of 26 cases of diabetes mellitus in all of which the pancreas was examined. In eight well-marked changes were found, in four slight changes, and in five atrophy. He suggests, like Tuckett, that in these cases the glycosuria is due to the absorption of a toxic substance from the intestine which is neutralised by the internal secretion of the pancreas. Lauder Brunton in 1874 tried raw meat for diabetes. Williamson also quotes Gilbert and Carnot[65] who in cases of diabetic extract of definite hepatic origin advise the administration of hepatic extract which they consider acts by either increasing the power of the liver to store up reserves of sugar or to cause a more rapid destruction of hydrocarbons taken as food. In 1868 Langdon-Down[66] published a case of fatty diarrhœa with diabetes which he treated with the pancreatic extract with a very successful result. The fat entirely disappeared from the stools, the sugar also disappeared from the urine, and the man gained in weight. Von Noorden has used pancreas and preparations of it with good result in cases of chronic steatorrhœa accompanying diabetes and in other cases of chronic steatorrhœa depending upon disturbance of the function of the pancreas.

EXTRACT OF INTESTINE.

E. Vidal of Perigueux has shown from experiments on rabbits that if pig's fæcal matter be injected into the marginal vein of the ear the animal developed in 15 seconds violent convulsions and died, whereas in another animal of the weight which had been previously injected with extract intestine and then subsequently injected with fæcal the only symptoms were slight dyspnœa with fairly marked myosis without convulsions and the animal did not die the following evening, from which it would appear that intestinal extract neutralised the toxic effect of the intestinal poison, the subsequent death of the animal being due to the inevitable septicæmia set up by a fluid rich in bacteria. Occlusion of intestine in rabbits, guinea-pigs, and rats showed that where the intestinal extract had been injected immediately the animals lived longer than the check ones and that even where stercoræmia had been allowed to commence injection of the extract preserved the animal's life longer, but in this case a much larger dose was requisite, so that not only has the extract a preventative but also a curative action. Vidal applied this knowledge clinically and has recorded a desperate case strangulated hernia in a man, aged 49 years, with superficial respiration, intermittent pulse, and incessant fæcal vomiting, in whom after injection of the [illegible] intestinal extract the general condition of the patient greatly improved and the removal of an enormous mass of gangrenous tissue, the two ends of the intestine being fixed to the skin, was successfully performed, and after three subsequent injections of the extract the patient recovered without interruption. Vidal concluded that the operation would not have been successful unless the toxic poison had been neutralised. There is no doubt whatever that patients in cases of strangulated hernia, even when the operation has been fully successful, sometimes die from stercoræmic poisoning, and to avoid this surgeons now advise emptying of the bowel above the stricture by a puncture with a small trocar and injecting into the bowel a dose of magnesium sulphate through the cannula after emptying it. Vidal has also recorded a case of invagination in a boy, aged six years in whose case injection of the glycerine extract neutralised stercoræmic poisoning. The importance of this work has been confirmed in quite another direction by alienists.

Since Bouchard's classical work on the toxicity of the urine, when he showed that in normal urine there existed seven toxic substances not present in cases of uræmia owing to retention in the body, great attention has been paid to auto-intoxication from products of the gastro-intestinal canal which are believed to cause certain forms of nerve disease and of insanity. W. Ford Robertson[67] states: "I am strongly inclined to the belief, which is supported by a large amount of evidence, that various forms of toxæmia of gastro-intestinal origin are the chief factors in the pathogenesis of a large array of acute and chronic diseases, including severe mental diseases, such as general paralysis, senile insanity, locomotor ataxy, idiopathic epilepsy, acute and chronic mania, and melancholia," and he has demonstrated in proof of his views marked alteration in the structural condition of the stomach and intestine in general paralysis, leading to auto-intoxication from disordered products of gastro-intestinal formation. Lately John Macpherson,[68] Commissioner of Lunacy in Scotland, has stated in his last report that he regards the symptoms of vaso-motor disturbance and sudden loss of nervous function which are characteristic of the early stages of general paralysis as indicating the probable action of a toxic agent in the alimentary canal, and that it is, in fact, a form of auto-intoxication. Some years ago Sir Andrew Clark started the theory that anæmia and chlorosis in young girls was due to an auto-intoxication from the constipation so commonly associated with this condition. In a minor degree the symptoms of constipation are well known to us all and one is reminded of the saying of Lord Byron in one of his letters where he writes: "Talk of champagne, there is nothing that cheers your spirits like a dose of Epsom salts."

RENAL EXTRACT.

Brown-Séquard, believing that uræmic symptoms are only partly due to accumulation of certain substances in the blood, recommended renal juice in cases of kidney disease and showed from experiments on rabbits and guinea-pigs that life lasted much longer after the extirpation of both kidneys when injections of renal liquid were used, and he points out that there is a marked difference in the mode of death in cases of anuria when the internal secretion continues, even though the kidneys are in great part diseased, to that of cases of disorganisation of the kidney when the internal secretion is stopped, the difference being one of much less violence than in Bright's disease and nephritis In support of his view he quotes the case recorded by Sir James Paget[69] in which for 13 days there was total suppression of urine without any symptoms of any kind He also states that in these cases the condition is not to be explained by vicarious urination of the skin. D'Arsonval injected renal liquid in a case of uræmia with temporary benefit, but the patient ultimately died Neale[70] quoted an analysis and comparison of urine and beef-tea made by Masterman[71] who showed how closely similar they are in composition, the only difference being that beef-tea contains less urea and uric acid, and therefore both are stimulants and not nutritious agents. Neale states that one of the worst cases of epistaxis which he had seen and which had resisted every form of European medicine ceased *after the patient drinking a pint of urine, and he had also* seen in South America a glass of a child's or young girl's urine tossed off with gusto and apparent benefit as a tonic. He states that in that country urine is a common vehicle for medicine and that of little boys is highly recommended for malignant small pox Moss[72] used the glycerinated renal liquid in rabbits, healthy and nephrectomised, and obtained only negative results. In 1852 Bauer found urate of ammonia and guano of great value, if used externally, in phthisis, lupus, and morphœa In 1862 Hastings published an elaborate report on the treatment of phthisis by the excreta of reptiles. Lately H. Harper[73] has given urea in certain cases of phthisis which appear to have derived much benefit from its use—the ground on which it is given being that phthisis and gout are antagonistic

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[61] Brit. Med. Jour., Jan. 14th, 1893, p. 63.

[62] Ibid., p. 64.

[63] Brit. Med. Jour., Epitome, 1895 (99).

[64] Practitioner, July, 1900, p. 68.

[65] La Semaine Médicale, May 10th, 1897.

[66] Transactions of the Clinical Society of London, vol. xl., 1868, p. 119.

[67] Brit. Med. Jour., Oct. 26th, 1901.

[68] Edinburgh Medical Journal, December, 1901.

SPLENIC EXTRACT

Schäfer and Oliver have shown that the intravenous injection of splenic extract in a dog causes an immediate fall of arterial pressure, followed by a pronounced continued rise. Wood[74] states that he used extract of spleen with some benefit in exophthalmic goitre but he points out that it is badly borne by the stomach as it causes pain and vomiting and that hypodermic injections are apt to produce local abscess. *He was led to its use in exophthalmic goitre* by the fact of the spleen being enlarged in myxœdema and cretinism and after thyroidectomy, thus suggesting a relationship between the two glands. Carpenter[75] recommends the extract in typhoid fever on the principle that absence of leucocytosis is a marked feature in this disease, and he considers that it ameliorates the symptoms, reduces the temperature, and hastens recovery

In their clinical studies with spleen and thyroid extracts Charles Bois and Neilkerr[76] state that they treated 22 cases with eight recoveries, and they sum up as the result of their investigations (1) that the most general result of this treatment is physical improvement; (2) that its action on the mental state is undoubtedly evident in a fair proportion of cases, especially of adolescents and sometimes direct and at other times owing to improved physical conditions, and (3) that it materially assists in rendering thyroid treatment efficacious, the patient after a course of spleen treatment becoming more susceptible to the action of the thyroid.

PULMONARY EXTRACT

At the French Medical Congress held at Montpellier in 1898 Brunel[77] gave an account of the use of pulmonary juice ("Quelques Indication Nouvelles sur l'Emploi du Suc Pulmonaire") and considered it an effacacious adjuvant in certain conditions where it is possible to stimulate the vital resistance of the patient, but he expressly states that it is not bactericidal or antitoxic in its action ("mais comme un remède renforçant le résistance de l'organisme du poumon en particulier") It acts best in cases of pleuro-pulmonary suppuration with osteo-arthritic condition as described by Marie—in this the amelioration is rapid and the bony deformation is arrested—but it is useless in advanced cases of phthisis. Arnozan[78] has employed pulmonary juice with success in purulent pleurisy of a chronic nature communicating with the exterior either through the pleura or into the bronchial tubes, and non-tuberculous in character and associated with bony changes. He states that the temperature falls, the pus becomes less abundant and more clear, and the articular stiffness and weakness disappear Cassaet[79] ("De l'Action du Suc Pulmonaire") states that tuberculous cases with a chronic pleuro-pulmonary septic condition are much benefited by pulmonary juice.

NERVOUS EXTRACTS.

The researches of Halliburton have shown that extract of sympathetic ganglia produces a fall of blood pressure and that other extracts of the nervous system, as the brain, spinal cord, and ganglia and nerves, produce the same result The effect can be explained on the hypothesis that cholin is the principal active agent. Gumprecht, like Mott and Halliburton, found in normal cerebral spinal fluid minute doses of cholin and in diseased conditions, in which the katabolic side of nervous action is preponderant, cholin is immensely increased. Thus Mott[80] and Halliburton state *that in 150 cases of general paralysis examined by them they* found widespread degeneration, not due to degenerative condition of the nerves but to the production of such powerful poisons as cholin or neurin found in the cerebro-spinal fluid of general paralytics, the poisons being the result of auto-intoxication Brain extract has been recommended by Brown-Séquard and Althaus in epilepsy, locomotor ataxia, chorea, and neurasthenia. In mental diseases no definite results have been produced. Robertson thinks that brain extract may act as a tonic in mild and early cases of neurasthenia.

MAMMARY GLAND EXTRACT

Shober[81] states that extracts of sheep's mammary gland in tablets equivalent to 20 grains of the desiccated gland given by the mouth three times a day have a positive action on the uterus, causing contraction and so diminishing bleeding It is, therefore, similar to ergot but far more reliable and surer, and its continued use has no unpleasant effects in uterine fibroids, characterised by excessive and *weakening menorrhagia* and metrorrhagia, bleeding can be controlled in a few weeks, and the health of the patient is improved The tumours are inhibited in growth and diminish in size up to a certain point, and by its use the patient can be placed in a more favourable condition for operation. It *is also useful in subinvolution of the uterus* from any cause unassociated with cancer or structural change, the uterine canal coming down from three inches to one and half inches in five or six weeks. Leucorrhœa and irregular bleeding cease and backache and other reflexes disappear. It is of no use in cancer, dysmenorrhœa of *ovarian and* tubal origin, or malposition or stenosis

PAROTID GLAND EXTRACT

The extract of this gland is of much use in controlling the pain of uncomplicated ovaritis, where the ovaries are enlarged and prolapsed.[82] Bell of Glasgow has found parotid extract useful in ovarian disorders, especially in cases of enlarged and tender ovaries with dysmenorrhœa, metrorrhagia, chronic *endometritis, and subinvolution.*

I have endeavoured to bring before you a method of therapeutics which, starting from remote antiquity, has come down to the present day, and whilst "tracking out how new thoughts are linked to old ones and seeing how an error cast into the stream of time leaves a streak behind lasting through many changes of the way of man, and noting the struggle through which a truth now rising to the surface, now seemingly lost in the depths, eventually swims triumphant on the flood, we may perhaps the better learn to appraise our present knowledge and the more rightly judge what of the thoughts of to-day is on the direct line of progress"[83] That John Hunter should have independently observed the effects of removal of the essential organs of generation is not surprising—it was simply the outcome of his all grasping and all-observing "don't-think-but-try" intellect. But to him is also due the credit of making there observations in a scientific spirit, and although the words "internal secretion" are not once mentioned in his original paper yet one cannot but feel they are writ large across it. The records of our society show that this spirit of observation has never been wanting in our Fellows. It is only necessary to recall such names as William Blizzard, Clift—who though not belonging to our society attended its meetings—the Babingtons, Richard Bright, John Hilton, and Jonathan Hutchinson to prove our intellectual affiliation with John Hunter. Let us in our turn see that we pass on the sacred fire to those who will come after us, ever mindful of the words of the greatest Hunterian orator "that in the world of thought 'he that is mortal may produce that which is immortal.'"[84]

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[69] *Transactions of the Clinical Society of London*, 1869, vol xi., p. 171

[70] Practitioner, 1881 p 343.

[71] THE LANCET June 22nd 1878, p 924

[72] La Clinica Moderna, Dec 1st, 1897

[73] THE LANCET, March 9th (p 694) June 15th (p 1672), and Dec 7th (p 1567) 1901

[74] American Journal of the Medical Sciences 1897 p 511

[75] Medical Record, Feb 17th, 1900

[76] Brit Med Jour, vol ii 1893, p 684

[77] Congrès Français de Médecine, Montpellier, 1898, vol ii p 370

[78] Ibid., p 363

[79] Ibid., vol. iv, p. 306.

[80] Transactions of the Medical Society of London, Feb. 27th 1900.

[81] Journal of the American Medical Association, July 22th, 190 p. 215.

[82] Ibid

[83] Michael Foster: The History of Physiology 1901 p 1

A CASE OF PURULENT PERITONITIS ASSOCIATED WITH EMPYEMA; RECOVERY.[1]

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INFLAMMATIONS of serous membranes are by no means always confined to one locality; there may be double pleurisy, pleuro-pericarditis, peritonitis, or meningitis associated with pleurisy or pleuro-pneumonia. In these cases the double or treble lesion is due to infection by micro-organisms which have been carried from one organ to another by the blood-stream, or in some cases (as from the left pleura to the pericardium) infection has occurred by direct contact. In "pneumococcal septicæmia," pleuro-pneumonia, peritonitis, and meningitis have been found in the same subject, though in an early stage, as death has resulted from toxæmia before the lesions were far advanced. In other cases the streptococcus or the tubercle bacillus has been the organism which has given rise to the multiple inflammation.

These associated serous inflammations have no doubt a certain analogy to multiple joint inflammations and this circumstance has probably suggested the names of "polyserositis" or "polyorromenitis."[2] It must, however, be obvious that cases of multiple serous inflammations differ widely from one another as regards the infection present and the organs attacked, and nothing but confusion can result from their being included under a common name. The following case is, I think, of interest as illustrating one form of combined serous inflammation—viz., a purulent inflammation occurring simultaneously in the peritoneum and left pleura, fortunately ending in recovery.

The patient was a girl, aged eight and a half years, who was delicate and had suffered a good deal from attacks of bronchitis. She had been fairly well up to Sept. 10th, 1901, when she was seized suddenly with vomiting, diarrhœa, and pain in the abdomen. When seen next day by her medical attendant (Mr. A. W. Senior) the temperature was 103° F., the vomiting was incessant, the stools were foul and liquid, and there were cough and some expectoration of mucus. The vomiting ceased in a few days but the diarrhœa continued for a week and the temperature remained at from 103° to 104°, while great pain was complained of in the abdomen and left chest. There was also jaundice for a few days during the first week of her illness.

When I first saw the patient on Sept. 21st her great complaint was the severe pain which she was suffering in the abdomen; this came on in paroxysms and was evidently very severe. There were marked tympanites and great tenderness all over the abdomen. In the left chest there were signs of consolidation in the lower two-thirds of the lung posteriorly, with bronchial breathing and consonant râles. There was also a patch of pneumonia at the extreme base on the right side. The respirations were rapid, the temperature was 101°, and the pulse was 140. I must confess that I thought very badly of the case, looking upon it as one of "pneumococcal peritonitis" with double pneumonia. On the other hand, her general condition was wonderfully good considering the extent of the inflammatory lesions. She was bright and cheerful when not in pain; the vomiting had ceased; her features were not drawn, nor were there any signs of collapse. The next 12 days produced no improvement and when I saw her a second time (on the twenty-third day of her illness) it was clear that the abdomen contained a large quantity of fluid; the flanks were bulging and a well-marked fluid thrill could be obtained from side to side. The superficial veins were distended and a zone of redness was present around the umbilicus. The left pleura was full of fluid, being dull on percussion, and the heart was pushed over to the right. The patch of pneumonia present on the right side at the last examination had disappeared.

Operation was at once decided upon and Mr. G. A. Wright next day evacuated 40 ounces of pus from the abdomen by inserting a tube at the umbilicus, but before his arrival the pus had penetrated the skin at this spot and some had escaped. A rib was excised and the empyema was drained at the same time. Much pus drained away from the tube in the abdomen during the next few days but it ceased to flow before the end of the week and the tube was removed. The draining of the empyema was a more tedious affair but a good recovery eventually resulted.

Dr. W. J. S. Bythell was good enough to make a very careful examination of the pus and also cultures in Professor S. Delépine's laboratory. He reported as follows:—"Peritoneal pus was thick and viscid, not settling into layers; pale greenish grey colour, inodorous. Microscopically, richer in cells than in fibrin; crowded with cocci which were arranged in tetrads and capsulated, staining extremely good, but capsules not coloured by eosin. A careful examination of 10 slides failed to reveal any pneumococci. Phagocytosis very good. No tubercle bacilli. Vigorous cultures of micrococcus tetragenus obtained on agar and gelatin, the latter without liquefaction; films well stained by Gram's fluid. No colonies of pneumococcus. Empyemic pus, on standing, deposited a greyish green precipitate, supernatant layer clear amber colour. Microscopically, richer in fibrin than in cells; a small number of pneumococci, varying a good deal in size, and staining reactions; no chains. A few capsulated cocci, arranged mostly in pairs with a few tetrads. Phagocytosis moderately well marked. No tubercle bacilli. Cultures on agar, small isolated colonies of (*a*) typical pneumococci, (*b*) large and opaque colonies of micrococcus tetragenus. Gelatin stab cultures were characteristic and without liquefaction."

This was in many ways a remarkable case and the complete recovery which took place with such inflammatory lesions was certainly surprising. When first seen the case looked like one of "pneumococcal septicæmia" associated with general peritonitis and double pleuro-pneumonia and the prognosis seemed to be of the gloomiest. But at no time was there any very marked collapse such as would have been expected and the vomiting after it ceased during the first week was not again troublesome.

What was the significance of the micrococcus tetragenus in this case? It is apparently often found in suppurations about the neck and respiratory tract. Dr. Bythell tells me that he has found it four times in the pus of empyemata (out of 40 examinations), but in association with the pneumococcus in all four cases and once or twice with other cocci as staphylococcus aureus. I am not aware that it has been noted before in the lymph or pus of peritonitis. In this case it was associated with an inflammation which ran its course without producing the grave constitutional symptoms which one would naturally expect, but whether this coccus produces a milder inflammation than most other cocci it is not possible to say.

Which serous membrane was first affected? The peritoneum or pleura? As far as the evidence goes they commenced simultaneously and there is no evidence to show which was primary.

Was the peritonitis really pneumococcal in origin, the organism perishing before the pus found its way out, as the peritonitis had been in progress for some 23 or 24 days before any bacteriological examinations were made? Certainly the case closely resembles one type of pneumococcal peritonitis as described by M. Broca.[3] This author publishes three cases very similar clinically to mine in which the pneumococcus was present in the pus. In one of his patients the symptoms of peritonitis followed a day or two after the crisis of an apical pneumonia, in the other two the symptoms of the peritonitis came on without being preceded or accompanied by any pulmonary lesion, but one of these patients died from a post-peritoneal broncho-pneumonia; the other two patients recovered. The symptoms in all three came on suddenly with vomiting, diarrhœa, fever, and pain in the abdomen; in a few days there was obviously a collection of fluid in the abdomen, redness appeared at the umbilicus, and there was a discharge of pus at this spot. The author points out that this rapid formation of pus and "fistulisation rapide de l'ombilic" is characteristic of a pneumococcic peritonitis and that such cases are liable to be confounded with acute enteric fever, tuberculous peritonitis, or appendicitis. M. Broca also reports a case in which there was a local collection of pus in the abdominal wall and a case of diffuse general peritonitis which was rapidly fatal, both of which were pneumococcal. This last case appears to have resembled the case of Dr J. H. Bryant which was reported in vol. i. of the Transactions of the Society for the Study of Disease in Children.

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[84] Sir James Paget: Hunterian Oration, 1877, p. 36.

[1] A paper read at a meeting of the Society for the Study of Disease in Children on March 21st, 1902.

[2] See Dr. F. Taylor: Brit. Med. Jour., 1900, vol. ii., p. 1693.

[3] Péritonite à pneumocoques, par M. Broca, Gazette Hebdomadaire de Médecine et Chirurgie, Oct. 21st, 1900; abstracted in the Archives de Médecine des Enfants, May, 1901.

It is interesting to note that all seven of the cases referred to above were in girls. This may be only a curious coincidence; or is it possible that the infection may take place, like a gonococcal infection, from the vagina to the peritoneum? My above cases illustrate the well-known observation that prognosis is very difficult in peritonitis; the most promising cases often go unexpectedly to the bad, while every now and again a seemingly inevitably fatal case makes a good recovery

I must express my great indebtedness to Mr. Senior of Levenshulme for his notes of the case and to Dr. Bythell for his careful examination of the pus

Manchester.

TWO CASES OF PARALYSIS AGITANS IN THE SAME FAMILY, IN WHICH IMPROVEMENT FOLLOWED THE ADMINISTRATION OF HYOSCINE.

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IN the following cases the chief points of interest are (1) the presence of typical symptoms of paralysis agitans in a brother and a sister; (2) the onset of the symptoms at a comparatively early age; and (3) the improvement which followed the administration of hyoscine during each of the two periods when it was given

The patients first entered my wards in the Manchester Royal Infirmary on Sept. 17th, 1900, and remained under treatment for 11 weeks. They were readmitted on Dec. 31st, 1901, and left on Feb 5th, 1902. The man, 41 years of age, was formerly a mill spinner but he was obliged to leave off work at the age of 35 years owing to weakness in his legs and a tendency to fall on to his face. These were the earliest symptoms to attract his attention. A year later he noticed that his legs were shaking; after a few months his arms began to tremble and subsequently he noticed that his head shook at times. He attributed his condition to working in a very hot room and then going out into the cold. His sister stated that her illness began when she was about 18 years old. The tremors came on so gradually that she could not be sure when they actually commenced, but at the age of 19 years they were so bad that she was obliged to give up her work in the mill at which she had been engaged for several years. She attributed her illness to her occupation, which involved the constant contact of her hands with wet and cold yarns. Neither in the case of the brother nor in that of the sister could any history of fright, or injury, or previous illness be obtained. The father of these patients was asthmatical; they did not know the cause of their mother's death One brother died from consumption at 24 years of age and another brother died from influenza. They stated that two sisters had suffered from paralysis agitans but no confirmation of the statement could be obtained, one of these sisters died at the age of 16 years and the other at the age of 26 years.

Both patients presented the characteristic mask-like face, attitude, tremors, and other symptoms of paralysis agitans. In both cases the tremor affected the hands and forearms, the feet, and to a slight degree the head; in the man the legs also shook as they lay extended on the bed. The tremor affected the hands much more than other parts; it could be controlled by a voluntary effort; it was absent during sleep, very slight on waking in the morning, and worse towards night or after any exertion. It was not symmetrical on the two sides; thus, the man's left hand trembled more than his right hand. The movements of the limbs were weaker than natural. The weakness was irregularly distributed; thus, the grasp of the man's right hand was weaker than that of his left, while the muscular power of his left leg was weaker than that of his right. Slowness of movement, however, was perhaps more conspicuous than weakness. This was especially noticeable as regards the head movements. Thus, when either patient looked to one side the eyes turned quickly but rotation of the head was slowly performed. The muscles of both arms and legs showed increased irritability to tapping As regards muscular stiffness in the limbs this was slight or absent; in the man no rigidity of limb could be detected, in his sister the muscles of the forearms appeared to be a little more rigid than normal. The fingers did not occupy the usual "interosseal" position but were slightly bent at all the joints. It is to be noticed that in both cases the little fingers presented a congenital deformity, their first phalangeal joints being rigidly flexed owing probably to shortening of their tendons. Both patients presented the characteristic stooping attitude In walking the man showed a slight tendency to hurry forwards, while in the woman there was a marked tendency to retropulsion. A very slight push on the chest made her walk backwards; the pace increased at each step until she lost her balance and fell into the arms of the nurse walking behind her. In both patients the knee-jerks were exaggerated and in the man a true ankle clonus was obtained on several occasions; sometimes it was absent. No indications of ataxia or of sensory disturbance could be detected and the skin apart from flushing and sweating presented a normal appearance.

The patients were treated by massage and by the administration of hyoscine. At first this drug was given hypodermically, the dose being gradually increased from $\frac{1}{200}$th to $\frac{1}{150}$th of a grain, which was injected once a day. As the larger dose produced nausea, dryness of the mouth, and giddiness the injections were discontinued. Subsequently hyoscine was given in chloroform water by the mouth, as recommended by Dr. R. T Williamson At first $\frac{1}{192}$th of a grain was given twice daily This dose was gradually increased to $\frac{1}{64}$th of a grain. Both patients took this amount without any ill effects and while they were taking hyoscine in this way they appeared to be much better They stated that they felt more comfortable and were less troubled than formerly with flushings and restlessness. The tremor became less marked, as shown in tracings taken before the administration of hyoscine and again after the drug had been taken for some time. Dr. A. Ramsbottom (my house physician) and others who had watched the cases thought that the attitude and gait were also improved by the treatment.

Judging from an experience of several cases I am inclined to agree with my friend Dr. Williamson that hyoscine is probably the most useful drug that has hitherto been tried in the treatment of paralysis agitans. As a rule, it diminishes or arrests the tremor, checks the troublesome restlessness and the desire to change position, and relieves the "hot flushes" and unpleasant sensations of heat. It is important to remember that hyoscine is a very powerful drug and hence must be administered with great care It is safer to give it by the mouth than to inject it under the skin Merck's hyoscine hydrobromate is probably the best preparation, this should be given well diluted in chloroform water "A prescription which is useful is one-eighth of a grain of hyoscine hydrobromate in six ounces of chloroform water At first two teaspoonfuls of this may be given, then three, four, or five teaspoonfuls. If necessary the dose may be increased to six teaspoonfuls ($\frac{1}{64}$th of a grain), providing toxic symptoms are not produced. The hyoscine is best given in the morning, just after breakfast, and again in the evening (just before going to bed) if the patient is troubled with restlessness and sleeplessness during the night."[1]

Manchester

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[1] R. T Williamson: Paralysis Agitans, 1901.

ON CARDIAC INADEQUACY.[1]

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BY the term "cardiac inadequacy" in the sense in which I purpose employing it on this occasion I do not mean inadequacy of the heart from valvular defect, nor have I in my mind that form of inadequacy due to muscular degeneration of the walls of an otherwise normal organ. I refer to a form of inadequacy the existence of which can, perhaps, at present be suggested rather than proved and which need not be associated with histological change of texture but which may, of course, also be concurrent with such. The use of the term may, indeed, be regarded by some as but a cloak for ignorance. It will, however, I think, be found on consideration to be justifiable and it is, moreover, one which has not been left unemployed, although it may require further definition and elucidation. The late Sir Andrew Clark used to speak of a "renal inadequacy" in kidneys which in some instances on anatomical examination were apparently normal, but in which the average functional activity of the organs was subnormal.[2] We know, moreover, from Dr. J. R. Bradford's convincing experiments[3] that a very considerable diminution may be effected in the size of the kidneys without endangering the life of the animal experimented upon, for the remaining renal texture tends to enlarge to cope with the additional work thrown upon the remainder of the organs. The minimum of healthy renal texture compatible with life may, however, be approximately determined by the excision of portions, and then an actual renal inadequacy without disease of the secretory structure is established. Similarly, no doubt, the minimum of any other secretory organ essential to its functional adequacy might also be determined, provided the operation to diminish its bulk were not in itself destructive of life.

In the case of the heart we have to deal with a purely mechanical organ, an aspirative and propulsive pump the functional adequacy of which is largely proportionate to the muscular power of its walls and a due preservation of the proportion between these and the chambers contained by them, although other factors, with which I shall not deal on this occasion, also go to produce the functional adequacy of the organ. It is, perhaps, scarcely necessary to recall the fact that the heart bears a certain relation to the size of the animal which contains it. The heart of an ox is larger than that of a sheep, of a cat than that of a rat, and that of a rat than that of a mouse. In the human subject the heart of an average man weighs more than that of an average woman, of an adult more than that of a child, of a big man more than that of a little man. This is the rule, to which there are occasional exceptions and the exceptional conditions may have important consequences.

According to Reid[4] the average weight of the heart of the adult male is 11 ounces and of the adult female nine ounces. Peacock[5] places it somewhat lower—namely, at nine and three-quarter ounces for the male and at nine ounces for the female. "Inasmuch," writes Walshe, "as the heart varies very sensibly in bulk with the stature and mass of the whole body, and also with the age of the individual, it follows that a general standard applicable with moderate precision to all persons, even of the same sex, is not attainable."[6] For practical purposes he assumes the average weight of the healthy male heart to be nine and a half ounces and of the female organ eight and a half ounces.[7] Hamilton's more recent average, as given by Gibson,[8] is from 10 to 13 ounces for men and from 10 to 11 ounces for women. "His results," says Gibson, "show, as was previously expected, that there is no real ratio between the size of the body and that of the heart; yet they indicate that, as a rule, the heaviest hearts are to be found in the tallest persons."[9] These calculations are avowedly made from the dead heart. It may be possible, however, hereafter, as will be presently suggested, to determine this matter more precisely in the living. A statistical determination of this point from the cadaver is open to fallacy, unless the height and body-weight of each individual be determined at the same time and a sufficient number of hearts of persons of the same general height and weight be compared with one another. Care should also be taken in such a calculation that the organs which are weighed have approximately the same amount of extraneous material attached to them when the weight is taken. I question very much whether all these points have ever been so carefully observed in a sufficient number of cases as to afford a reliable calculation. The fact may, however, be accepted that the larger the animal, whether biped or quadruped, the larger, as a rule, is the normal heart necessary for an adequate propulsion of its circulation, and one may assume for practical purposes that the average weight of the heart of an adult man may be placed at 10 ounces. That accurate observer, Allan Burns of Glasgow, so much of whose work is still valuable, remarks that "in some instances the heart is so diminutive as to bear no proportion to the sanguiferous system. In one case on opening an adult body, with the history of which I was unacquainted, I saw the heart little larger than it is often met with in a new-born child. In another instance I found the heart of a female, 28 years of age, no larger than the same organ usually is in a girl of six. In the preparation the heart appears healthy in structure. The vessels are of a size proportioned to the age of the subject but no more."[10] Such instances of excessive cardiac hypoplasia, while most interesting, must be very rare. Everard Home states of the heart of John Hunter that "it was very small, appearing too little for the cavity in which it lay."[11] The pericardium was thickened and did not collapse on section. This fact recalls a wise caution of of Allan Burns—namely, that "we ought never to consider a heart as reduced in size unless at the same time the pericardium be diminutive."[12] This is true, no doubt, of congenital hypoplasia, but an atrophied heart may occupy a pericardium of normal dimensions. The very difficulty which has been experienced in establishing a definite relation between the size of the organ to the organism in the human subject rather emphasises the importance of drawing further attention to the matter than of leaving it unconsidered. For while a smaller organism may not be materially inconvenienced by the possession of a relatively large and healthy organ it is conceivable that a large organism may suffer from the presence of one too small for its purposes.

The weight of the normal heart being chiefly due to the amount of cardiac muscle which it possesses, heart-force may be roughly stated to be proportionate to heart-weight unless some palpable defect in the organ renders its muscular advantage nugatory. We are justified, I think, in believing this to be the rule, but it is possible that mere bulk, even without gross disease, may in some cases be associated with an essential functional inadequacy. For the functional adequacy of the heart—as, indeed, of all the organs of the body—is the expression not of one but of three factors. In the case of the heart these are muscle, nerve, and blood, and to secure functional adequacy these factors, moreover, must exist in that harmoniously balanced state and proportion the result of which is vigorous vital motion.

The evidences of a due aspiration and propulsion of the circulation are to be found in the absence of excessive overflow into the textures of the body outside the vascular system—that is, in the proper emptying of the veins and in the maintenance of a steady average moisture in the lymphatic vessels and their associated spaces, such as the pleuræ, the pericardium, and the peritoneal cavity. Local circumstances, systemic, pulmonic, or portal, may account for local *stagnation* in the venous and lymphatic systems apart from the influence of the central organ of circulation, but clinical experience, I believe, justifies the opinion that the influence of local impediments is exaggerated by a diminution of the power of the heart and lessened by an increase in that power. We frequently observe cases in which practically the same local conditions are associated, in some cases with more, in others with less, evidence of venous and lymphatic overflow. This experience likewise holds good as to the results of treatment.

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[1] A paper read before the Æsculapian Society on Feb. 21st, 1902.

[2] Transactions of the Medical Society of London, vol. vii.

[3] Goulstonian Lectures, 1898.

[4] Quain's Anatomy, edition 1867, vol. i., p. 32.

[5] Ibid.

[6] Diseases of the Heart, fourth edition, p. 11.

[7] Loc. cit.

[8] Diseases of the Heart and Aorta, p. 26.

[9] Loc. cit.

[10] Observations, &c., Edinburgh, 1809, p. 109.

[11] *Life of Hunter*, p. lxiii., Preface to Treatise on the Blood.

[12] Op. cit., p. 110.

Thus the removal of effusion in some cases is followed by cure or a long immunity from recurrence. In others, which are mechanically indistinguishable from the former at the bedside, treatment is baffled by a rapid reappearance of retrogressive phenomena or by greater difficulty in establishing a due relation between the forces which propel the circulation and those which tend to retard it It seems, indeed, probable that the varying success of the physician in securing cardiac "compensation" for disabled action (and this apart altogether from the nature and situation of gross mechanical lesions) is influenced by an essential or congenital difference in hypertrophic power—in a word, in greater cardiac adequacy on the part of one heart as compared with another. Like the poet, the highly recuperative organ is born, not made, but careful management may do much for a radically inferior heart, just as similar care may result in the production of a very passable poetaster. It would be hazardous to fix upon any single circumstance as turning the scale in favour of or against a patient in some cases. It has been argued that functional adequacy is the result of at least three factors, not of one, and the influence of such circumstances as the age, the general organic condition, and the reserve force of the patient cannot be lost sight of.

The two cases which I wish presently to bring before the notice of the Æsculapian Society this evening, however, seem to argue that there is one circumstance in this connexion which has not, so far as I know, been sufficiently emphasised, or, if it has, has been practically forgotten, but which is nevertheless calculated to have an important bearing on the life of the patient and, *ceteris paribus*, on the success of treatment. That circumstance affects the muscular factor in cardiac adequacy and is expressed by an abnormal smallness of the heart in proportion to the circulation which it is called upon to maintain. It is well known that in a certain number of cases of phthisis the heart is found on examination after death to be below the average size and there have been some who have inclined to the belief that there was a connexion between the smallness of the heart and the diseased condition of the lungs. Many consider, however, that this conclusion is an instance of placing the cart before the horse and that the exhausting processes of the pulmonary malady are the more direct causes of the diminution in size or atrophy of the heart. The fuller consideration of this point does not, however, arise at present. It will be shown, moreover, that in those cases which I am about to relate and which were also examined after death smallness of the general size of the organ was associated with hypertrophy of its walls, a circumstance which excludes the agency of atrophic and degenerative processes. It may be remarked, however, in this connexion that Walshe[11] writes as follows: "It may be that a phthisical individual whose heart only reaches the par of health for his age and sex is nevertheless clinically the subject of hypertrophy; his amount of heart is beyond the legitimate wants of his impoverished system." If, therefore, it can be shown that the heart may be too small for the work it has to accomplish it is manifestly important that such a fact should be capable of detection in the course of clinical investigation. If it be possible to detect enlargement of the heart it should also be possible to detect dimensions less than those usually met with and by the means ordinarily employed. That it is possible by such means cannot be denied On the other hand, diminution of the heart below the normal size is not clinically so striking as enlargement beyond such average. The resonant conditions and varying shape of the præcordial thorax, moreover, are calculated to mask other than well-marked variations In one of the cases to be presently related the apex beat was in the fourth left intercostal space and at, not beyond, the nipple line, but I confess that the diagnosis of an abnormally small heart was made only in the deadhouse. In the second case related the small heart was displaced by the subdiaphragmatic tension of the ascitic fluid and in that case also the discovery of the small heart was left to the pathologist. These facts, however, do not in any way remove the possibility of the discovery of a disproportionately small heart by the ordinary processes of inspection, percussion, palpation, and auscultation. We have, however, now a surer method of coming to a conclusion on this point by the accurately measured use of the Roentgen-ray apparatus. In all photographic processes the value of the resulting picture would be greatly enhanced by the routine use of a readable scale on such pictures; I shall presently show how an ordinary tape measure may be utilised for this purpose. But a scale drawn across the face of the fluorescent screen in Roentgen radioscopy or exact measurement of the shadow in Roentgen radiography would give an approximately correct idea of the dimensions of the portrayed shadow. If, further, the distance of the light from the body and the antero-posterior dimensions of the thorax examined were similarly measured, under the same circumstances as to time, feeding, and posture, we could form a sufficiently correct idea of the size of the organ casting the shadow By this means, then, the height and weight of the organism being known, data could be collected to determine whether a given normal heart was above or below the normal size.

When a heart essentially inadequate gives way under the strain of ordinary existence or exceptional effort, or in consequence of acquired impediment from disease affecting any portion of the circulatory system, the persistence, rapid onset, and intractability of the conditions induced may be expected to be characteristic of the essential and original fault. But perhaps the most delicate index to imperfect blood-pressure is the amount of the urine—that is, of water voided by the kidneys. The secretory structure proper to these organs may be healthy and the output of solids not apparently lessened, but the urine will have a high specific gravity and proportionately deposit a larger amount of solids Such a condition may, of course, result and, as we know, does result, when a heart, however originally adequate, breaks down from any cause; but when such failure is supplemented by an essential inadequacy it may be expected to be a still more marked, and perhaps more easily detectable, sign For the rest the essentially inadequate organ must participate in all the recognised phenomena indicating failure of the heart from any cause whatever.

With these preliminary observations I shall now endeavour to answer the question whether there be or not an essential cardiac inadequacy. If the question be answered in the affirmative it will necessarily imply the existence likewise of an essential cardiac *adequacy* which may manifest itself under circumstances of mechanical or other strain placed upon the energies of the heart. To answer the question rationally the hypothesis suggested must be submitted to the touchstone of fact; I must relate instances of its occurrence and I purpose considering on this occasion the influence of diminished bulk of muscle in the heart or disproportionate smallness of the organ, of which the following case was a good example.

CASE 1.—A man, 57 years of age, was under my care at the Great Northern Central Hospital. He had been a policeman. He was admitted on May 7th, 1901. About a month previously he had noticed swelling of the abdomen and experienced dyspnœa on exertion. He looked more than his age, was sallow and somewhat emaciated, was rather above the average height, and the peritoneal cavity was filled with fluid. His legs, also, were œdematous His pulse-rate was 80; it was regular, rather large, and easily compressible. The apex beat of the heart could neither be felt nor seen. Its left percussion line was within the vertical nipple line and its right reached the mid-sternum. The first sound was very soft and weak and the second was short and unaccentuated There was no bruit. The percussion note over the bases of both lungs was slightly impaired and there were fine and medium-sized râles over the bases of both lungs posteriorly Vocal fremitus was normal The urine had a specific gravity of 1025; it showed a heavy deposit of lithates but contained neither albumin, blood, nor sugar. Rest in bed was at first followed by considerable increase in respiratory and general comfort but had no appreciable effect upon the ascitic tension of the abdomen. On the 17th 200 ounces of fluid were withdrawn from the abdomen by paracentesis. The parietes being lax thereafter the abdominal cavity could be examined by palpation but no induration of liver or other abnormality could be detected. The urine continued normal in character though not in quantity. On the 30th 180 ounces of fluid were removed by tapping Next day I determined the following points in connexion with the patient's heart. The apex beat was apparently just above the fourth rib and at the nipple which was four inches from the mid-sternum There was dense percussion dulness below that point running without modification of note into the liver dulness. On June 4th the ascitic fluid was again noticed to be reaccumulating and on the 13th 260 ounces were removed. The condition of the patient was now steadily deteriorating and jaundice became well marked. On the 20th 260 ounces of fluid were removed by paracentesis abdominis and the same quantity was again withdrawn on the 26th. The patient died on July 3rd. The average quantity of urine passed by him during his illness, and estimated from 32 diurnal collections, was about 24 ounces, the highest record being 42 ounces, and the lowest nine ounces, for 24 hours.

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[11] Op cit., p. 16

On post-mortem examination the abdominal cavity was found to be full of icteric fluid. The liver was enlarged but on microscopic examination showed no overgrowth of interstitial tissue. The spleen was also large and its pulp was soft. The kidneys were large and had adherent capsules. The pancreas was hypertrophied and in places hard but gave no evidence of tumour or malignant growth. The stomach and intestines were normal. The heart was abnormally small, weighing only seven and a half ounces. Its ventricular walls were hypertrophied, the left in its greatest thickness measuring three-quarters of an inch, the septum rather more, and the right ventricle at its thickest point about half an inch. The cavities of the heart were relatively small and all the valves were normal. On microscopic examination the muscle bundles were found to be separated by an excess of interstitial tissue and here and there the muscle fibres showed a fine fatty degeneration. The lungs were somewhat shrunken, the left being œdematous and at its apex adherent, where there was a focus of pneumonia. The pleural cavities contained no excess of fluid. In this case, notwithstanding a record in the notes of the necropsy of adherent capsules on the kidneys, there was no reason to regard those organs as diseased and the absence of interstitial changes in the liver likewise excluded a strangling of the portal circulation as the cause of recurrent ascites or cardiac hypertrophy. The small hypertrophied heart, therefore, may be legitimately regarded as the evidence of an originally inadequate organ of otherwise healthy constitution, coping for a time successfully with a task beyond its capacity and ultimately yielding to its overwork, prematurely ageing, and finally causing the death of its containing organism.

J. McS.—Longitudinal section of the heart from behind showing the left ventricle to the left [illegible] a large adherent ante-mortem clot in the right auricle.
G. P.—Longitudinal section of the heart from the front, showing the left ventricle to the right.
The tape scale shows the measurements.

In the following case a similarly inadequate heart was not the primary cause of the phenomena which marked the decay and death of the organism, but it may, I think, be rationally regarded as having aggravated the fatal conditions. The heart was again small but hypertrophied.

CASE 2.—A man, 33 years of age, was under my care at the Great Northern Central Hospital. He was admitted on Sept. 17th, 1901, suffering from dyspnœa and peritoneal dropsy. He was a thin, feeble looking man, rather over the average height. His father had died from heart disease but there were no other points in his family history, as given by the patient, to call for comment. He himself had been a soldier in India and had suffered repeatedly from fever and ague. He denied both alcoholic excess and venereal infection. His temperature ranged from 97° to 99° F. and his pulse-rate from 72 to 100. The following note was made of the condition of the heart on admission: "Cardiac dulness begins at the third rib above; it does not extend to the right beyond the right edge of the sternum, but there is some definite dulness to the left beyond the nipple line. No murmurs are detected." The lungs were equally resonant on percussion on both sides and scattered rhonchi were the only abnormal sounds heard in either organ. His urine was scanty, of high specific gravity (1030), and it contained an excess of urates but neither albumin nor sugar. The peritoneal cavity was filled with free fluid and so distended as to prevent an examination of the abdominal organs by palpation. On the 18th 187 ounces of fluid were removed by paracentesis. The fluid was clear and yellow, had a specific gravity of 1010, and was two-thirds albuminous. The abdominal organs could now be palpated and the spleen was found to be greatly enlarged, its lowest point being detectable just above the left iliac crest and its anterior edge displaying a well-marked notch. Beyond this nothing definite was noted. The urine remained scanty and loaded with urates but free from albumin and the ascitic fluid gradually reaccumulated until Oct. 5th when 90 ounces were removed by tapping. On examination the patient's blood showed 75 per cent. of hæmoglobin, 4,300,000 red cells, no poikilocytosis, and 6250 white cells, the majority of which were polynuclear. After paracentesis the patient was more comfortable but his general condition was unsatisfactory. On the 6th he had slight hæmoptysis; on the 7th the abdomen was strapped to retard the reaccumulation of fluid; on the 8th the visible impulse of his heart was noted as having been in the fourth and fifth spaces and the area of cardiac dulness as four and a half by four inches, and the heart's beat was regular and without bruit. On the 11th palpable and audible coarse friction was detected over the enlarged spleen and the patient lost a little blood by the bowels. On the 30th 100 ounces of fluid similar in character to that previously examined were withdrawn. The patient complained a good deal of pain in the abdomen (? peritonitis) and required hypodermic injection of morphia for relief. Dulness over the bases of the lungs posteriorly was also detected and the respiratory sounds were somewhat masked. As the abdominal strapping appeared to aggravate discomfort it was removed on Nov. 12th and on the 25th 152 ounces of fluid were withdrawn by tapping. The splenic condition varied very little and the hard edge of a cirrhotic liver could now be felt in the upper portion of the epigastrium. The enlargement of the spleen was therefore regarded as mainly due to hepatic strangling of its circulation, with the possible addition of an old malarial element. The patient expressing a desire to go home for a few days and his home being close at hand he was permitted to leave the hospital and advised to return at once if he became in any way more embarrassed. He was readmitted on Dec. 2nd, having had hæmatemesis to a large amount the night previously. He looked rather blanched. He had a pulse of 120 and a temperature of 99·4°. The abdominal dropsy had recurred. As the patient had been tapped and strapped with ever recurring dropsy so frequently I asked my colleague, Mr. Peyton T. B. Beale, to empty thoroughly the peritoneal cavity by peritoneal section. This was accordingly done on the 3rd but no attempt was made to stitch the omentum to the parietal peritoneum or to establish adhesions by peritoneal friction, as has been practised by some surgeons. The patient rallied well after the operation but had recurrence of hæmatemesis to about a pint next day. This was checked by the use of 10 minims of a solution of suprarenal extract (20 per cent.) in an ounce of hot water. On the 5th there was again a recurrence of the bleeding which also was checked by the use of suprarenal extract. Next day the patient died exhausted. The average daily output of urine in this case, estimated from 73 separate collections was 20 ounces, the largest quantity recorded during 24 hours being 42 ounces and the lowest six ounces, while on a considerable number of occasions the quantity measured was well below 20 ounces.

The body was examined post mortem on the 6th. The peritoneal cavity contained over 70 ounces of thin sanious fluid with a few coagula of blood and some flocculi of fibrin. The peritoneum itself was thickened throughout and opaque. The liver, spleen, stomach, gall bladder, and large intestine were matted together by old adhesions and in a measure by newly formed fibrinous deposit. The liver was small, hard, hobnailed, and fatty on section. The interstitial tissue was much increased. The spleen was greatly enlarged and almost inseparably connected with the stomach by old and new adhesions of varying consistency. The stomach was catarrhal and congested and contained some blood clots. The intestines were also affected by catarrh and were congested. The kidneys were somewhat swollen and cyanosed, their parenchyma was fatty, the capsules were adherent in places, and the organs were lobulated. Both lungs were adherent posteriorly, collapsed, and affected by hypostatic congestion. The right pleura contained 28, and the left 46, ounces of a sanious flocculent fluid. The heart was remarkably small, weighing, with the usual amount of extraneous vessels attached and the intra-cardiac clots, eight ounces. It was normal as to its valves. The ventricular walls were hypertrophied, the left at its thickened part, including the section of a papillary muscle measuring one inch and the septum three-quarters of an inch. A large decolourised clot was adherent to the wall of the right auricle and a smaller one of the same character occupied the conus arteriosus. On microscopic *examination there was some, but not much, increase of inter*stitial tissue and the muscular fibre and vessels were normal.

These two cases, then, as they were observed for a considerable period during life and were examined carefully after death, will serve to illustrate the point which I wished to submit to the society this evening, whether they be regarded as sufficiently establishing that point or no. The time at our disposal prevents a consideration of the influence of failure in the nerve and blood factors in cardiac inadequacy which may impair the efficiency of a heart otherwise well proportioned to the size of the body which it has to serve. Nor have we time to illustrate the contrary condition of essential cardiac adequacy—if that be a justifiable term. By bearing in mind, however, this underlying adequacy or inadequacy in cardiac action as the case may be, and which I believe to be essential qualities of the organ, I contend that we shall find the key to some of those circumstances of success or failure in the management of diseases and disorders of the heart which so frequently afford food for thought. It may likewise in some measure serve to explain why the secondary phenomena of cardiac failure in distant parts of the body should manifest themselves in some cases, while in others much resembling these such phenomena are absent or transient, sometimes more, and at other times less, amenable to treatment.

Upper Berkeley-street, W.

ROYAL DENTAL HOSPITAL OF LONDON.—It is announced that a special *matinée* will be given at Queen's-gate Hall on Friday, May 2nd, in aid of the above institution. A triple bill of original plays will be presented. The company engaged is a purely professional one.

PYREXIA OF GASTRO-INTESTINAL ORIGIN DURING THE PUERPERIUM

BY ETHEL M. N. WILLIAMS, M.D. LOND.

IT is a commonplace to say that many of the slighter cases of fever during the puerperium are due to disturbance *originating in the gastro-intestinal tract, but few people* would feel happy in regarding as of purely gastro-intestinal origin cases in which the temperature rose to 103° or 104° F., with a pulse of from 120 to 140. The picture in most minds when we speak of fever originating in the alimentary tract during the puerperium is of a moderate fever of from 100° to 102° occurring about the third day with little or no quickening of the pulse and little or no constitutional disturbance—the whole thing vanishing as soon as the bowels are satisfactorily opened. Most people, I think, hold that any marked quickening of the pulse up to 120 or more, especially when accompanied by high fever, is strong evidence of ordinary septic infection. The two following cases, if they are to be regarded as of gastro-intestinal origin, show that such infection can assume a much graver aspect. The first was a pure sapræmia, though a severe case; the second was of special interest owing to the rash which was such a marked feature. Certainly in the past such a case would have been labeled "puerperal scarlet fever," though the rash only in parts resembled the rash of scarlet fever and there was never any sore-throat or typical condition of the tongue.

CASE 1.—In the case of this patient, a married woman, aged 27 years, 2-para, labour began about 1 P.M. on August 6th, 1901. The vertex presented and the patient was delivered normally of a female child at about 4.30 P.M. There was no tear. The pulse was 96 at the time of delivery and it did not fall in rapidity, though the uterus contracted well and there was no loss. The patient complained of irritation and soreness about the anus and there were some reddening of the skin and scalding in the neighbourhood. She said that the bowels had been opened daily throughout the pregnancy, though the motions were generally hard. On the second and third days after delivery the temperature was normal and the pulse-rate ranged from 96 to 100. On the 8th an ounce of castor oil was taken early in the morning but the bowels did not act till late in the day. There was a great deal of milk which flowed away freely from the breasts. Late on the evening of the 10th the patient began to complain of abdominal pain and headache. When seen at about 9 A.M. on the 11th the temperature was 103·6° and the pulse was 120. She had not slept at all during the previous night. The tongue was moist and was covered with white fur and there were much headache and abdominal pain which seemed to be worst about the umbilicus. The abdomen was soft, it moved normally with respiration, and there was no tenderness except possibly in the upper part. The uterus was hard and involution was proceeding satisfactorily. The lochia were quite normal. There was much complaint of pain and of burning about the anus and the skin was markedly reddened to some distance from the orifice. A large enema of soap and water with two ounces of turpentine was given. This brought away some hardened fæces and a great deal of flatus. An intra-uterine douche was also given which brought away nothing. *A mixture containing two grains of* sulphate of quinine and 20 minims of liquid extract of ergot was ordered to be taken every six hours. In an hour the temperature had fallen to 101°. When seen at 6 P.M. the temperature was 103·8°, the pulse was 132, and the respirations were 30. There was a good deal of headache but the abdominal pain and anal scalding were much less. The tongue was moist and was covered with thick white fur. Milk was still being secreted, though in much lessened quantity. An enema of two litres of a dilute solution of creolin was given from a fountain douche. A large amount of fæces and much flatus came away. In an hour the temperature had fallen to 101·6°. The bowels were opened four times during the night. On the 12th at 9.30 A.M. the temperature was 98·8°, the pulse was 112, and the respirations were 18. The anal scalding and headache had gone and the patient said that she felt quite well. At 6 P.M. the temperature was 98·8° and the pulse was 96. By the next day the pulse had fallen to between 70 and 80 and recovery from this point was quite uneventful.

CASE 2.—The notes of this case were given to me by Dr. Minnie Ethel Bowlby. The patient, a primipara, had suffered from constipation for three or four years but it had grown much worse during the pregnancy. Labour began about 5 A.M. on Nov. 12th. The vertex presented and the patient was delivered of a female child at about 1 P.M. The placenta was expelled. There was a small tear in the perineum and one stitch was put in. The pulse was 68. In the evening the temperature was 100° F. On the 13th the temperature was normal and the uterus was hard and there was no tenderness. On the 14th the temperature was 100°. An enema was given which brought away much fæces and flatus. The temperature after the enema was 99°. On the 15th the temperature was 100·6°, the uterus was hard, and the lochia were normal. There was some flatulence. There was no headache. A bright-red papular rash appeared over the abdomen and arms. During the day it spread all over the body. It was raised and well defined at the edges. There was no sore-throat. On the 16th the rash had increased and had become markedly polymorphic. In parts it consisted of large raised erythematous patches. On the arms it was papular and on the chest and abdomen it was punctiform. The colour throughout was bright scarlet. An enema was given with little result. The temperature was normal in the morning and 100° in the evening. On the 17th the rash was still more profuse and the face was œdematous. The patient had only passed urine once in 24 hours. Four grains of calomel were given and later an enema, with at first no result, but after a second injection an enormous amount of fæces came away. The temperature was 99·4° both morning and evening and the pulse was 88. On the 18th the patient had slept well and the rash was fading. The pulse was 88 and the temperature was 100 8°. After an enema there was again an enormous motion. The evening temperature was 101·6°. On the 19th the temperature was 99·8° and the rash looked much more like measles, only it was of a bright-red colour and very irritable. In the morning the temperature was 103·6° and the pulse was 124. The patient was said to have had a rigor. An enema was given with very little result. The lochia had almost ceased. On the morning of the 20th the temperature was 100·2°. The feet and hands were red and œdematous and were covered with a sudaminal rash. There was intense irritation. There were red marks like scalding around the mouth and eyes. The uterus was contracting normally, there was no tenderness, and the lochia had quite ceased. The urine was acid, containing no albumin, and there was a large precipitate of urates. The evening temperature was 102·2° and the pulse was 100. On the 21st the morning temperature was 99 8° and the pulse was 80. The œdema of the face and hands was much less marked, but the rash had come out thickly again over the abdomen. The evening temperature was 101·8° and the pulse was 100. There was an enormous motion after medicine and enema. On the 22nd the morning temperature was 99·8° and the pulse was 88. The face and lower part of the back had begun to desquamate. There was a small amount of discharge from the vagina on that day. The evening temperature was 101° and the pulse was 90. The patient was passing large quantities of urine. There was desquamation all over the body, mostly in fine dusty particles, but the feet and hands peeled in large flakes The bed was full of scales each morning. On the morning of the 23rd the temperature was 99 2° and the pulse was 72; in the evening the temperature was 100·2° and the pulse was 78. By the 25th the temperature had fallen to normal. On Dec. 5th the patient had a few dates. On the 6th there was some œdema of the face and the rash reappeared over the face and the neck. The temperature was 100·4°. On the 7th the temperature was 99·6° and there was a recrudescence of the rash upon the chest. From this point convalescence was uneventful, though the peeling continued till the end of December.

I have never seen any case of gastro-intestinal poisoning in which the rash has been so prominent a feature, but a patient whom I have attended in two confinements has on each occasion had a pulse of from 96 to 100 from the time of delivery up to that of the bowels being opened on the third day, while contemporaneously with the opening of the bowels a very irritable, bright-red, papular rash has appeared over the chest, on the flexor surfaces of the wrists, between the fingers, and on the insteps. One is reminded of the rashes sometimes seen after administration of an enema which must be attributed to the absorption of some poison from the intestinal tube It would be a matter of extreme interest in these cases to test the urine for the presence of ptomaines and to determine the proportion between the simple and ethereal sulphates in order to see if there was any evidence of an abnormal amount of bacterial action going on in the intestinal tube.

My reason for publishing these few notes is to suggest that the rôle of the intestinal tube in infections during the puerperium is wider than it is generally supposed to be. The first of my two cases was certainly sapræmic, though the infective material was not all got rid of by the first enema. I think that it is a question whether in the second case the infecting material had not gained a footing in the living tissues—possibly only in the walls of the intestine.

Cases both of septicæmia and pyæmia have been described in which the infecting organism has been found to be the bacillus communis and it is much easier to suppose that the infection in those cases has taken place through the walls of the intestine rather than through a wound in the genital tract. It is known, as a matter of fact, that during the puerperium the resistance of the body against microbic invasion is very markedly diminished. It is but natural, then, to suppose that this loss of defensive power will be as apparent in invasion from the intestinal tube as in the more usual invasion from the genital tract. It does not need for me to point out the importance of a prompt diagnosis between these cases and those of ordinary septic infection. I cannot find out any definite symptoms marking off these intestinal cases. Of course there will be absence of symptoms pointing to the genital organs and, in my experience, there are always much flatulence and a good deal of complaint of abdominal pain which is usually localised in the upper quadrants of the abdomen. There is by no means always a history of constipation, though in such cases as I have seen there has been evidence when the bowels were moved that there had been retention of fæces.

Newcastle-on-Tyne.

PRIMARY CARCINOMA OF THE AMPULLA OF VATER.

BY F. DE HAVILLAND HALL, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE WESTMINSTER HOSPITAL AND JOINT LECTURER ON THE PRINCIPLES AND PRACTICE OF MEDICINE IN THE MEDICAL SCHOOL, &C.

IN view of the rarity of primary carcinoma of the ampulla of Vater I think that it is desirable to put on record the following case.

I first saw the patient, a man, aged 46 years, on Oct. 6th, 1900, in consultation with Mr. G. W. Simpson of Lamberhurst. The patient stated that he had been quite well until the preceding August; then he had a febrile attack (the temperature was from 103° to 104° F. for two days), accompanied with pain in the head and limbs. The attack closely resembled influenza. After three or four days the temperature became normal and the patient suffered from itching and flatulence. About a week later he became jaundiced and he felt ill, but there was no vomiting, diarrhœa, or pain. This condition continued up to the time that I first saw him. On examination the thoracic viscera were found to be normal. The liver was uniformly and greatly enlarged, reaching nearly to the umbilicus, and the distended gall-bladder could be made out. The motions were clay-coloured and the urine was bile-stained. The temperature was normal. The patient had lost about two stones in weight since the commencement of his illness. Previously to the present illness the patient's health had been excellent; there was no history of enteric fever, pneumonia, or any other serious affection. He was ordered chloride of ammonium (20 grains) every six hours.

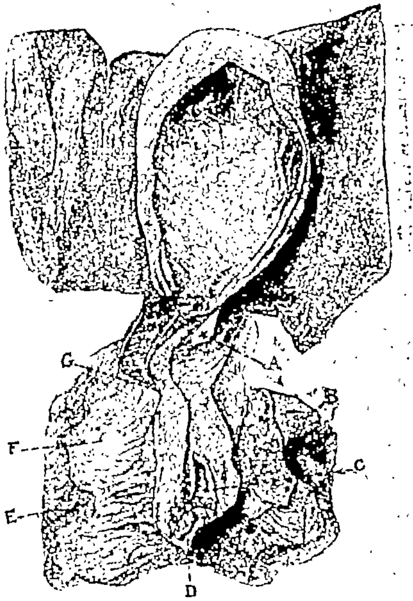
I did not see the patient again until he was admitted into the Westminster Hospital under my care on Jan. 5th, 1901. On admission he was deeply jaundiced. The liver could be felt three or four fingers' breadth below the costal margin; it was hard and rather tender and it appeared to be regularly enlarged. The gall-bladder was distended. The spleen could not be felt. There were no ascites and no œdema. The stools were semi-solid, clay-coloured, and very offensive. The urine was acid, bile-stained, and free from albumin and sugar. The temperature on admission was 98°. On the 7th it rose to 102·4°, falling next day to 97·6°, but there was another rise on the 9th to 104°. The patient became comatose at 4 P.M. on the 9th, having previously complained of severe headache for some hours. On the 10th the temperature gradually and steadily rose and at 5 A.M. on the 11th it was 107° and the patient died.

A necropsy was made eight hours after death by Dr. W. S. Lazarus-Barlow, when the body was found to be moderately nourished, with intense bronze jaundice. The hair was iron-grey. The lungs weighed respectively the right 32 ounces and the left 28 ounces, and were emphysematous anteriorly and congested with localised patches of semi-consolidation posteriorly over both organs. The larynx, the trachea, and the bronchi were congested and much mucus was found therein. The bronchial glands were large and soft; the pleuræ and the pleural cavities were normal. The pericardium contained bile-stained fluid. The heart weighed 12 ounces; it was flabby but fairly normal otherwise, the edges of the mitral flaps being rather thicker than normal. The great blood-vessels also were normal. No ascites was found in the abdomen. The liver weighed seven pounds; it was enlarged and of a deep green, almost black, colour. Its substance was fairly firm. The bile passages were much dilated throughout the organ. The gall-bladder was dilated and full of pale-green bile of a watery consistence. The cystic duct was much dilated and the common bile duct was sufficiently large to admit the little finger in its main course. At the papilla in the duodenum the orifice was of the normal size, but the whole papillæ and a small portion of the duct behind the opening were enlarged and firm, so that a mass of the size and somewhat of the shape of a small bean lay beneath the duodenal mucous membrane. The pancreatic duct was much dilated and bile could be made to flow through the unopened papilla by pressure on the gall-bladder. On slitting up the common duct from the papilla it was seen that there was a soft and ulcerating mass of material lying immediately within the orifice. From the surface of this a fluid having the appearance of pus could be scraped. The mass surrounded the entire lumen but did not extend further along the duct than about three-eighths of an inch and it did not invade deeper tissues. The tail of the pancreas was very dense but the head was of normal consistency. Wirsung's duct was dilated throughout. The spleen weighed 13 ounces; it was soft and large. The kidneys weighed respectively the right nine ounces and the left 13 ounces. They were highly congested and bile-stained and were apparently the seat of a tubal nephritis. The adrenals were normal, as also were the bladder, the stomach, the œsophagus, and the intestines.

Microscopically the growth was a columnar cell carcinoma. The position of the tumour and its relationship to surrounding parts is well shown in the accompaning illustration.

In THE LANCET of Feb. 16th, 1901, p. 467, will be found an excellent paper by Dr. H. D. Rolleston on Primary Carcinoma of the Ampulla of Vater. Of the 21 reported cases he regarded about seven as being above suspicion. "Most of the remainder are either carcinoma of the termination of the common bile duct or of the duodenal surface of the biliary papilla."

In the case under consideration there are several points of interest. In the first place, the patient complained of intense itching for a week previous to the appearance of jaundice. The cause of the itchiness in these cases is not known, but its occurrence in hepatic disorders independently of jaundice seems to show that it is not due to the bile pigment. In Halsted's case of "Primary Carcinoma of the Duodenal Papilla and Diverticulum of Vater"[1] the patient's first symptom was "itching of the skin, which came on suddenly and soon became severe." Next the absence of vomiting, diarrhœa, and pain is deserving of attention. The combination of jaundice with enlargement of the liver and a distended gall-bladder clearly pointed to some obstruction in the common duct. The suddenness of its occurrence seemed to exclude malignant disease and the absence of pain negatived gall-stones, so that I was inclined to regard the case as one of catarrh or swelling of the common duct, though in a case of this sort I should have expected to have found signs of gastro-intestinal derangement, such as vomiting and diarrhœa; moreover, the amount of liver enlargement and the distension of the gall-bladder struck me at the time as being very unusual. The last point to which I wish to direct attention is the temperature. The rapid rise of temperature which occurred on the second day after the patient's admission into the hospital was due, I believe, to the broncho-pneumonic condition. In looking back over the case one can see that the possibility of a new growth within the common duct or in the ampulla should have been considered, but the extreme rarity of the condition led to its being overlooked. The case illustrates the great complexity of the problem to be solved in endeavouring to arrive at the cause in any given case of jaundice.



A, Opening of the right and left hepatic ducts. B, Stomach. C, Opening of Wirsung's duct. D, Growth in the ampulla of Vater. E, Head of the pancreas. F, Duodenum. G, Site of opening of the cystic into the common duct. Opening of the cystic into the common duct = circle three-quarters of an inch in diameter. At the ampulla immediately above growth = one and a half inches.

As regards treatment there is little to be said. The result of operative interference in Halsted's case is not encouraging. Though the immediate result of the operation was good the patient died some 15 months later from recurrence of the carcinoma in the head of the pancreas and duodenum. The lesson taught by this case is the necessity for an early diagnosis so as to ensure the complete removal of the growth.

Wimpole-street, W.

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[1] The Johns Hopkins Hospital Bulletin, No. 106, January, 1900.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

POISONING BY IRISH YEW.

BY A. STANLEY BARLING, M.R.C.S. ENG., L.R.C.P. LOND.,

HONORARY SURGEON TO THE ROYAL LANCASTER INFIRMARY; SURGEON TO HIS MAJESTY'S PRISON, LANCASTER CASTLE, AND TO THE LANCASTER POLICE FORCE AND FIRE BRIGADE.

So far as I am able to learn the following is the first case recorded of poisoning by Irish yew. The plant was mistaken for savin and taken by a woman, aged 24 years, who was three months pregnant for the purpose of procuring abortion. The leaves and twigs of the tree were placed in a pan and packed tightly so that the vessel might hold as much as possible. The pan was then filled with water and the whole was boiled for some hours. At the end of that time the pan was about two-thirds full of a black liquid. An ordinary teacupful of this was taken by the woman three times a day. For three or four days nothing unusual was noticed but then the patient began to have what she described as a feeling of pins-and-needles at the pit of the stomach. This got worse and she began to feel ill. At the end of a week nausea and slight griping pains in the abdomen were experienced. On the next day there was some vomiting and the pains were more severe. After a fortnight—during the whole of which time the administration of the decoction was continued in the same doses—the pain was most severe, the vomiting almost incessant, and the patient became unconscious. She remained so for some hours. She was so ill that she was thought to be dying. There was no delirium. After this she refused to take more than one teacupful a day which she continued for a week, not feeling any ill-effects, and then gave it up. Abortion was not induced and six months afterwards she was delivered of a full-term child which had been dead for a short time.

This woman suffered from most of the symptoms of poisoning by the common yew (*Taxus baccata*). Her recovery after taking what appear to be enormous doses may be due either to the vomiting, though this did not occur until she had been taking the stuff for at least a week, or to the possibility that the Irish yew is less poisonous than is its relative.

The poisonous principles of yew do not seem to have been investigated with any thoroughness. We are told that the active principle is an alkaloid named "taxine," but what are its nature, formula, and properties I have failed to discover. It would be most interesting to know also whether this is found in all varieties of yew and in what proportions.

Lancaster.

DIPHTHERIA IN THE NEWLY-BORN.

BY GEORGE A. AUDEN, M.A., M.D. CANTAB.

DIPHTHERITIC infection of the newly-born child appears to be an accident of extreme rarity. Dr. Abraham Jacobi[1] makes an indirect reference to some cases quoted by him in 1880 and these are probably the cases to which Professor William Osler refers in the recent edition of his "Practice of Medicine." Apart from these scant references I have not been able to find any published account of the occurrence. The confirmation of the clinical diagnosis by the result of a bacteriological examination gives additional interest to the following notes.

On the evening of May 12th, 1901, I attended a woman, aged 35 years, in her second confinement, when she was delivered of a full-time healthy child. On May 20th, the eighth day, a greenish, slightly blood-stained, discharge was noticed issuing from the left nostril of the infant in sufficient quantity to stain the pillow. He became fretful and began to take the breast indifferently. On the following morning there was an acrid sanious discharge from both nostrils which soon became excoriated. The child was very fretful and refused food. An attempt to examine the fauces was unsatisfactory and revealed nothing. On the tenth day (May 22nd) there was much nasal discharge, the nostrils being almost occluded. The child breathed with difficulty and with a little inspiratory stertor. There was no recession of the chest walls but the child was somewhat cyanosed and there was great difficulty in getting him to take food. There was a moderate degree of diarrhœa, the pulse was imperceptible, and the temperature was 101° F. Both fauces were seen to be œdematous and upon each tonsil there was a typical patch of membrane. 200 units of antitoxin were at once injected and repeated in four hours and again in the evening, by which time the child's general condition had much improved. The temperature remained at 101°. On the eleventh day (May 23rd) there was less difficulty in breathing but the discharge from the nostrils continued. The temperature varied between 100° and 101°. The child took the breast every two hours. Dr. C. P. White (demonstrator of pathology, Yorkshire College, Leeds) reported on a swab taken on the previous day: "Undoubted diphtheria bacilli in the swab; long forms showing marked segmental staining; streptococci also present." On the twelfth day a slight nasal discharge continued; there was still some exudation on the right tonsil. The bowels were still loose with greenish stools. The temperature was 100°. The child took the breast and slept well. On the thirteenth day the temperature was 98·6°; there was no sign of exudation on the tonsils and the pulse was good. On May 31st the mother's right breast became very inflamed and an abscess appeared to be imminent. The inflammation, however, subsided under treatment. She stated that one month before the child was born she had suffered from a very severe sore-throat which had continued to cause difficulty in swallowing until a week before the confinement. The sanitary arrangements of the house appeared to be satisfactory and no external source of infection could be discovered. There were never any indications of paralytic symptoms and the child is now remarkably robust and healthy.

Although there is no doubt that breast-fed children are less liable than others to contagious or infectious disease, it is difficult to harmonise the facts of the above described case with the theory put forward by Schmid and Pflanz[2] that the maternal milk possesses antitoxic properties. In the present instance the mother fed her child throughout his illness and so far from transmitting any antitoxic elements may herself have been the source from which the infection was derived, for the severe sore-throat from which she suffered immediately before her confinement may not improbably have been due to the specific diphtheria bacillus.

York.

A CASE OF RUPTURE OF DUPUYTREN'S CONTRACTION.

BY T. CRISP ENGLISH, M.R.C.S. ENG., L.R.C.P. LOND.,
HOUSE SURGEON, ST. GEORGE'S HOSPITAL.

IN October, 1900, a man, aged 45 years, was seen at St. George's Hospital with the following history. For 15 years he had suffered from a gradually-increasing contraction of the ring and little fingers of the left hand. There had been no obvious cause to account for this contraction which had put him to great inconvenience; there was, however, a well-marked family history of gout and he had suffered from gout himself. Whilst walking down Piccadilly he had tripped over his stick and fallen heavily on to the kerb, his left hand receiving most of his weight. He heard a "loud snap" and found that his fingers had been forcibly straightened, the skin at the root of the little finger being torn. When seen at the hospital there was a gaping wound at the base of the little finger about three-quarters of an inch long. The tendon of the flexor sublimis digitorum was exposed at the bottom of the wound with its tendon-sheath intact; there was slight hæmorrhage but the digital nerves were apparently uninjured. At the base of the ring finger there were some extravasation of blood and swelling. Both fingers were now quite straight. The wound, which had been contaminated with dirt, was thoroughly scrubbed with 1 in 2000 mercuric biniodide solution and a rough splint of pure tin was moulded to the fingers, the wound healing by granulation. Both fingers were vigorously moved daily, this somewhat retarding the healing of the wound which took place in about four weeks. At the end of this time the patient was discharged, being told that the contraction would return unless the fingers were thoroughly exercised and kept straight. These instructions were conscientiously carried out, and when seen in January, 1902 (15 months after the accident) there was no sign of re-contraction and full movement of both fingers was possible. The slight contraction of the palmar fascia which was noticed before, of course persisted.

Accidental rupture of Dupuytren's contraction is a very rare accident and the above case is interesting as showing that this accident may occur, not only without harm, but even with much benefit to the patient. The most noticeable point in the case is that there was no sign of recurrence of the deformity; the slow progress of the disease, however, may account for this. Mr. W. Anderson, in his Hunterian Lectures on Contractions of the Fingers, related a somewhat similar accident. In this case a contracted finger in Dupuytren's deformity was torn by the handle of a railway carriage and was set free, but the benefit was only temporary. Dupuytren originally practised division of the contracted cords and the superjacent skin in this disease, straightening the finger with a splint. Suppuration unfortunately appears to have been common and "if the patient recovered without the loss of his hand" the process of cicatrisation restored the deformity in a more hopeless and distressing form than ever. This case therefore seems exceptional in that open rupture of the tendon has so far proved curative.

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[1] Article on Diphtheria in Stedman's Twentieth Century Practice of Medicine, vol. xvii., p. 78.

[2] Wiener Medicinische Wochenschrift, No. 42, 1896, quoted by Jacobi loc. cit.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. MARY'S HOSPITAL.

THREE CASES OF OPERATION FOR SUSPECTED STONE IN THE KIDNEY, WITH CLINICAL REMARKS.

(Under the care of Mr. EDMUND OWEN.)

THE utility of the Roentgen rays in the diagnosis of renal calculi is very small and we fully agree with Mr. Owen that the employment of this diagnostic means may induce a patient to decline operation though a calculus is present in the kidney. The ordinary uric acid stone gives hardly any image on a sensitive plate but the calcium-oxalate calculus and the phosphatic stone may give definite evidence of their presence. In Cases 1 and 2 renal calculi were found and were removed, but in Case 3 although the signs and symptoms were marked yet no stone was found. An experience like this must have occurred to most surgeons and it is difficult to account for the symptoms, but it is still more difficult to explain why in most cases all the symptoms disappear after such an exploratory operation. Mr. Owen's clinical remarks, which are appended, are of great value.

CASE 1. (From notes by Mr. W. S. Hughes, dresser.)—The patient was a painter's labourer, aged 23 years. The symptoms first occurred in 1894. He complained of sudden stabbing pain in the right loin when he was at his work; the pain, which lasted about two hours, was severe, but was relieved by linseed-meal poultices. Two or three months later the pains recurred and had done so periodically since. He had been treated by medical men who had dieted him and ordered large draughts of barley water. The pain occurred only on movement, especially when there was any jolting, such as during an omnibus ride, and in going up or down a ladder. It was confined to the right loin and was "stabbing" in character. On Feb. 15th, 1902, a severe pain shot from the right loin to the right testis and apparently caused retraction of that organ. He vomited, sweated, and was collapsed; this attack lasted two hours. During the next week he had increased frequency of micturition and he said that his urine was "thick"; one day he passed a small stone by the urethra. He had no blood in his urine during that time, nor had he ever passed blood. The pain in the right loin had, however, persisted since this last attack, and he was admitted to St. Mary's Hospital under the care of Mr. Owen at the end of February, 1902. No abnormal signs, except tenderness and resistance in the right loin, could be made out. The kidney could not be felt. The urine was of specific gravity 1005, had an alkaline reaction, and contained a slight trace of albumin; no blood or pus or tubercle bacilli were discoverable. Mr. Owen cut down upon the right kidney on March 3rd, and a stone was felt in the pelvis of the kidney. A longitudinal incision was made through the outer border of the cortex, and the stone was extracted; it consisted of uric acid. It was of the size of a large filbert, smooth and rounded, and at one end there was a small rough surface from which a portion might have separated.

CASE 2. (From notes by Mr. J. E. Peachell, dresser.)—The patient was a carman, aged 24 years. Four years ago he was suddenly seized with severe pain in the left loin, when sitting in a chair. He had to go to bed; he vomited, and was in great pain till the following morning. For the next two months he had periodical recurrences of the pain which was always confined to the left loin. He had never passed gravel, or had blood in his urine. The attacks usually occurred after jolting, especially when he used the foot-brake of his van. In severe attacks he had usually vomited, and he found that if he lay down when the attack came on the pain soon ceased. He had not had increased frequency of micturition. Linseed poultices had given him more relief than other remedies, but when the attacks occurred as he was driving, he found that bending over to the right side, and supporting the left loin, gave him some ease. On examining, there was nothing to be made out beyond slight tenderness on deep pressure into the left lumbar region. The kidney could not be felt. The urine was of specific gravity 1015; alkaline; and contained a slight trace of albumin, a little pus, and a heavy deposit of urates and phosphates. On March 10th Mr. Owen cut down on the left kidney, and extracted five smooth faceted stones, consisting of uric acid, ranging in size from that of a small, to that of a large, pea.

CASE 3. (From notes by Mr. J. N. Kilner, dresser.)—The patient was a farm labourer from Cornwall, aged 17 years. He began to suffer from attacks of pain and tenderness in the left lumbar region at the end of January, 1902. The pain occurred first when he was sitting down one evening, and left him when he got up and moved about. At the first attack the urine was voided very frequently, but since then there had been no frequency of micturition. The urine had always been abundant, and had never contained albumin or blood. (Report from Dr. F. Chown of Hayle.) On Feb. 5th, 1902, the patient was seized with violent pain to the left of the umbilicus, and this lasted for six days, during which time he had little sleep and required large doses of morphia for relief. After three days of complete ease, the pain came on again and lasted for five days. Since then he had had pain, more or less every day. He was, therefore, sent up to St. Mary's Hospital by Dr. Chown, and he had two or three slight attacks of pain in the first few days after admission. He had no vomiting, rise of temperature, or pain in the testis or groin during the attacks, which had always come on when he had been lying down, and were relieved by his moving about. On examination there were distinct tenderness and resistance in the left lumbar region. The kidney could not be felt. The urine was of specific gravity 1017; acid; and contained no abnormal constituents. The genital organs were normal and there was no tuberculosis in his family. Stone in the kidney was considered to be the most likely cause of the symptoms, there being no other signs of disease of other organs. It was therefore considered advisable to explore the left kidney, and this was done on March 13th, but no stone was found in the kidney nor any morbid condition in that organ or its neighbourhood. It is now a month since the operation, and he has had no further attacks of pain. He is up and about apparently quite well.

Clinical remarks by Mr. OWEN.—Gentlemen, in the course of 10 days we have had before us in this theatre three men in whom we so strongly suspected the existence of renal calculus that we undertook the exploration of the kidney, but in not one of these cases—and this is the interesting point—had there ever been found blood in the urine. Some surgeons, I think, even at the present day would hesitate to operate for a possible stone in the kidney in the absence of the cardinal sign of hæmaturia. But the very proper anxiety of not making a mistake may be carried too far, and it is well to recognise the truth of a remark which was made a few years ago by an illustrious visitor to our country that the man who never makes mistakes never makes anything. After all, it is not a very dreadful thing to make a mistake in the matter of performing "nephro-lithotomy" for a patient with severe renal pain who has no stone, for, strange to say, in not a few cases in which the symptoms of renal calculus have been in classical order and no stone was discoverable on operation, the symptoms entirely disappeared after the negative operation. As to what may be the cause of such a clearing off of the symptoms after the operation I cannot say—any more than one can say how it is that after opening the abdomen for tuberculous peritonitis and then sewing it up again the patient may undergo a prompt and complete recovery. And of this, as you remember, we have had some most remarkable instances lately.

I have already called your attention to the fact that in none of these three cases of supposed renal calculus were the x rays used. And for this reason, that if there be a stone, small in size and composed of uric acid, the x rays may give no sign of it. Then, if the surgeon and the patient have been relying on those marvellous rays for making the diagnosis certain and the indication for operation abundantly clear, the surgeon's judgment may be warped and the patient's courage entirely dissipated by the negative result of the investigation. And quite possibly the patient returns home without a very necessary operation having been undertaken. My practice, therefore, is to ask no help from the x rays when I am proposing to operate in a doubtful case of renal calculus. I do not want them traversing me, as it were, after a blank nephro-lithotomy and saying, "We told you so!" If the rays are to be used generally in doubtful cases the practice will be, I take it, disadvantageous in the long run, for if they are too much relied on they will prevent operation being resorted to in cases when it might have been of great practical value. So the undetected stone is allowed to remain in the kidney to the distress of the individual and the irretrievable damage of one of the most important organs in his body. I repeat, that the negative result of an x-ray search for a suspected renal calculus may be little short of a disaster, and I, for my part, never advise the patient to run the risk of inviting it. It is far better for the patient to take his courage in both hands and let the surgeon explore for the stone in the way which I shall shortly describe.

As regards the importance of the symptom of hæmaturia in the question of stone in the kidney, the first and second of these three cases make it quite clear that it is easily over-estimated. The kidney may be occupied by a large, branching, coral-like stone which may be discovered only at a post-mortem examination, whilst there may have been nothing in the personal history to suggest that there had ever been any renal trouble. That is to say, a large stone may exist in the kidney and give rise neither to bloody urine nor to lumbar pain. It is the small stone which is loose in the pelvis of the kidney or in the cavity which it has hollowed out for itself in the renal tissues, which gives rise to bleeding and neuralgia. Yet in the first and second cases, though the stones were small, there had been no bleeding. In the second case it is evident that the stones were moveable, for their opposed surfaces had been polished by mutual friction, whilst in the first case, as you will remember, when my house surgeon, Mr. Hugh Raven, was feeling for the stone in the kidney, it quickly slipped from its nest into some neighbouring cavity from which we had some slight difficulty in extracting it. I repeat the interesting fact that though in those two cases the stones were not fixed, still there was no bleeding.

The third case proved a real disappointment to me, as I am sure it did to you! How complete the discovery of a stone—however small—would have rendered our little series. You may take it from me that there was no stone present, for Mr. Raven and I searched with such persistence and determination that if there had been one we must have found it; when we started the operation we certainly intended to find one. But I fully expect that the active treatment which the kidney has received will completely and at once free the man from his distressing symptoms. Dr. Chown will, I have no doubt, watch him and report to us further in due course.

Operation.—A few words about the operation. In each case I made an incision from the tip of the last rib transversely inwards over the erector spinæ. In two of the cases the sheath of the erector spinæ was opened. This is a matter of slight importance. What the surgeon particularly wants for this exploration is "elbow-room," and if he makes a niggard incision stopping short of the outer border of the erector spinæ (lest by chance he should open its sheath) he may be thereby hampering himself through the rest of the operation. I called your attention to the fact that one of these men had what the late Dr. Sibson called the "expiratory type of chest." That is to say, the chest was small and the ribs were sloping greatly downwards. In such a man the distance between the tip of the last rib and the border of the erector spinæ must be very slight; and, in order to get more room during the operation, I hooked my fingers under his rib and vigorously pulled it up, and, at the same time, with the fingers of the other hand hooked round the cut edge of the oblique and transverse muscles of the abdomen, I hauled them downwards. Then, as you may remember, the naked, outer border of the quadratus showed itself very conspicuously in the wound; this we pulled inwards, after the manner in which we had dealt with the rib, and so we got a clear access to the posterior surface of the kidney.

In the third case, having felt the kidney all over and squeezed it, fore and aft, between the fingers and thumb, I could find nothing. Then without saying whether I felt a stone or not, I asked Mr. Raven to search, hoping that he might succeed where I had failed. But it was not to be. What was to be done next? Put the kidney to rest and close the wound? No. Explore it all over with a needle? No; I do not believe in that method of searching for a stone. I have known the point of a slender needle springing off some fibrous band in the kidney give by its vibration the suggestion of a stone having been struck when no stone was present. Moreover, it is more than possible that if a small stone were present the needle might just happen to miss it. So I have given up the practice of "needling" the kidney in the search for a stone. What I do now is to complete the enucleation of the kidney and bring it out through the wound, so as to be enabled to make an unimpeded and very complete exploration. This disembedding of the kidney has to be done very gently, of course, and let me tell you that Mr. Jessop of Leeds has recently recorded an instance in which, when undue traction was being made in drawing out a kidney for inspection its pelvis was torn.[1] So the matter of bringing the kidney up on to the surface of the body is to be one of gentleness and coaxing. Then, as in our third case, another methodical exploration is to be made with the fingers and thumb, the ureter also being examined. This failing—as it did fail—the next and the last thing to do is to open the kidney and to explore thoroughly its interior with the finger, and on this question I have special remarks to make.

Opening the kidney.—Some few years ago I had the pleasure of being associated with Dr. B. Rice, of Leamington, in the case of a gentleman in whom he, Dr. Rice, had diagnosed a renal calculus. And, sure enough, when we cut down, there was a stone in the pelvis of the ureter. It was not an easy case: the patient was a hunting man with very muscular loins, and we were hindered by a good deal of bleeding. However, without much difficulty, I removed the stone by making an opening through the posterior part of the fibrous pelvis, and, the bleeding having ceased when we plugged the wound, all went well. But for about a year this gentleman was the subject of a most annoying urinary fistula, which eventually closed spontaneously. After that experience I made up my mind not for the future to attack a stone which happened to be in the pelvis of the kidney by making an opening through the fibrous wall of the pelvis—the expanded ureter, that is. Obviously, there is a greater risk of failure of prompt healing of a wound made through the fibrous tissue of the pelvis of the ureter than through the vascular, glandular substance. At the present time, therefore, I make it my business to arrive at a stone, whether placed in the pelvis or in the substance of the kidney, by making an incision through the renal tissue. This incision need not be made near to the hilum; indeed, it ought not be so placed, because the large branches of the renal vessels are traversing that part in their passage to and from the glandular tissue; but the nearer the vessels approach to the outer border of the kidney the more insignificant do they become. The convex margin of the kidney, therefore, is the part which should be incised for the exploration of the gland for a possible stone, and also for the removal of a stone from the pelvis. And the incision should, of course, be made vertically—in the direction in which the pathologist opens the kidney in the mortuary. I very much doubt if a renal fistula would ever follow on an incision so made into the kidney, but we all know that it is apt so to result from a wound of the ureter or of the pelvis. And the only way of exposing the kidney for making that incision is by "coaxing" the outer border up into the surface wound. When making an incision into the kidney at, or near, the hilum the hæmorrhage may be, often is, indeed, very free; but when the finger has been introduced through the convex border the bleeding is, as a rule, slight, as you have perhaps noticed in these three operations.

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[1] Bradshaw Lecture, Dec. 11th, 1901.

ASPATRIA AGRICULTURAL COLLEGE, ASPATRIA (CUMBERLAND).—The annual distribution of prizes gained by successful students at this college was made by Mr. A. Hutcheson of Perth on April 15th. The chairman of the meeting was Sir Wilfrid Lawson, Bart., president of the college. By the kind permission of Sir Wilfrid and Lady Lawson the meeting was held at Brayton Hall.

Medical Societies.

MEDICAL SOCIETY OF LONDON

Clinical Evening Exhibition of Cases

A MEETING of this society was held on April 14th, Dr V H. ALLCHIN, the President, being in the chair

Dr F PARKES WEBER exhibited a case of Infantile Form f Articular Rheumatism with Chronic Enlargement of the pleen, Liver, and Lymphatic Glands The patient, a boy, ged four and three-quarter years, was regarded as a typical xample of an affection which had been well described by Dr G F Still and was usually classed as a variety of rheumatoid arthritis in children. In the present case there was ome apparent enlargement of the knee and elbow joints, but the most marked change was the symmetrical swelling about the articulations of the hands and feet. The swelling, as investigated by the exploring syringe and Roentgen photographs, seemed to be due to infiltration into the periarticular tissues with little, if any, effusion into the synovial cavities. There was considerable limitation of movement in the cervical spinal column and this accounted for the extreme movements of the eyeballs which often gave the face a remarkable appearance. The spleen and liver extended considerably below the ribs and the lymphatic glands in the neck, axillæ, and groin were enlarged, but not greatly so The urine was normal The illness dated from November, 1900, when the boy had an acute disease, said to have been articular rheumatism Before this he could walk and was apparently healthy Occasionally there had been moderate fever and about the beginning of November, 1901, there was a definite attack of endocarditis and the heart, which previously had appeared to be healthy or only very slightly dilated, showed signs of disease of the mitral valve. It was this attack of endocarditis and the fact of pericardial adhesions having been found in other cases which made Dr Parkes Weber think that the affection was more allied to articular rheumatism than to any forms of rheumatoid arthritis in adults. Cases like the present might perhaps be regarded as due to the same specific microbic infection as Dr F J Poynton and Dr A Paine had shown to exist in acute and subacute rheumatism, the clinical differences being explained as modifications resulting from the age of the patients In the same way tuberculosis in young children was clinically generally very different from tuberculosis in adults.—Dr A. E SANSOM could only regard the case either as one of rheumatism plus something else or as not being rheumatism at all He did not regard the arthritis as one of rheumatic origin the characters of which were a relatively painless effusion into the joints of a few weeks' duration The cardiac lesion in this case was very slight in his opinion, if, indeed, any existed. The cases described by Dr Still were in no way connected with rheumatism in his (Dr Sansom's) belief —Dr EDMUND CAUTLEY agreed with the previous speaker that the condition before them was not rheumatic in origin but was rather one of osteo-arthritis associated with rickets —Dr H. D ROLLESTON also regarded the cases as rachitic associated with joint mischief The latter was probably a septic condition and the heart was, in his opinion, clearly affected.—Dr A. MORISON did not agree as to the existence of organic heart disease The case was arthritidis supervening in a rachitic subject.—Dr POYNTON had, with Dr Paine, investigated this case bacteriologically but had not found the characteristic microbe of acute rheumatism He referred to two cases which threw some light on the subject and which tended to show that rheumatism might occur in a malignant and non-malignant form.—Dr PAINE referred to the two forms of joint mischief met with in rheumatism and mentioned some data elucidating the infective origin in these cases.—The PRESIDENT deprecated the use of the word "rheumatic" in these cases. He thought it was incorrect to assume that the age of the patient would modify a common disease like acute rheumatism to the extent met with in this boy —Dr PARKES WEBER, in replying remarked that recent investigations tended to show that there was but one rheumatic poison, though the cases might differ clinically No doubt this child was rachitic, but he adhered to the idea of the rheumatic origin of the case before the society

Dr WILLIAM EWART exhibited a female patient, aged 32 years, the subject of Chronic Nephritis, who had derived marked benefit from the treatment by drainage and feeding which he had advocated in 1898 The incisions at the ankles had drained continuously for four and a half months, enabling the patient during that time to take with conspicuous advantage abundant and various supplies of food. Since the spontaneous healing of the incisions early in January, 1902, she had enjoyed the same liberal dietary without any return of the sub-uræmic symptoms such as had previously been occasioned by a mixed diet. Under the influence of iron, mercury, and arsenic, which she was now taking, she was feeling strong and well, but the albuminuria persisted (about 0·4 per cent.) and there was still some slight œdema of the legs —The PRESIDENT asked whether the treatment advocated had great advantages over frequent sweatings, which might, perhaps, be equally efficacious —Dr SANSOM assumed that the case was one of chronic parenchymatous nephritis and referred to a case in which after incisions into the legs these were put into a warm foot-bath every day for many days The water of the bath became extremely ammoniacal. The uræmic symptoms improved but the patient died

Dr BERTRAND DAWSON exhibited a case of Syphilitic Fibrosis of the Lung occurring in a woman aged 50 years. The onset of the illness was gradual, beginning nine years before with a hacking cough which did not however, at first affect her health. When Dr Dawson saw the patient for the first time, six years ago, the symptoms were sweating cough, spitting, and slight hæmoptysis. There was slight and irregular fever and the fingers were clubbed. The physical signs were confined to the right chest and these could have been regarded as an active supervening on a chronic phthisis, with signs of cavitation the latter most marked at the posterior base. The left lung was free. This case, however, was without doubt one of non tuberculous fibrosis of the lung with some secondary bronchiectasis There was a natural hesitancy to diagnose syphilis of the lung on account of its rarity and the difficulty of excluding othe causes of pulmonary fibrosis. The facts in this case were however, strongly in favour of syphilis because, first the acute symptoms and signs in the chest ameliorated unde iodide of potassium, secondly, the symptoms and sign especially characteristic of fibrosis came on subsequently t the anti syphilitic treatment—that is, as the result of the healing of some active process, thirdly, that active proces was not tubercle though its manifestations in part resembled those of tubercle (there was no history of pneumonia which often explained unilateral fibrosis), and, fourthly, there were evidences of tertiary syphilis antecedent to the chest mischief and there were definite signs of syphilis concurrently with the active lung trouble and healing simultaneously with it.—Dr A. F VOELCKER agreed with the diagnosis of syphilitic fibrosis and bronchiectasis of the lung Possibly there had been a gumma around the bronchus and the fibrosis had arisen by causing obstruction He referred to a case by way of illustration.—Dr ROLLESTON remarked that the increase of the secretion from the lung might be due to the administration of iodide. When this drug was given in lung disease, especially with stenosis of the bronchi, it should be guarded by belladonna.

Dr DAWSON also exhibited a case of Aortic Incompetency with well marked Diastolic Thrill and one of Phthisis in conjunction with Albuminuria and Paralysis of the Sixth and Seventh Cranial Nerves on the left side.

Dr STCLAIR THOMSON and Mr ALBERT CARLESS exhibited a case of Epithelioma of the Epiglottis and Base of the Tongue treated by Transhyoid Pharyngotomy The patient, a man, aged 60 years had complained for eight or nine months of a lump at the back of his throat which had gradually increased in size but did not cause much pain or inconvenience. There was a large indurated ulcer with raised everted edges extending over the epiglottis from near its base and encroaching upon the back of the tongue for nearly an inch. An enlarged and indurated gland could be felt beneath the angle of the left side of the jaw On Sept. 4th the first operation of transhyoid pharyngotomy was performed after a preliminary tracheotomy The growth was exposed and was removed by the scissors The wound was partially closed and the tracheotomy tube retained The patient subsequently did very well. The second operation for removal of glands was performed on Oct. 11th. The patient had remained perfectly well since that date and there was now (18 months since the first operation) no sign of recurrence.

Dr. ROLLESTON showed a man, a French-polisher, aged 40 years, with Pigmentation, probably analogous to a blue line, of the Inner Surface of the Lower Lip. The teeth on contact with the lower lip were very foul and the gums showed a "blue line." There was no pigmentation on the palate and no reason to think that he had Addison's disease. It was thought that the blue line was due to lead absorbed in beer taken early in the morning.—Dr. VOELCKER did not regard the pigmentation on the lip as due to lead but only as a superficial staining due to contact with the abundant foul tartar on the lower front incisors.—Dr. M. E. LING recalled a case of lead-poisoning produced by the "tinfoil" in which packets of cocoa were packed.

Dr. STCLAIR THOMSON exhibited a case of Ulceration of the Ala Nasi, probably of syphilitic origin.

PATHOLOGICAL SOCIETY OF LONDON.

Tuberculosis in Sheep.—The Recognition of Tetanus by Extracting the Toxin from the Viscera after Death.—The Bacteriology of the Veldt Sore.

A MEETING of the Bacteriological Section of this society was held on April 15th, Dr. F. W. ANDREWES being in the chair.

Mr. ALEXANDER G. R. FOULERTON read a paper on a case of Tuberculosis in a Sheep. The specimens were obtained from a carcass which had been seized by Dr. George Newman, the medical officer of health of Finsbury. The carcass was much emaciated and there were extensive tuberculous lesions in the lungs, spleen, liver, and kidneys, and in the lumbar, dorsal, sternal, anterior mediastinal, mesenteric, and cervical glands. These lesions showed various stages of degeneration and calcification. No acid-fast bacilli could be demonstrated on microscopic examination. The inoculation of guinea-pigs, however, showed the nature of the case. Two animals inoculated died respectively 28 and 35 days after infection with a typical tuberculosis. Tuberculosis of sheep was extremely rare, a case published by Professor John McFadyean of the Royal Veterinary College in 1900 having been apparently the first case of the sort published in this country in which complete bacteriological proof of the infection had been given. This case showed that the sheep was susceptible to a natural infection in a high degree and infection could be experimentally conveyed by feeding or inoculation. The freedom which sheep enjoyed from tuberculosis was to be explained by their open-air habit of life. The factor which determined the freedom from tuberculosis amongst, for instance, Highland cattle as compared with the excessive prevalence of the disease amongst dairy cattle who were housed in confined, ill-ventilated byres was no doubt the difference of their environment.—Dr. ANDREWES remarked on the prevalence of tuberculosis among animals which led an indoor life. Cows which were kept shut up in sheds suffered more than bullocks which led an outdoor life. This would explain the relative immunity of sheep.—Mr. G. H. SHATTOCK agreed with Mr. Foulerton's views and said that when the suggestion was originally made that sheep were normally immune to tubercle he had attempted to cure tuberculous guinea-pigs by the injection of sheep's serum, but needless to say this was not successful.

Mr. H. J. WARING described a new method of Extraction of the Toxin of Tetanus from the Liver and other Solid Viscera of the Human Body. The details of the method were as follows. As soon as possible after death the viscera which were intended for investigation were removed from the body and as much blood as possible was squeezed out of them by pressure. The material was then minced into small pieces. It was then weighed and mixed with an equal quantity of pure glycerine in a closely-stoppered glass jar. The process of mincing and mixing should be carried out in a dark room or away from direct sunlight, since this soon caused the toxin to become inert. The jar was then placed in a cool dark cupboard and left there for three or four days, the jar being occasionally shaken. At the end of several days the mixture was filtered through glass wool so as to separate the glycerine and the substances soluble in it from the solid and insoluble débris. Details were given of a series of experiments on mice in which varying amounts of the glycerine extracts were injected into the tissues. These in most cases were followed by the development of symptoms which appeared to be those of mouse tetanus. Five cases of acute traumatic tetanus which terminated fatally in St. Bartholomew's Hospital provided the material for these investigations. He drew attention to the difference of the time of appearance of ordinary mouse tetanus and that induced by large doses of the glycerine extracts and explained the absence of the incubation period in these cases by suggesting that the toxin in the liver was probably in the form of a toxinogen. He also drew attention to the possible application of this method of investigation to the establishment after death of a correct diagnosis in those cases of patients who had presented indefinite symptoms of tetanus and in whom a bacteriological diagnosis had not been possible or had been negative.

Dr. ANDREWES also described experiments in which he had employed the method of Glycerine Extraction of the Spleen in cases of Doubtful Tetanus as a means of Diagnosis after Death. His results confirmed those of Mr. Waring. In the course of the past year he had met with two cases in which, during life, tetanus had been suspected but was not clearly present. In one of these the bile and the glycerine extract had failed to produce tetanus in animals and the post-mortem examination had revealed tuberculous caries of the dorsal spine which seemed fully capable of explaining the spasms observed during life. In the second case, which was that of a girl who developed trismus and other nervous symptoms 18 days after vaccination and who died from broncho-pneumonia, tetanus had been strongly suspected, and this was confirmed by the results of experiment. A glycerine extract of the spleen produced characteristic tetanus in mice, while in a mouse which received some antitetanic serum with the spleen extract the symptoms were much delayed and profoundly modified, although a fatal issue was not averted. Dr. Andrewes was of opinion that this method was likely to prove of great value in the diagnosis of tetanus after death. There could be no doubt in the minds of those who saw the experiments that the symptoms produced by the glycerine extract were truly those of tetanus, though they presented the novel feature of an absence of the incubation period invariably seen after the administration of tetanus toxin derived from cultures of the tetanus bacillus. The most reasonable explanation of this seemed to lie in the supposition that the filtered culture of tetanus bacilli contained a precursor of the toxin—a "toxinogen"—rather than the fully-formed toxin, whereas the glycerine extract from the viscera contained the fully-formed toxin, and its injection into mice was therefore unattended by any incubation period.—Dr. GEORGE DEAN pointed out that it was necessary before coming to the conclusions at which Mr. Waring and Dr. Andrewes had arrived to make certain that none of the substances employed were capable of giving rise to symptoms liable to be mistaken for tetanus. It had been well known for a very long time that it was possible to extract tetanus toxin from the blood or viscera of persons dying from the disease. But some observers had already described a "strychnine-like" substance extracted from dead bodies which could produce tetanus in mice without a latent period, though the results even in their own hands had been inconstant. Other observers had obtained tetanising substances from animals which had not suffered from tetanus. Moreover, there were other substances which, when injected into mice, could produce tetanic symptoms. He (Dr. Dean) had produced them by injecting one-third of a cubic centimetre of simple glycerine and the mice died. Very minute doses of ammonium sulphide and (as Blumenthal had shown and he, Dr. Dean, had confirmed) from one-quarter to one-half of a cubic centimetre of a concentrated solution of common salt were capable of producing in mice symptoms which were absolutely indistinguishable from those of tetanus. Great care was necessary before coming to the conclusion suggested by Mr. Waring and Dr. Andrewes.—Dr. W. BULLOCH agreed with the previous speaker and remarked that if the antitetanic serum referred to really neutralised the poison observed by Mr. Waring it ought to have done so in doses much less than 0·5 cubic centimetre.—Mr. WARING, in reply, said that as regards the glycerine extracts he had made several control experiments with glycerine alone but had never succeeded in producing tetanus in mice.

Mr. N. BISHOP HARMAN made a further communication on the Clinical and Pathological Characters of the Veldt Sore Prevalent amongst the Troops in South Africa. This skin lesion was found to affect on an average 20 per cent. of the combatants engaged in the war. Clinically it arose as a blister, beside some abrasion of the epidermis, it exuded a serous fluid, did not cause either marked damage to the dermis, lymphatic infection, serious pain, or constitutional symptoms. Microscopic sections of the sore showed the organism penetrating the stratum lucidum in advance of the blister formation. Evidence went to prove that the sore was of a scorbutic nature, being difficult of treatment in the field, but yielding without treatment on return to camp or town. There was no permanent cicatrix or deformity. The organism in the blister fluid was a coccus 0·8 μ in diameter, arranged in pairs, with signs of capsulation, staining with aniline dyes and by Gram's method. In culture it grew readily, producing yellow colonies of cocci in masses and an acid reaction. It was very resistant of destruction, it would survive drying for 61 days, dry heat at 110° C for five minutes, moist heat at 86° C for five minutes, and mixing with excess of 1 in 1000 solution of $HgCl_2$ for 40 minutes He produced the lesion by inoculation of the blister fluid on himself and again to a lesser extent from the inoculation of remote subcultures (10 and 14) Inoculation on animals produced no particular features. By reason of the distinctive features of the lesion, the appearance of the organism in the blister, the luxuriance of the growths, and the great resistance to destruction exhibited by the organism, it might be considered to differ from the staphylococcus pyogenes aureus and be distinguished as the "micrococcus vesicans."—Dr. BULLOCH thought it unwise to draw conclusions based on the resistance of an organism to antiseptics; staphylococcus aureus would resist 1 in 1000 mercuric chloride up to 20 minutes. The features and effects produced by staphylococcus aureus depended very much on its sources and the soil on which it was grown, and there did not seem to him any essential differences between this ubiquitous organism and that described by Mr. Harman.—Mr FOULERTON regarded it as doubtful, but on the whole he thought that there were *essential differences between the two organisms.*—Mr. GEORGE PERNET remarked that impetigo contagiosa *assumed many different forms under varying conditions.* Might not the "veldt sore" be an aberrant form of this disease? The clinical features of the sore described by Mr. Harman appeared to him (Mr. Pernet) to resemble very closely those of impetigo contagiosa bullosa, as met with in the East.—Mr. HARMAN, in reply, said that he had used many different strains of the staphylococcus aureus in his control experiments. The veldt sore microbe was always a diplococcus.

CLINICAL SOCIETY OF LONDON.

Cases Illustrating the Mode of Origin of Certain Cysts of the Neck.—Intestinal Obstruction due to Embolism of a Branch of the Superior Mesenteric Artery.—Cerebellar Abscess with Sudden Paralysis of the Respiratory Centres.—Simulation of Acute Peritonitis by Pleuro-pneumonic Disease.

A MEETING of this society was held on April 11th, Mr. HOWARD MARSH, the President, being in the chair.

Mr. THOMAS CARWARDINE (Bristol) read a paper on Cases Illustrating the Mode of Origin of Certain Cysts of the Neck. Cysts and fistulæ arising from the thyro-glossal duct, he observed, usually had a pedicle which passed through the thyro-hyoid membrane in the middle line below the hyoid bone, between it and the thyroid cartilage. These, he suggested, might be termed *thyro-hyoid* cysts. He related the case of a man, aged 31 years, deaf and dumb and one of twins, with a fluctuating, superficial median tumour of the neck, overlapping the episternal notch and manubrium sterni, and a hard cord could be traced upwards from it in front of the cricoid cartilage. The pedicle was found to pass through an interval in the cervical fascia into the middle of the crico-thyroid membrane. It was evidently what he would call a *crico-thyroid* cyst. Two years later he met with a similar and homologous cyst in the space between the lower jaw and the hyoid bone in a lad, aged 12 years, who had noticed a lump in his throat for six months. The diagnosis of *hyo-mandibular* cyst proved to be correct at the operation. There were thus three median cysts—hyo-mandibular, associated with the first branchial or visceral cleft; thyro-hyoid, associated with the second cleft; and crico-thyroid, with the third cleft. He related a case of cystic hygroma in a baby a few weeks old in which the cyst, like a ranula, projected under the tongue. He described the anatomical relations of the cyst, observing that the cyst appeared to have originated in a lateral diverticulum of the first, or hyo-mandibular, cleft. He next referred to a tumour below the left angle of the lower jaw in a young man which proved to be a chondro-adenoma; also to a case of dermoid cyst of the whole of the first branchial cleft. His last case was that of a man, aged 33 years, who had had a swelling on the right side of the throat for two years which he thought had arisen from a diverticulum of the sinus pyriformis—i.e., from the third or fourth branchial cleft. He discussed the classification of these cysts according to their origin, into median and lateral, corresponding to the visceral clefts, and alternating with the visceral arches.—Mr A. A. BOWLBY remarked that the relation of these cysts to the branchial clefts could not well be refuted. Those in the thyro-hyoid space were the most troublesome to deal with because part of the cyst generally arose behind the hyoid bone, and he mentioned a case in illustration which resulted in a fistula of five years' duration in spite of treatment. Epitheliomatous or malignant cysts should, he thought, be included among the lateral cysts.—Mr. STANLEY BOYD remarked on the difficulty of curing these cysts and referred to a case of median cyst resulting in fistula which only healed after three or four operations. The tract of this cyst went behind, not in front, of the hyoid bone.—Mr. A. E. BARKER asked whether cystic hygromata were not really of lymphatic origin. Some of those which he had operated upon were practically lymphatic nævi.—Dr. STCLAIR THOMSON asked if any of the speakers had tried the efficacy of dividing the hyoid bone as originally suggested by Mr. Arthur Durham.—Mr. CARWARDINE, in reply, agreed as to the difficulty of curing the fistulæ resulting from these cases. Epitheliomatous cysts should certainly be classed with those arising from the branchial clefts. Some hygromata arose from these clefts, others were of lymphatic origin. Mr Boyd's case suggested a hyo-mandibular origin. The suggestion *of dividing the hyoid bone seemed to him to be a very* good one.

*Dr W. J. TYSON and Mr. W. W. LININGTON communi*cated a paper on a case of Intestinal Obstruction due to Embolism of a Branch of the Superior Mesenteric Artery. The patient was a woman, aged 66 years; she complained of slight pain over the liver, sickness, constipation, and some epigastric tenderness, her temperature being normal. The symptoms gradually became worse and ultimately the vomit became "coffee-ground." Laparotomy was done and the small intestine was found to be slightly congested and adherent in the right fossa, where about a foot of gangrenous bowel, greatly thickened, was seen. The affected part, which was obviously due to thrombosis, was freely excised and the end united with a Murphy's button. She died 36 hours after the operation and post mortem atheromatous erosion of the descending aorta was found, with blocking of a branch of the superior mesenteric artery. Mounted specimens from the case were exhibited. Dr Tyson then discussed the symptomatology of this condition, remarking that the symptoms were at first those of ordinary colic with a gradual change in the vomit. Constipation was the rule, but diarrhœa was often present, and later tympanites. The prognosis was always grave but not absolutely fatal.—Mr. J. R. LUNN referred to a case of Intestinal Obstruction due to Embolism of the Superior Mesenteric Artery consequent on compression applied on the distal side of an abdominal aneurysm of the abdominal aorta which arose at the root of the superior mesenteric artery. The symptoms were those of intestinal obstruction, small rapid pulse, and rapid breathing. Death was due to gangrene of the intestine *caused by arteri*al thrombosis.—Mr. H. L. BARNARD referred to a case which at the time of the operation was thought to be embolism of the superior mesenteric artery, but at the necropsy acute thrombosis of the portal vein was found. There was acute gangrene of the whole of the small intestine. Total constipation was present in this case.—The PRESIDENT referred to the case of a man who whilst hunting fell in a prone position on a heap of stones. He was conveyed home but felt no ill-effects for 48 hours and even went to business. Sudden collapse supervened and the same evening an operation was performed and a piece of gangrenous intestine, four feet long, was found. The patient died and the superior mesenteric artery was blocked by an embolism which appeared to have arisen by the stretching of the artery.—Mr. BOWLBY referred to the case of a man who was admitted to St. Bartholomew's Hospital for gangrene of the finger supposed to be due to frost-bite. Shortly afterwards he was seized with abdominal pain, collapse, and vomiting, and died in 18 hours. At the necropsy an ante-mortem clot was found in the left side of the heart and emboli from this had blocked the arteries of the digits and the superior mesenteric artery.—Dr. E. P. PATON referred to the case of a woman, aged 25 years, which resembled that mentioned by Mr. Barnard, in which no reason for the thrombosis could be discovered.—In reply to the PRESIDENT Dr. PATON said that the patient presented no evidences of gout.—Dr. TYSON, in replying, said that a large number of these cases had hæmorrhage from the bowel which was a feature of diagnostic value.

Mr. BARKER communicated a case of Cerebellar Abscess with Sudden Paralysis of the Respiratory Centre occurring in a girl, aged 14 years, who, three months before admission, had had scarlet fever with otitis media. A fortnight before admission she complained of ear-ache followed by great weakness and vomiting and rigors. The limbs were flexed and the head was retracted and there was dulness of intellect. Intracranial abscess with thrombosis of the lateral sinus and deep jugular vein was diagnosed, and it was decided to operate, but when the patient was lifted to be taken into the theatre respiration ceased, and in spite of artificial respiration and the inhalation of oxygen there was no sign of normal respiration though the heart continued to beat strongly. Artificial respiration was kept up for an hour, when, as normal respiration did not return, he made a small incision through the skull into the temporo-sphenoidal lobe. No pus was found, but on passing the needle into the lateral ventricle a large quantity of almost clear fluid was evacuated. He then opened the skull over the lateral surface of the cerebellum and reached foul gas and pus anteriorly. This, however, had no effect on the respiration or heart. Artificial respiration was kept up for another hour, but the patient was obviously dead, though the heart continued to beat as before for two hours and 35 minutes after natural breathing had ceased. Post mortem, a large cerebellar abscess was found in the usual situation.—Sir DYCE DUCKWORTH referred to a series of such cases which he communicated to the International Medical Congress at the meeting in Moscow. They all illustrated the fact that in these cases of cerebellar abscess the fatal process took effect first on the respiratory centre and then, some time later, on the cardiac centre. The inference was that the respiratory centre was more vulnerable than the cardiac centre. It was a curious phenomenon to observe when a patient absolutely stopped breathing although the heart continued beating.—Mr. BARKER, in reply, said that the reason why operation was not done earlier was because he was not certain of the diagnosis.

Mr. BARNARD read a paper on the Simulation of Acute Peritonitis by Pleuro-pneumonic Diseases. Modern writers for the most part did not include peritonitis in the differential diagnosis of pleurisy or *vice versâ*. The thoracic conditions which had given rise to these abdominal signs in Mr. Barnard's cases were—pleuro-pneumonia, three cases; pyo-pneumothorax apparently originating in the apex of the lower lobe, two cases; and traumatic pleurisy with fracture of the left lower ribs, one case. The abdominal signs and symptoms which resulted might be divided conveniently into parietal and visceral. The abdominal wall was acutely tender and painful. The muscles were in spasm so that the abdomen felt hard. The deepest anæsthesia was necessary to relax this spasm. Respiration was of the costal type. The patient frequently suffered from nausea, hiccough, and vomiting which might be urgent and bilious. In some cases the onset was sudden with collapse like perforative peritonitis. The diagnosis, however, was easy if once suspicion was aroused. The chief points were the rapid respiration (40 and upwards), the slow good pulse (under 100), and the fact that the abdominal wall softened momentarily at each inspiration. Direct signs of the thoracic condition were often wanting for 24 hours. The pathology was one of "referred pain" and divided itself into three heads: 1. Irritation in continuity of the lower six dorsal nerves would explain abdominal hyperæsthesia and spasm. 2. Referred visceral pain would explain the abdominal and head pain of an early broncho-pneumonia, phthisis or bronchitis not involving the pleura. Visceral impulses passed into the root ganglia of the seventh, eighth, and ninth dorsal nerves and exalted their excitability so that impulses from the skin to those ganglia became painful. Reflex spasm followed in the distribution of the nerves. 3. The visceral signs must be explained either by some reversal of this reflex or by direct involvement of the splanchnic nerves (from the sixth to the twelfth dorsal nerves) in or above the diaphragm.—Sir DYCE DUCKWORTH complimented Mr. Barnard upon his paper and remarked that it led irresistibly to two conclusions—viz., firstly, that medical cases such as supposed intestinal obstruction or peritonitis should be admitted to medical wards, and secondly that a thorough investigation of such cases by those accustomed to estimate the value of the symptoms of visceral disorders would in all probability obviate errors in diagnosis.—Dr. J. A. HAYWARD referred to a case exactly the reverse of those recorded where symptoms due to acute peritonitis simulated those of pneumonia. The patient presented all the typical signs of pneumonia with a well-marked pleural rub, but these eventually proved to be at the necropsy due to rupture of the appendix and acute purulent peritonitis. The lungs and pleura were perfectly healthy, excepting for the presence of two ounces of fluid in the latter.

HARVEIAN SOCIETY OF LONDON.

Functional Vaso-motor Disturbances.

A MEETING of this society was held on April 10th, Dr. ROBERT MAGUIRE, Past-President, being in the chair.

Dr. R. L. BOWLES read a paper on the Practical Treatment of Functional Vaso-motor Disturbances. After referring shortly to the physiological, anatomical, and experimental evidence of vaso-motor action Dr. Bowles gave, as examples of functional disturbance, the dilatation of the large vessels after severe exertion, the pulsating dilatation of the abdominal aorta in neurotic women, and pulsating dilatation of the carotids in the anæmic and of the temporal arteries in headache and neuralgia. He pointed out that the venous system and the heart were liable to similar partial and temporary fluctuations. Vague pains and loss of power in the lower limbs, so often ascribed to sciatica, were shown in some instances to be due to functional disturbances of the blood-supply. Other functional disturbances, such as blushing and pallor, the symptoms often present at the "change of life," the effects of vaso-motor action on the central nervous system, the vaso-motor symptoms in exophthalmic goitre and myxœdema, and intestinal phenomena due to similar causes were also referred to. In some cases Dr. Bowles thought that the symptoms were due to toxins acting through the nervous system and in others that they were due to derangement of function arising from fatigue. Many other vaso-motor effects were lightly touched upon, such as chilblains, "dead fingers," and Raynaud's disease. For treatment Dr. Bowles insisted upon the importance of heat, light, electricity, massage, baths, change of scene and surroundings, and so forth. He did not bring forward any wonderful novelty or so-called specific, but, as the result of a great many years' trial and experience, he strongly recommended the persistent use of valerianate of zinc in doses of one grain three times a day. In neurasthenia he had had most beneficial results from the effects of valerianates, and he quoted an instance of nerve deafness in a woman who had been stone deaf for eight years and who had been told that there was no hope of recovery. After two and a half years of the persistent administration of the valerianate of zinc the patient completely recovered her hearing. He had also found the drug of great use in the treatment of tinnitus aurium and in many other nervous conditions; so much so, that he had come to rely upon the drug very largely in all cases of the neurasthenic type.

Dr. ALEXANDER MORISON said that Dr. Bowles appeared to have seen a good number of specimens of local vascular change in the carotid, the subclavian, and the veins of the lower extremities. Some of those conditions might be described as intermittent claudication, a subject which had been vigorously worked at by some French physicians and applied largely to certain visceral disturbances which were regarded by some as of vaso-motor origin, but without acknowledging the fact that the idea was due to Burns of Glasgow, 70 or 80 years ago, whose work would now repay careful perusal, as it was the origin of several twentieth-century theories. He agreed with Dr. Bowles's judicious remarks in distinguishing cases of claudication from those of neurasthenic origin. He was glad to hear of such good results from valerianate of zinc, as he himself was somewhat sceptical of its therapeutic value. But in the case of a drug taken persistently for two years, as mentioned by Dr Bowles, the factor of time and the altered circumstances and conditions possible must not be lost sight of

Dr PARKES WEBER said that the question of contraction of vessels was a most important one, as such contraction could produce an immense effect It had been proved practically by microscopical examination that veins could so contract that the lumen was almost obliterated. He had had the opportunity of examining gangrene of the extremity in which examination afterwards showed no very considerable organic disease and the conclusion almost necessarily arrived at was that the obstruction was above the part examined If the blood was not circulating properly in the foot or hand there was evidently plenty of blood there, and as there was no sign of arteries being contracted the suggestion was that the small veins were contracted. In some typical cases of Raynaud's disease only the small arteries were contracted In Dr Bowles's case, in which an enema was vomited some time afterwards, evidently there was some disturbance of peristalsis analogous to what happened in the circulatory system He once saw a case in which an enema coloured with methylene blue was vomited 10 minutes afterwards. This was done repeatedly and he thought that there must be in such a case an anti-peristalsis

Dr. CAUTLEY said that most of the cases mentioned by Dr. Bowles in his paper seemed to be beyond the first half of life, but he (Dr. Cautley) had been inclined to regard vaso-motor disturbances as more common in the earlier periods of life and more so in females than in males He asked what was Dr. Bowles's experience in the matter of age in cases of local dilatation of arteries and what was the prognosis apart from the results for the time being Was there any tendency to atheroma or aneurysm later? He was sceptical about the value of a drug which required to be persisted in before any definite results accrued But such a case as that quoted showed that treatment was of benefit, because the patient was of that age at which her deafness would tend to increase rather than to disappear

Dr MAGUIRE regarded some of the cases quoted as having an organic basis—i.e., organic blocking of vessels. It was difficult to be definite on such a subject as vaso-motor disturbance. But one knew that a person who came with blue-red hands, freely perspiring, was slack, and if the skin of such persons were pressed upon the colour would return very slowly. It was not very satisfactory to make the test on the hands because much depended on the extent of exposure, but valuable indications could be obtained on the skin of the chest. He drew attention to disorders of the cerebrum due to vaso-motor disturbance. Those who had seen many cases of general paralysis of the insane would appreciate that a case might show itself not by melancholia or grandiose ideas but by sudden aphasia for a moment or two He had not seen much benefit result from valerianate of zinc, although he had generally given it in larger doses than had Dr Bowles. Two drugs of great value were musk and castoreum. The first was too expensive to be within the reach of ordinary patients, but in doses of five grains three times a day its effect was very good. Castoreum was obtained from the preputial glands of the beaver, musk coming from the same glands of the musk ox. Castoreum should be given in from 10 to 20 minim doses with an alkali It was unpalatable and bad smelling but was very useful

Dr BOWLES replied.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Discussion on an Examination of the Ears of 1000 School Children.

A MEETING of this society was held on April 14th, Dr URBAN PRITCHARD, the President, being in the chair

A report by Mr ARTHUR H CHEATLE upon the Examination of the Ears of 1000 School Children was presented and discussed. Mr. Cheatle, in opening the discussion, said that the objects which he had in view in undertaking the investigation were twofold—first, to ascertain the amount of ear disease in the children of the poorest class; and secondly, to draw attention, if necessary, to the subject in the hope that steps would be taken to deal with it. The classification of the lesions met with presented difficulties which were very great and he had no doubt that criticism might justly be directed against the one adopted, and also, perhaps, against the method of examination. For instance, objection might be taken to the use of the term "normal" which was used in the report to mean that the membranes appeared normal, and that the hearing was sufficient to pass the whispered voice test at a distance of 18 feet. The fallacies of this test were alluded to in the report, but in the circumstances it was the only one possible in the great majority of cases and it was of the greatest value in picking out children with diminished hearing For purposes of comparison it would be of great interest, he said, if an investigation could be conducted amongst children of the better classes who lived under better conditions. The schools at Hanwell, however, were practically perfect from a hygienic point of view and the lives of the children were essentially healthy He regretted that he had not been able to classify those who had lived almost all their lives in the institution from those who had come as temporary *lodgers* *Inability to pass the test with one or both ears* was present in 520 out of the 1000 children Many of these, especially in the group of depressed membrane associated with adenoids, had not been noticed by their teachers to be deaf, the deficiency only being detected upon examination. This point was of the utmost importance, for if children so affected were to be saved from deafness in later life childhood was the time for treatment. It amounted to this, that unless children were systematically examined any deficiency in hearing would pass unnoticed and untreated until it became so great as to interfere with the future work of their lives and then perhaps treatment would be of little avail Mr Cheatle considered that all children, whatever their station in life, should at some period be thoroughly examined, the period that would be best for the purpose would be open to discussion, but he suggested the age at which they should be able to give intelligent and trustworthy answers to simple tests, unless anything amiss in the hearing had been noticed earlier Passing to further details in the report he said that the comparatively large number of foreign bodies in the ears was noteworthy, 12 of the 18 cases occurred in girls The children were all unconscious of their presence Mr. Cheatle said that he was not positive whether congenital perforation in Shrapnell's membrane did occur; the eight instances recorded suggested that it did The association of depressed membranes with deafness and adenoids was well marked. Out of 166 cases, in 141 there were adenoids Of the cases classified as sclerosis deafness was present in all, the membrane appeared to be normal and slight improvement resulted from inflation. They all occurred in girls. It was little less than appalling to realise that 335 of the 1000 children examined were, or had been, the subjects of discharge from one or both ears, 88 of these might be spoken of as walking on the edge of a precipice and six as being at least half over Of the 88 cases in which suppuration was present in 71 there were adenoids and in 13 there was granulation tissue in the ear The number who had previously suffered from chronic middle-ear discharge was 247, of these 171 had adenoids and a dry perforation was present in 57 It appeared from the statistics that the left ear was less liable to infection than the right, for out of the combined past and present suppurative cases, numbering 335, both ears were affected in 126, the right in 127, and the left in 82 The association of adenoids with ear disease was most marked, they were present in 434 children, of whom 394 presented some aural troubles. Mr Cheatle finally raised the question as to what steps should be taken in the matter by the authorities. To his mind it was a matter that they could not afford to neglect, it was of no use to leave it in the hands of the parents, for many cases of commencing deafness could only be detected on careful examination and, moreover, childhood was the time for treatment. He recommended that the systems employed in Germany, Switzerland, and Sweden should be investigated and reported upon The one now in force in Germany would probably be the most applicable, as it dealt with a large population. He had heard from Dr Arthur Hartmann of Berlin that in the majority of the large cities in Germany physicians were appointed to the schools to examine especially the eyes and the ears and to see that treatment was applied when necessary From Dr Guye of Amsterdam he had heard that there was a movement to have medical officers for similar purposes in the schools in Holland. The carrying out of any such system would necessitate having a large number of sufficiently trained men. At present the majority of the examining bodies in this country did not recognise that such a thing as a disease of the ear ever occurred and that otology was a necessary part of a student's curriculum, yet diseases of the ear, Mr. Cheatle did not hesitate to say, caused an immeasurably greater amount of loss of health and life than did those of the eye.

Mr. GEORGE MURRAY reported that he had conducted a similar investigation upon the ears of 400 school children in a school at Greenwich. The average age of the children was nine and a half years; he had met with deafness in 18 boys and 25 girls, giving a ratio per 1000 which was similar to that reported by Dr. Rohrer of Zürich.

Dr. S. G. LITTLEJOHN, medical officer to the Hanwell School where Mr. Cheatle's investigations were carried out, raised the question whether residence in a large barrack school increased the number of cases of adenoids and resulting ear disease. Personally he did not think so. He found that the frequency of ear disease increased with the age of the children; age did not necessarily imply long residence. Of those who had discharge from the ear many probably had perforation of the ear before coming into residence in the school, as very few suffered pain before the discharge commenced. He thought that it would be better to have the cases treated in the school under the supervision of a specialist than to board them out.

Dr. W. PERMEWAN (Liverpool) referred to a report made by him in 1896 on 200 children in one of the Liverpool board schools. The children were drawn from the lowest and poorest class. He found that his results agreed with those of Mr. Cheatle. He emphasised the scientific value of the report under discussion and expressed the hope that by a resolution of the society the work would be carried further.

Dr. H. MACNAUGHTON-JONES quoted from tables of cases formerly under his care to show that the causes of ear disease in children arose from diseases incidental to childhood. He inquired what was the latest age at which deaf-mutism could be acquired.

Dr. W. MILLIGAN considered the subject to be one of national interest. The amount of ear disease amongst the children of the poorer classes was appalling and he advocated some systematic and scientific examination of children by the State.

Dr. J. DUNDAS GRANT discussed some of the more unusual lesions met with in the investigation.

Mr. C. H. FAGGE pointed out that the report would not necessarily include the worst cases of deafness occurring in children of the poor as they would find their way to special schools.

Dr. HERBERT TILLEY inquired whether adenoids were not present in greater abundance in all children up to the age of five years.

Dr. W. JOBSON HORNE considered that for the moment they were more concerned with the economic aspect of the whole question than with a consideration of academic details of the lesions so thoroughly investigated and ably classified in the report. The society was evidently contemplating what might be termed an extensive stocktaking of the otological status of the community. That would entail an enormous expenditure of time, careful thought, and patient work, and he trusted that whatever recommendations it might be thought fit to make at some future date to the authorities would be embodied in a scheme which would obviate the issuing of a circular by the Board of Education similar to that issued on Oct. 1st of last year to crown the labours undertaken in the interests of the eyesight of school children.

The PRESIDENT expressed the indebtedness and thanks of the society to Mr. Cheatle for the valuable report which he had presented. He referred to the frequency with which school children were punished by their teachers for errors and omissions due to no fault excepting deafness. He considered that a small committee of the society should be formed to investigate the matter further.

Mr. CHEATLE replied to the several questions that had been put and expressed his thanks to Dr. Littlejohn for the considerable help that he had given in carrying on the investigations.

Resolutions were put and were unanimously carried appointing a committee of the society, consisting of the President (Dr. Urban Pritchard), the two secretaries (Dr. Milligan and Dr. Jobson Horne), and Mr. Arthur Cheatle, Dr. Macnaughton-Jones, and Dr. Permewan, further to investigate the matter and to report.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A MEETING of this section was held on March 21st, Professor E. H. BENNETT being in the chair.

Dr. T. P. KIRKPATRICK exhibited a specimen of Genito-urinary Tuberculosis. The left epididymis as far as the external ring was hard and enlarged but not painful. Rectal examination detected a nodular enlargement in the left seminal vesicle. The lungs and other organs were healthy; no tubercle bacilli could be found in the sputum. Examination by the x rays gave a negative result. As the symptoms pointed to the kidney the abdomen was opened; the left kidney was found to be enlarged and cystic but the right kidney was normal. On the table the patient became collapsed, the operation could not be continued, and in three days death resulted. The necropsy showed the left kidney to be a semi-solid caseous mass, with little or no renal structure left, and the lumen of its ureter was completely obstructed throughout by a similar substance. The only renal symptoms during life were pain in the back and pain on passing urine which was albuminous. A careful examination of the organs other than those named showed no tuberculous deposit.

Dr. J. B. COLEMAN exhibited the following. 1. A Tumour of the Spinal Cord which he had diagnosed and located during life. It grew from the inner spinal membranes at the level of the eleventh and twelfth dorsal segments of the cord on its right dorso-lateral aspect. It was of about the size and shape of a sweet almond. A microscopical section showed it to be a myxo-sarcoma. 2. A Horseshoe-shaped Kidney, the bond of union being at the lower end of the organ.

Professor BENNETT exhibited a specimen of a Fracture of both Bones of the Forearm immediately above the Epiphyses. The case was a unique one; nothing even resembling it had been recorded. The patient was a girl, about 15 years of age, an inmate of a training school for servants in Dublin, where the accident happened through a fall downstairs on Dec. 8th, 1900, and Professor Bennett saw her on that day. The deformity somewhat resembled that of a Colles's fracture, or an epiphyseal separation of the lower end of the radius, and he applied splints. The following day he found the splints all right and she then told him that at the time of the accident she distinctly heard the bones break. After six weeks he took off the splints and found the bones united. The patient was a plump, well-nourished, good-coloured country girl, who had not complained of any illness and had no sign of physical weakness except an unduly large abdomen and a positive dislike to all food except dry bread; she refused to eat meat, butter, or even sweet cakes. Her only occupation was the folding of tablecloths into lengths for mangling. On Feb. 10th, 1901, he was asked to examine the wrist and to his surprise he found that the deformity had returned. He sent her to Sir Patrick Dun's Hospital and had the wrist skiagraphed. A transverse fracture of both bones just above the epiphyseal line was plainly marked; a cast (which was exhibited) was taken of the limb at the site of the deformity and it had some considerable resemblance to Colles's fracture. The fracture was easily reduced and the patient left the hospital on May 5th, 1901. She returned to the school where she continued to be engaged in light work. Up to this time no other trouble than the broken wrist had been complained of. She, however, still persisted in refusing meat and all other forms of food except dry bread. She was next seen on Jan. 1st, 1902, when Professor Bennett found her much changed for the worse; she was profoundly pallid, of a deeper pallor than that of chlorosis; the spleen was greatly enlarged, there was a certain amount of ascites, and the deformity of the wrist had greatly increased. On Feb. 8th she died. From the time when she left Sir Patrick Dun's Hospital in May, 1901, the deformity of the wrist-joint had gradually but steadily increased. The necropsy revealed no rickety condition; there was no trace of osteomalacia and there was nothing indicative of bone-softening. All the characteristics of pernicious anæmia were present, the fracture was well marked, and the posterior-inferior extremity of the radius ended in a convexity which was well marked and which extended to its inferior articular surface. In scurvy it was known that fractures did not unite and old ones came apart, but this patient's deformity returned when she was apparently in good health. That anæmia was not the cause of the separation of the fragments was beyond question, for it occurred when the patient was not suffering from anæmia and during her stay in a school where the feeding was good.—Dr. J. KNOTT thought that in the return of the deformity and the separation of the fragments the case had some resemblance to that recorded during the severe outbreak of scurvy in Lord Anson's command during his memorable voyage of circumnavigation 1740–1744. He could not find any cause for the non-union other than malnutrition.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on April 10th, Dr. J. Halliday Croom, the President, being in the chair.—Dr. Macnaughton Jones read notes of a case of Miscarriage and Difficult Labour after Ventro-fixation. He described the firm and extensive adhesion of the uterus to the abdominal wall, as ascertained subsequently when removing an ovarian blood cyst from the same patient, and inferred that ventro-suspension or fixation of the doubled round ligaments (Olshausen's operation) was in women not past child-bearing a safer proceeding than ventro-fixation, the legitimate field for which was a limited one. He also, as bearing on the President's remarks at the last meeting of the society[1] gave the history of a case in which he had on the very next day removed a large multiple myoma without any accident and practically without any loss of blood. The patient passed flatus repeatedly and had no threatening symptoms till the evening of the third day when she complained of sickness. In 12 hours her temperature fell from 99·6° to 97° F., while her pulse ran up from 112 to 136. Persistent coffee-ground vomiting ensued on the following morning. He reopened the abdomen but could find nothing to account for her condition and in spite of all possible treatment she sank very rapidly and died.—The President said that he attributed such coffee-ground vomiting to sepsis. In his experience it had been invariably the precursor of death. He then read a paper on Deciduoma Malignum, as to the etiology of which he said that the latest view was essentially the same as that brought before the society by Dr. Haultain in 1899, the consensus of opinion now being that it was an epitheliomatous new growth the result of pregnancy and derived from the coverings of the chorionic villi, and not a sarcoma; this view was supported by the age of incidence of the disease, from 17 to 55 years, sarcoma being very rare before 35 years. In 60 per cent. of all the cases the disease followed that intense proliferation of the villous epithelium known as myxomatous degeneration of the placenta or hydatid mole; even when this was not the case characteristic symptoms generally appeared within a few weeks, or at most months, of labour or abortion, though one instance had been reported two and another four years after the last known pregnancy. Hæmorrhage, intermittent but so profuse and frequent as to cause profound anæmia, was generally the first symptom and in nearly all cases a characteristic feature, but exceptionally the primary area of active growth, owing to migration of the malignant villi, was deep in the uterine wall or even outside it, in the vagina, ovary, or elsewhere, and naturally hæmorrhage then might not occur. A fœtid discharge mixed with blood-clots and shreds of tissue was common and the early degeneration of the growth was followed by extreme cachexia from absorption of toxins of decomposition, and in default of timely operation the patient, if not carried off by metastases in some vital organ, rapidly succumbed to exhaustion. A case, exceptional in several respects, had been under his own care. A woman, aged 44 years, had had amenorrhœa for four months, leucorrhœa with foul watery discharge suggestive of ordinary malignant disease rather than deciduoma, and had been for some weeks conscious of a swelling in her hypogastrium which extended half-way up to the umbilicus; in her left labium there was a tumour of the size of a walnut, at first supposed to be a cyst of Bartholin's gland, but which proved to be solid and typical deciduoma malignum. The sound when passed into the enlarged uterus seemed to touch friable tissue, but the hæmorrhage, on its withdrawal, was of the slightest, and never since the onset of the amenorrhœa had she had any hæmorrhage whatever; she was nevertheless extremely anæmic and cachectic, sank very rapidly, and lung complications appearing died before it was possible to operate. Her last-known pregnancy had terminated in an ordinary miscarriage six years previously and it was hard to suppose that any products of conception could have remained latent in the uterus for six years and then have undergone malignant proliferation. The only alternative was that the amenorrhœa was due to conception, though she never had any hæmorrhage or other sign of abortion, and except characteristic elements of deciduoma malignum no evidence of pregnancy was found in the uterus.—Specimens of the disease from the uterus and metastases and sections under the microscope illustrated the case.—The discussion turned chiefly on diagnosis, Dr Heywood Smith and Dr. H. Snow speaking and Dr. Macnaughton-Jones reading notes of an incomplete molar abortion simulating deciduoma malignum but apparently completely cured after two years, possibly to recur as malignant hereafter.—The President briefly replied.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on April 18th, Mr. A. Wynter Blyth, the President, being in the chair.—A discussion on Fixity of Tenure by Medical Officers of Health was opened by Mr. Herbert Jones who referred to a memorandum drawn up by the President and himself showing what had been done during the past 10 years by the society and through its journal and giving the favourable opinions expressed by several Cabinet Ministers and leading statesmen.—Dr. J. Groves alluded to the case of Dr. Cornelius B. Fox, the first medical officer of health of a combined district in Essex, whose representations as to the insanitary conditions of certain villages led to the dissolution of the combination and the loss of his appointment at the end of the three years for which it had been made. The Local Government Board was powerless in such a matter, for the appointment ceased to exist by lapse of time and no authority could be compelled to re-appoint an officer. With regard to the proposal to obtain an improvement in their position by means of special legislation he said that no deputation had been received by any Minister since 1893, when Sir W. Foster was Parliamentary Secretary to the Local Government Board, and Members of Parliament, with very few exceptions, took no interest in what they looked on as a claim for a form of medical monopoly, some, indeed, having declared their intention of blocking such a Bill whenever introduced. There was no chance of its passing unless taken up by the Government of the day and that would never come about until public feeling was aroused to see that security against unmerited dismissal of a medical officer of health was for the good of the community quite as much as for that of the officer. The whole-time officer was in some respects in a less difficult position than the honourable and conscientious half-timer; each had to choose between duty and self-interest, but the latter feared offending his patients no less than the members of his authority. Those only who were willing to do nothing enjoyed a virtual security.—Dr. J. R. Kaye gave a recent and glaring instance of the supersession of an officer who for 22 years had been on the most friendly terms with his boards and the appointment in his place of another who had not applied and who knew nothing of the matter until informed of his election but had declined to accept it. The Local Government Board would not contribute through the county council towards the salary of the medical officer of a combined district if any of the constituent districts paid less than £20, thus leaving the medical officer without even the temporary protection that the State aid conferred.—Mr. T. W. H. Garstang said that even when the relations between the authority and its officer were of the best there was a tendency to shorten rather than to extend the periods of the appointment, and the Local Government Board refused to allow a permanent appointment by any authority if the salary were under £50. Their intention was probably to encourage combination, but in practice he had found it to have the opposite effect. He suggested amending legislation, so that fixity of tenure should, in the case of existing officers, be personal only, except as regards the larger whole-time appointments, and that on the death or resignation of the present holder the county council should make or control the next appointment with a view to amalgamation with adjoining districts.—After further remarks by Mr. P. Targett Adams, Dr. J. W. Hembrough, Mr. H. Beale Collins, Dr. W. H. Symons, and others the consideration of the Bill was referred to the Parliamentary Committee of the Council.

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[1] THE LANCET, March 22nd, 1902, p. 825.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on April 10th, Mr. Rushton Parker, the President, being in the chair.—Dr. Arthur J. Wallace related two cases of the Cæsarean Operation which he had performed on consecutive days. The first patient was a primipara, aged 39 years, who had multiple fibro-myomata, one of which, seven inches in diameter, occupied the right broad ligament. The pelvis was flattened, its conjugate measuring two and a half inches. The patient's condition did not permit immediate supra-vaginal amputation of the uterus, but this was successfully carried out six months later when she was two months pregnant. The second patient, whose age was 27 years, suffered from syphilis and was also a primipara. The pelvis was flattened and generally contracted as the result of hip disease in childhood; its true conjugate measured two and a quarter inches. A layer of greenish tenacious material lay between the membranes and the uterus, presumably diseased decidua. The infant was feeble and developed pemphigus on the sixth day and survived three months. The patient was now again pregnant and had elected to have a second Cæsarean section performed.—The President, Dr. E. T. Davies, and Mr. G. S. Stansfield commented upon points in Dr. Wallace's communication.—Dr. C. J. Macalister read a paper entitled "A Criticism of the Sanatorium Treatment of Phthisis," in which he emphasised the necessity for inquiry into the after-histories of cases in order to obtain data concerning the permanence of the benefits undoubtedly derived by the majority of patients while under treatment. In his experience a large number of patients had relapsed after periods varying from some months to a few years. His impression from this fact and from the statistics of the German Imperial Health Bureau was that while the immediate results were good the ultimate results were disappointing.—Dr. Davies, Dr. W. B. Warrington, Dr. W. Carter, and Dr. J. Barr took part in the discussion.—Mr. Robert Jones read a paper on the treatment of Infantile Spastic Paralysis. He maintained that the affection was strictly surgical and that in suitable cases very marked improvement followed operative measures. In the hemiplegic variety the hand and arm were more seriously involved than was the lower limb. If the paralysis was complete and voluntary relaxation of the spasm was impossible treatment was futile. If the fingers of the affected hand could only be moved in conjunction with those of the opposite side the results were generally discouraging. Wherever any degree of voluntary relaxation was possible apart from associated movement on the opposite side treatment was strongly urged. Tenotomy, tendon transplantation, and hyper-extension of contracted muscles, combined with, and followed by, special exercises, were the indications. For the limbs in spastic paraplegia exsections of portions of the adductor longus and brevis, the horizontal fibres of the adductor magnus, the gracilis, and any other structures opposed to free abduction, should be practised. Exsections or division of portions of the hamstrings and each tendo Achillis were necessary. The limbs were then kept in extreme abduction for three months. Mr. Jones described at length the nature of the exercises to be subsequently prescribed and the methods in which walking should be attempted. A very large number of cases had been operated upon, varying in age from 12 months to 20 years; the benefit resulting was very great, and most children could be made to walk steadily without spasm and for long distances in from 12 months to two years. The classes outside remedial art were the idiot, the microcephalic, and the irritable diplegic with incontinence of urine.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 2nd, Dr. E. C. Kingdon, the President, being in the chair.—Mr. R. C. Chicken showed the following. 1. Two cases of Recovery from Musculo-Spiral Paralysis. In one case the humerus was fractured and the nerve was involved in the resulting callus and in the other case the nerve was damaged by extensive bruising. In both cases the nerve had been carefully dissected out and freed. 2. Several skiagrams of Fracture of the Humerus involving the Elbow-joint, also one of a case of Atlo-axoid Dislocation in a young man. No paralysis had followed the dislocation and no inconvenience other than a stiff neck and pain on forced movements of rotating and nodding the head. 3. A Prostate removed by Freyer's method.—Mr. Chicken then read a paper on When is it Necessary to Open a Joint? He contended that the beneficent advantages of aseptic surgery had not been so fully extended to the various arthropathies as it had to other serous cavities. With thorough aseptic precautions arthrotomy might be fearlessly used for the relief of pain and tension in the more simple effusions, as an aid to diagnosis in all doubtful cases, and to restore nutrition where the trophic influences were impeded by pressure; in addition to those instances where it was urgently demanded for the relief of foreign irritants, such as hæmarthrosis, gonorrheal effusion, &c. He deprecated the use of aspirators and acupuncture needles, preferring a fine long-bladed knife. At present through prolonged tension suppuration was frequently allowed to supervene, tubercle to induce sepsis for want of drainage, and an undiagnosed condition to cause prolonged irritation where an early exploration might have allowed the removal of the primary lesion. Cases were quoted in support of these opinions.—The President, Mr. W. M. Willis, Mr. R. Wood, Mr. R. G. Hogarth, and Mr. J. Thompson discussed the paper, and Mr. Chicken replied.

BRITISH ELECTRO-THERAPEUTIC SOCIETY.—A meeting of this society was held on April 4th, Dr. W. S Hedley, the President, being in the chair.—Dr. Hugh Walsham read an interesting paper on the Diagnosis of Thoracic Aneurysm, &c., by Means of the X Rays. The paper was illustrated by a large number of skiagraphs, shown through the lantern, of thoracic aneurysms, tuberculous bronchial glands, new growths, &c.—The President and Dr A. E. Sansom discussed the paper.—Dr. Sequeira then read a paper on the Finsen Treatment of Lupus, Rodent Ulcer, &c., which was also illustrated by lantern slides, photographs, and many living cases.—After some remarks by Mr George Stoker, owing to the lateness of the hour further discussion was adjourned to the next meeting, to be held on May 2nd. Visitors and members who had kindly promised to take part in the discussion are requested to communicate with the honorary secretary, Mr. Chisholm Williams, 20, Bedford-square, W.C.

FOLKESTONE MEDICAL SOCIETY.—A clinical meeting of this society was held on April 4th, Dr. T. Eastes, the President, being in the chair.—Several cases were shown by members, among these being a *Gumma of the Soft Palate* by Dr. W. J. Tyson, a case of Obscure Nervous Disease by Dr. P. G. Lewis, cases of Supposed *Addison's Disease* and Epithelioma of the Larynx by Dr. A. E. Larking, and Sarcoma of the Femur by Mr. H. Braund. Pathologica specimens were also exhibited.

Reviews and Notices of Books.

Human Embryology and Morphology. By ARTHUR KEITH M.D. Aberd., F.R.C.S. Eng., Lecturer on Anatomy at th London Hospital Medical College. Illustrated. London Edward Arnold. 1902. 8vo, pp. 324. Price 12*s.* 6*d.* net

No doubt can be entertained of the great value of knowledge of embryology to the student of medicine. supplies to the anatomist a satisfactory key to man anomalies and peculiarities in the distribution of nerves an blood-vessels and affords an explanation of many ma formations, cysts, tumours, and the like, that the surgeo is called upon to recognise and to treat. The authors the majority of the older works on physiology who hav dealt with embryology at any length have found it con venient to take the fowl's egg to describe the earlier stage of development, partly because the material for observatio could be easily obtained and the date of incubation precisel determined, and partly because the successive stages of th bird's ovum were much better known than the develop ment of the ovum of the higher animals. But the con tinuous work of many skilled microscopists and mo phologists has of late years rendered our knowledg of the development of the higher animals and man exact as that of the bird and the subject has attained suc portentous dimensions that the authors of the best modern treatises such as those of Foster, Waller, and Starling appear to have felt that it had become unmanageable and either leave it out altogether or give an outline that extends over a few pages only affords to the student a quite inadequate idea of its value and importance. Moreover, embryology is eminently a subject that requires abundant illustration and illustrations are very expensive. There are parts like the uro-genital apparatus that present great difficulties to the learner who is guided and taught only by the text, whilst a diagram immensely facilitates his comprehension of the facts Those who can recall Huxley and Kitchen Parker when discussing the homologies of the bones of the skull will remember how readily the pen or pencil was employed to give point and meaning to their views.

The plan adopted by Dr. Keith in this work differs from that which is followed in most works on embryology. It is customary to commence a treatise on embryology with an account of the sperm and germ cells, with the results of their fusion, and with a description of the medullary folds, the formation of the amnion and allantois, and the succession of changes that succeed the appearance of these structures. Dr. Keith plunges at once into the development of the face, describing the nasal, maxillary, and mandibular processes and pointing out in each case the cause of the malformations that are frequently observed at a later period, such, for example, as cleft palate, hare-lip, macrostoma, and micrognathia. This region, so carefully worked over by Rathke, Huxley, and Parker, is here exceedingly well given and the progress of development is illustrated by many original drawings which the dullest of students can understand. The following excerpt will show how the author leads the learner to understand teratological conditions in the adult by the stages through which the part has passed. Speaking of the premaxillæ he says: "In man each premaxilla is usually ossified by two centres placed side by side. Hence it sometimes happens in cleft palate that the fissure appears not between the canine and lateral incisors but between the lateral and middle incisors. In such cases the two centres of the premaxilla have failed to unite and the cleft occurs between them." The mode of formation of many of the foramina and canals in bone such as the vidian, pterygopalatine, descending palatine, infra-orbital and dental canals, and of the foramen ovale, the foramen rotundum, and the malar canals are concisely given

In successive chapters Dr. Keith describes the development of the pharynx and neck, the organs of hearing, and the teeth, and then devotes two sections to the development of the ovum of the fœtus from the ovum of the mother and to the manner in which a connexion is established between the fœtus and uterus, which includes an account of the primitive ova, the mature ovum, and the formation of the amnion, chorion, and placenta. The uro-genital system is next discussed, and a good chapter is devoted to a part often neglected—the pubo-femoral region, together with the pelvic floor, and fascia. The development of the mammary glands is very clearly and interestingly given. Then follow chapters on the Development of the Spinal Column and Back; the Segmentation of the Body; the Cranium; the Eye and its Appendages; the Nervous, Circulatory, Respiratory, and Digestive Systems; the Body Walls, Ribs, and Sternum; and the Limbs. The author has done wisely in restricting the size of the volume to a moderate compass. We venture to say that all the main facts of human embryology could be mastered by the student in the course of a month's steady application to Dr. Keith's treatise, and we recommend the work as a fairly complete and very trustworthy guide to human embryology. The illustrations are numerous and rather roughly drawn, but they have one excellent feature, that the names of the several parts are printed at the side and well-defined lines are drawn from them to the objects specified. The plan is distinctly superior to letters or figures with footnote references, as such letters are often blurred or rendered indistinct in the printing.

A System of Physiologic Therapeutics: a Practical Exposition of the Methods other than Drug-giving Useful in the Prevention of Disease and in the Treatment of the Sick Edited by SOLOMON SOLIS COHEN, A.M., M.D, Professor of Medicine and Therapeutics in the Philadelphia Polyclinic; Lecturer on Clinical Medicine at Jefferson Medical College; Physician to the Philadelphia Hospital and to the Rush Hospital for Consumption; Consulting Physician to the Jewish Hospital, &c. Volume III.: Climatology; Health Resorts; Mineral Springs. By F. PARKES WEBER, M.A., M.D., F.R.C.P. Lond., Physician to the German Hospital, Dalston; Assistant Physician, North London Hospital for Consumption; Author of "The Mineral Waters and Health Resorts of Europe." With the Collaboration for America of GUY HINSDALE, A.M., M D., Secretary of the American Climatological Association; President of the Pennsylvania Society for the Prevention of Tuberculosis; formerly Lecturer on Medical Climatology in the University of Pennsylvania. In two books. Book I: Principles of Climato-therapy; Ocean Voyages; Mediterranean, European, and British Health Resorts. London: Rebman, Limited. 1901. Pp. 336. Price 21*s*. the volume (Book I.).

THE volume, which has the rather full title-page duly set forth above, is the first book of the third volume of a series written for English and American readers. The greater part of the book before us is the work of Dr. F. Parkes Weber. It is divided into two parts. The first part deals with the physics, physiology, and general therapeutics of climate, and contains chapters on the Atmosphere, on the Effects of Altitude and Aerial Currents, and on Soil and General Topography. The last chapter deals with the Effects of different Classes of Climate A good deal of useful information is summarised in this introductory part of the book; it does not contain, nor does it profess to contain, anything very new or striking. "By desire of the editor theoretic discussions have been confined to fundamentals" There are some useful charts showing respectively the general direction of the better known ocean currents and the mean annual temperature and rainful in various places. A description of the climate of the great American desert which is given on page 67 will probably be new to many English readers. Dr. G Hinsdale explains that its soil differs entirely from that of the deserts of Egypt and Arabia. It is strongly alkaline and irritating to the mucous membranes Salt and borax form important constitutents of the well water It is the hottest and most arid part of North America. It may be worth while to mention that this desert is situated in Arizona, Utah, Nevada, and California and that Mont Diablo and Death Valley are situated in it. Dr. Hinsdale is probably right in saying that this region "can never be made available as a health resort." It is at any rate not one which would commend itself to Englishmen.

The second part of the volume gives a description of health resorts. Ocean climates and ocean voyages are first considered and outlines are given of many trips which may in suitable cases be advantageously undertaken, and at the end of the chapter there is a useful little paragraph as to the contra-indication to sea voyages. However obvious some of this advice may appear to be it is certain that in practice it is not always sufficiently attended to. It is fair neither to the patient nor to his fellow travellers to send on an ordinary passenger ship one liable to maniacal attacks, or to periodic insanity, or having a tendency to commit suicide. A description of the chief European health resorts is arranged in part according to their geographical grouping and in part according to their climate, but, as the author points out, he occasionally makes digressions for convenience of discussion. Practically, in a book of this kind the exact method of classification adopted does not matter much. The work is essentially a book of reference. For this purpose a good and full index is the great desideratum. Without an index the book would have been practically useless, for it is from its very nature not one which would be read straight through for pleasure, nor would it, as a rule, be profitable to adopt such a course. In consulting such a work the medical man generally wishes for information on one of two points. He may either want to know what sort of place is X or he may want to know what places have the best reputation for the treatment of a certain disease. The index of this work is a good one and is so arranged that such information as that suggested may readily be found. A treatise like this must of necessity—as the author very justly observes—be to a great extent a compilation, but an exhaustive compilation of this sort involves a very considerable amount of work and may be well and honestly done, or the reverse. It seems to us that Dr. Weber's book deserves praise and that it will usefully serve the purpose for which it was written, although it would be easy to point out a number of emendations which might with advantage be made. The author is to be commended for acknowledging in so many cases the sources of his information. For Dr. Weber's credit it may be hoped that he is not responsible for the spelling; in this respect the book, like so many of those printed abroad, is very defective.

The Care and Feeding of Children. By EMMETT HOLT, M.D. Second edition, revised and enlarged. London: Henry Kimpton. 1901. Pp. 104. Price 2*s.* 6*d.*

THE methods of technical education, at least so far as this country is concerned, have made little impression on the efficiency of the domestic nurse. Nor have they dispelled that atmosphere of prejudice and ignorance which pervades the practices of the nursery. In fact, the training of domestic nurses is at the present day strictly comparable with that of the monthly nurse or "Gamp" of a generation ago. That is to say, traditions, prejudices, and ignorant practices are perpetuated in unfailing sequence from nurse to nurse and constitute a closed ring of resistance through which it is almost impossible to break. This impenetrable armour of indifference to reform which affects the management and rearing of children constitutes a difficulty which most practitioners fully realise. In America, where the servant question generally, and that of domestic nurses in particular, has already reached a very acute stage, it has been found absolutely necessary to institute practical training schools for nurserymaids where a proper course of instruction can take the place of, or at least precede, the usual nursery apprenticeship. This movement was inaugurated in the year 1889 in connexion with the Baby's Hospital at New York and has, we believe, proved itself an unqualified success, and, further, it has been an active instrument in the dissemination of the most approved scientific teaching with regard to nursery hygiene.

The manual before us has been drawn up by Dr. Emmett Holt for the benefit of nurses who are being trained at the above-mentioned institute in New York. It takes the form of a simple catechism in which the style of question and answer is adapted to the intelligence of girls of about 16 years of age and of the proper class. The contents of this catechism are divided into three parts, the first deals with the care of children, the second with their feeding, and the third with miscellaneous questions which continually present themselves for solution in the daily routine of the nursery. The information contained in this section refers particularly to matters of personal hygiene which ought to be, but are not, perfectly familiar to all those to whose care infants or young children are entrusted. It is the failure to observe these fundamental principles of nursery procedure which is responsible, not only for much of the sickness which is incidental to youth, but also for many of the constitutional diseases which in later years affect adult life. For instance, how many of our domestic nurses realise the importance of maintaining a low temperature in the nursery as the most valuable prophylactic against colds and catarrhs of the respiratory mucous membranes? The following are some of the questions and answers by which Dr. Holt endeavours to impress this truth upon his readers:—

1. At what temperature should a nursery be kept during the night?—During the first two or three months not below 65° F. After three months the temperature may go as low as 55° F. After the first year it may be 50° F. or even 45° F.
2. What symptoms are seen in a child who is kept in too hot a room?—It becomes pale, loses the appetite, shows symptoms of indigestion, occasionally vomits, stops gaining in weight, perspires very much, and takes cold easily, because of this, and also because of the great difference between the indoor and outdoor temperature.

As regards feeding Dr. Holt's well-known system of the home modification of milk by formulæ is taught by the same simple method of question and answer. For example, the pupil is asked, "What are the quantities of the different ingredients (milk, cream, milk-sugar, &c.) needed to make modified milk for an infant of such-and-such an age? Also, how much is required for each feeding and how much for the 24 hours?" The answer in each case is supplied in the form of an easily understood table. By the same simple method of direct question and answer the means of recognising the symptoms of the more common diseases of childhood are impressed upon the pupil in Part III.

Taken altogether this little handbook must be regarded as a very valuable guide to place in the hands of those who are, or of those who intend to be, nurses. It cannot be regretted, however, too deeply that we have in England no institutions in which to employ this little manual or which are in the least comparable with the admirable schools for nurserymaids which have been established by American enterprise in New York, Philadelphia, Buffalo, and Boston.

Hygiene for Students. By EDWARD F. WILLOUGHBY M.D. Lond., Diploma in State Medicine of the London University and in Public Health of Cambridge University. London: Macmillan and Co. 1901. Pp. 563. Price 4*s.* 6*d.*

THIS book, the author explains in his preface, is a fourth edition ("greatly enlarged and improved") of a work which he previously published under the title "Principles of Hygiene" and which was written to serve as a text-book for the examinations of the Science and Art Department. The present edition is divided into six parts which deal respectively with (1) the Health of the Man, (2) the Health of the House, (3) the Health of the City, (4) the Health of the People, (5) Demography, and (6) Meteorology. The sanitary conditions of rural districts are practically ignored, the laws bearing upon sanitation are not touched upon, and little mention is made of unhealthy trades. Demography, the author claims, is treated with greater fulness than in any work not solely devoted to the subject.

The book shows evidence of very careful and painstaking compilation and the author has freely used his judgment as to what he should take and what he should reject. For example, he condemns without exception all chemical methods for the treatment of sewage and he names without hesitation and without circumlocution the filter which should be used for drinking water and in what respects it is superior to all others. This dogmatic teaching is highly commendable when it is accurate and in the most important matters Dr.

Willoughby's views may be readily accepted. There are some statements, however, which will not receive universal approval. The connoisseur in bread will not believe that an oven heated by hot water is superior to the old brick oven, although Dr. Willoughby and a London baker whom he mentions by name agree in recommending the modern invention. The author devotes some space to a disquisition on wine and amongst other things he tells us that for the London market "Chateau Latour" is made by adding nuts or almonds and "Chateau Lafitte" by adding almonds and violets to ordinary Bordeaux wine. "This, however," he adds, "is a totally different thing from fraudulent fabrications." To us such practices appear to partake rather of the nature of fraud. From what has been said it will be gathered that the book is somewhat discursive. It contains statements of opinion on matters which have no special interest for students and which are beyond the purview of the ordinary examiner. On the other hand, the author omits to deal with subjects which form an important part of the study of hygiene. For these reasons we fear that the work, portions of which are excellent, will prove less useful than it might otherwise have been.

LIBRARY TABLE.

Vade Mecum d'Obstétrique et Gynécologie. By Dr. HENRI FISCHER. Paris: L. Boyer. 1902. Pp. 321. Price 4 francs 50 centimes.—This little book, which we see the author intends to have translated into English, consists of a series of short lectures upon obstetrics and gynæcology. It is written in the colloquial style of lectures and contains a good deal of information. The design which the author has had in writing the book is to place before the student simple rules to guide him in his choice of operative measures in the various conditions considered. The value of the different procedures is not discussed and no reasons are given for their choice. The book is necessarily incomplete and, dealing as it does with but a limited part of the subject of obstetrics and gynæcology, is not of much value. We are afraid that an English translation is not likely to meet with much success in this country.

Guide de l'Examen Gynécologique. By Dr. LEON ARCHAMBAULT. Paris: A. Maloine. Pp. 116 1902. Price 3 francs.—This book is an elementary guide to gynæcological examination. In contains a limited number of facts relating to the subject described shortly and simply. It might prove of some use to junior students and *lycéens.* We see but little advantage in the publication of such books, containing as they do nothing that cannot be better learnt from the larger text-books on the subjects, and we do not think that their use by students is to be encouraged. This form of book is not one that we can recommend.

Essai de Séméiologie Urinaire. (An Essay on Urinary Symptomatology.) By CAMILLE VIEILLARD, Pharmacien-Chimiste, Membre de la Société Chimique de Paris; with a preface by ALBERT ROBIN. Paris: Société d'Éditions Scientifiques 1902. 8vo, pp. 376. Price 6 francs.—The first thing that strikes us in reading this book is the large amount of unnecessary verbiage in its pages. The style is somewhat pedantic and makes reading tedious. Such faults could, no doubt, be overlooked if the subject-matter were in itself excellent. But there is practically nothing new, except in the appendix, which is devoted to cryoscopy as a means of examination of the urine. The book is divided into three parts, the first dealing with the general principles of urinary semeiology, the second with each normal and abnormal constituent of the urine in turn and the meaning of its presence therein, and the third with what the author calls "urologic syndromes." The introductory remarks occupy 18 pages and are chiefly historical. The author claims to treat the whole subject from a novel point of view. In the first part of the book, on page 68, will be found a copy of a somewhat curious document—a form on which to record a complete analysis of urine. It will be seen that Professor Bouchard, whose system this is, lays stress on the anthropometrical examination of the patient as well as on the chemical analysis of his urine. The observer has to note down the patient's complexion, muscular condition, weight, size, circumference of waist, and the total superficies of his body. Dr. Bouchard says that the determination of the skin area is as useful as analysis of the urine when viewed in conjunction with it and that without the former the results of the examination are unsatisfactory. This seems to us to be urine-testing extraordinary and we can hardly regard Dr. Bouchard's method as a practicable one, always supposing that this account of it is correct. M. Vieillard does not seem to be sure about his views on this teaching, but on the whole he criticises it unfavourably. The second part of the book is more serviceable and might well stand by itself, for neither the first nor the third part is of much value. Then comes the Appendix on Cryoscopy which occupies 28 pages, devoted to what seems to be a mode of examining urines by physics rather than by chemistry. The author has previously published a brochure on this subject. Cryoscopy (*κρύος* ice, *σχοπεω* I see) is a method of estimating the quality of urines by observations of their freezing-point, which is found to vary with the amount of solids they contain dissolved; different substances are said to alter the freezing-point in proportion to their molecular weight. This, at any rate, is what we understand by the easy-going account of which the appendix consists. The author takes 6000 as the molecular weight of albumin and doubtless if this were known to be the case calculations would be much simplified. It is unproved, however, as far as we can ascertain. In the last paragraph in the book M. Vieillard states that these ideas are mostly new and that some modifications may be necessary. In this we quite agree with him, for we should be sorry to accept all that he says about cyroscopy without question or criticism.

Pharmacopœia of the Hospital for Diseases of the Throat, Nose, and Ear, Golden-square. Edited by H. LAMBERT LACK, M.D. Lond., and CHARLES A. PARKER, F.R.C.S. Edin., surgeons to the hospital. Sixth edition. London: J. & A. Churchill. 1901. Pp. 75. Price 2*s.* 6*d.*—The authors state that they have made numerous omissions of obsolete drugs, whilst they have added fresh prescriptions, the most important of which will be found in the nasal douches, local anæsthetic solutions, and mixtures and pills for internal use. The metric system of weights and measures has been introduced in addition to the old system, and the quantities under the metric system are said not to be the exact equivalents of those of the old system, but, save in fractional differences, the preparations made up by both systems will contain the same proportions of ingredients. The following acids have been added: chromic, nitric, and trichloracetic, which are grouped together under the title "Caustica," London paste, which had appeared in previous editions, being now discarded. It is stated in this edition, as in all previous ones, that if *porte caustiques* are used there is always the risk of a portion of the caustic becoming detached and falling into the throat. This would rather depend upon the part of the upper respiratory tract to which the caustic was applied. The medicated bougies for nasal use have been most wisely omitted. The alkaline nose-wash is reduced in strength and is made to correspond more nearly with Dobell's solution by the addition of sugar. The more important additions in the sub-section on douches are *collunarium ammonii chloridi*, antipyrine, benzoini, boracis cum spiritu being substituted for boracis cum sale. Eucalypti compositum, menthol compositum, phenol compositum, phosphatis compositum, potassii chloratis, and sanitas are also new. Fuming inhalations are omitted entirely. Gargles have undergone some alterations of no great importance. Salicylic acid drops are the only noticeable addition to the guttæ. Hypodermic injections make their appearance in this edition. All the insufflations—aural, nasal, and laryngeal—have undergone reduction in their numbers. Local anæsthetic solutions appear under a different heading and include several useful preparations. The mixtures present no noteworthy changes, but the watery vapours or sprays have been entirely revised and five prescriptions are given for oil solutions to be used with the volatiliser. The rest of the book contains nothing worthy of notice. The authors are to be congratulated on having performed in a very able way a task which must be extremely irksome, for the edition exhibits a marked superiority over that issued seven years ago.

Atlas der Krankheiten der Nasen, der Nebenhöhlen und des Nasenrachenraumes. Von Privat-docent Dr. P. H. GERBER in Königsberg. Achte (Schluss) Lieferung. (*Atlas of Diseases of the Nose and its Accessory Cavities and of the Naso-Pharynx.* By Dr. P. H. GERBER of Königsberg. Eighth Part.) Berlin: S. Karger. 1902. Price 6*s.* each part.—Dr. Gerber's concluding number deals in its first Plate (No. XXXVII.) with a disease of wide interest but endemic in a more or less restricted area—that is to say, rhino-scleroma; the figures will be of great assistance in preventing errors in diagnosis in this rare disease. The remaining plates are devoted largely to special conditions, such as various forms of eczema, herpes, erysipelas, atheroma, elephantiasis, leprosy, and so on, as they affect the nose. One plate is devoted to affections of the external nose, another to congenital anomalies, while the final plate contains examples of diseases described previously. By this *Lieferung* Dr. Gerber fully maintains the standard of excellence shown in the earlier ones. As we have remarked in notices of the previous parts, we consider this to be an atlas of the highest excellence and of undoubted utility; in fact, as an aid to teaching the value of books of this description cannot be over-estimated.

The Book of Old-fashioned Flowers and Other Plants which Thrive in the Open-air of England. By HARRY ROBERTS, author of "The Chronicle of a Cornish Garden." London and New York: John Lane. 1901. Pp. 112. Price 2*s.* 6*d.* net.—This is the fourth volume of the series of handbooks on practical gardening which have been produced under the general editorship of Mr. Harry Roberts and of which the first three treated respectively of the culture of asparagus, of greenhouse flowers, and of the grape. The present volume is a useful and pretty little book which will be read with pleasure and profit by everyone interested in hardy flowers. The book is not, and does not profess to be, a systematic treatise, but it contains a good deal of information some items of which will be new to most readers and much of the advice given is excellent. The importance which should be attached to the preparation and use of "compost" is often ignored by amateur gardeners, but compost to the gardener is strictly comparable with the "stock" of the cook. Mr. Roberts's idea that, regarded as decoration, cut flowers are "inappropriate and childish" is not one which will generally commend itself and he is perhaps unnecessarily severe on those who admire the playful artistic spirit which led to the carving of yews and other trees into dragons, pagodas, and peacocks. These things, however, are merely matters of taste and there is only one point in the book to which we must take serious exception. "For weedy paths," the author says, "all that is now required is to water the paths when dry with a solution made by boiling five ounces of powdered arsenic in a gallon of water, stirring the while and then adding two gallons of cold water and half a pound of soda." We cannot commend this wholesale use of arsenic nor do we think that the poison should be intrusted to the gardener. A case recently came to our notice in which it seemed probable that a large number of big trout were killed by the adoption of the practice recommended by Mr. Roberts. In this instance there was a heavy rainfall soon after the application of the mixture, much of which must have been carried into the lake by the flood water.

Banking. By A. D. COCHRANE. London: Effingham Wilson. 1902. Pp. 99. Price 2*s.* 6*d.*—From the point of view of general education everybody ought to know something about the subject of banking and medical men may profit by a perusal of the pages of this book. Starting with an account of the origin of banking, the author points out that Greece, Rome, and Jerusalem were each responsible for the commencement or development of some one division of the system which is known as banking at the present day. In successive chapters he deals with early banking and political influences, the cause of failures, American banking, the position of London as the clearing-house of the world, the growth of joint-stock banks, gold reserve, savings-banks, and banking as it is at the present day. "Banking Customs" is not the least interesting chapter and explains many of the rules which are adopted by banks for their protection in the conduct of their business and which appear to their customers to be simply "red tape."

JOURNALS AND MAGAZINES.

American Journal of the Medical Sciences.—Amongst the original articles in the issue of this journal for April is one by Dr. Charles Phelps, surgeon to the Bellevue and St. Vincent's Hospitals, New York, on Localisation of the Mental Faculties in the Left Prefrontal Lobe. The writer reports numerous cases of injury to the head and also the conclusions at which he has arrived after the study of a large number of similar cases which have been reported. The large number of cases cited (800) is fully sufficient to form a basis for such conclusions. Three generalisations were made: 1. In every instance but two in which consciousness was retained or regained and the mental faculties were not perverted by general delirium laceration involving the left frontal lobe was attended by default of intellectual control and the lesion was usually, if not always, of the prefrontal region and implicated either its superior or inferior surface. Subcortical disintegration, or deep or extensive laceration of the cortex, was specially characterised by abrogation of mental power and superficial laceration by aberration in its manifestations. 2. In every instance in which laceration was confined to the right lobe the mental faculties were unaffected, except in so far as they were obscured by stupor or delirium occasioned by coincident general lesion. 3. Compression or contusion of the left lobe only exceptionally produced specific intellectual disturbance. The other communications in this number include: On the Effect of Severing and of Mechanically Irritating the Vagi, by Dr G. W. Crile; An Experimental Investigation into the Causes and the Treatment of Diabetes Mellitus, by Dr. A. C. Crofton; and Primary Tuberculosis of the Liver, by Dr. Louis Frank.

The *Practitioner* in its April issue contains fewer original communications than usual. Dr. Theodore Dyke Acland presents a Clinical Study of Bronchiectasis which is long and well illustrated by cases and which gives a fairly comprehensive view of this most hopeless affection. Dr. Acland's conclusions with regard to some of the newer forms of treatment are depressingly despondent though we feel sure that they are justified by results up to the present. Mr E. Treacher Collins writes on Ophthalmia Neonatorum and has been at great pains to collect some valuable facts from both home and foreign sources. He rightly insists upon the preventability and great importance of preventing this disease which is the cause of blindness in such a large percentage of all cases.

Analytical Records

FROM

THE LANCET LABORATORY.

BILLON'S "OVO" LECITHIN PILLS AND GRANULES

(BILLON'S OVO LECITHIN DÉPÔT, 16, WATER-LANE, GREAT TOWER-STREET, E.C.)

IT has been said that phosphorus is to the nervous tissues what iron is to the blood corpuscles. The difficulty as regards administration, however, has been to present phosphorus in a suitable form. The animal substance lecithin which is a constituent of all nerve matter and is found also in eggs would appear to be a very favourable form of exhibiting phosphorus, judging from the excellent results which its administration is giving in disturbances of general nutrition due to nervous disorder and in anæmia and wasting disease. *Billon's lecithin* is extracted from the yelk of the egg by a special process. It is identical with distearine glycerophosphate of choline and possesses a faint odour resembling that of fish oil. The granular preparation occurs in short thick threads of a dull yellow colour easily soluble in water, the solution readily frothing and possessing a sweet vanilla like taste On suitable treatment the reactions for glycerine, choline, and phosphorus may respectively be obtained. Billon's ovo lecithin may also be procured in the form of pills and a liquid preparation is available for hypodermic injection. There is abundant clinical evidence to show that these preparations have a marked tonic effect.

"CHURNO" (BUTTER SUBSTITUTE)

(VAN DEN BERGHS, LIMITED, 21, MINCING-LANE, LONDON, E.C)

According to our analysis the following is the proximate composition of "Churno" moisture, 12·75 per cent., fat, 83·55 per cent., and curd and salt, 3·70 per cent. The examination of the fat proved the preparation to be a butter substitute as described. It contains a minimum amount of water and is of a palatable flavour which is decidedly like that of good butter The sample which we examined was in sound condition, sweet and fresh to the taste, and free from rancidity. "Churno" is a wholesome food and serves as a good substitute for butter, while it is sold for half the price.

LEVURINE

(CH COUTURIEUX, PARIS AGENTS: MESSRS ROBERTS AND CO., 76, NEW BOND-STREET, LONDON, W)

Levurine is a specially prepared barm obtained by culture, so that a particular "race" of yeast is selected According to our experiments it is exceedingly active, for on adding a pinch to a solution of glucose brisk fermentation is speedily set up. Levurine possesses a faint yeasty smell which is accompanied by the smell of some aromatic used probably for preserving purposes. According to Dr Doyen of Paris levurine appears to exert a remarkable restraining effect upon the activity of the pus organism It is said to act as a real specific, its action being comparable with that of the antitoxin serum in diphtheria. In a case of anthrax it is stated that the furuncle and the anthrax subside and the inflammation diminishes just as the inflammatory œdema disappears in diphtheria. In a case of a painful boil on the leg after the administration of levurine, when the centre had already softened, the absorption, it is reported, took place only on the third day and the inflammatory swelling disappeared in some hours "The core was eliminated three days after and the wound was in a fair way of cicatrisation" The evidence would appear to show that levurine is decidedly antagonistic to the staphylococcus pyogenes, and this barm certainly merits a trial in this country similar to that already accorded to it in France.

MEDICATED SOAPS

(CHARLES MIDGLEY, LIMITED, 23, ST ANN'S-SQUARE, MANCHESTER.)

We have carefully tested these soaps, having regard to the statement that they are superfatted. This is practically borne out since the phenolphthalein test, except in one case, gave no indication of the presence of free alkali. The exception was the traumatol soap, traumatol being an iodised cresylic compound. Traumatol soap contains 5 per cent of traumatol, a very powerful yet not irritating antiseptic equal in germicidal power to corrosive sublimate In the same way we examined nicotine soap, containing 10 per cent. of nicotine, intended for the treatment of scabies, formaldehyde soap, containing 5 per cent. of formaldehyde and sulphur; and camphor soap. The nicotine soap tends to excite sneezing, while the formaldehyde soap has a necessarily pungent odour The soap basis throughout is evidently of a superior kind.

ANDERSON'S TAFELWEINE

(GEORG ANDERSON, FRANKFORT-ON-MAIN)

The feature of these wines is their practical freedom from sugary constituents, the amount of sugar seldom exceeding one fifth per cent. The wines are of the hock type, light and delicate and suitable in particular for those who are prohibited the free use of sugar in any form. We examined three samples with the following results. No. 1 extractives, 1·55 per cent., mineral matter, 0·21 per cent., alcohol, by weight 9·36 per cent., by volume 11·61 per cent., equal to proof spirit 20·35 per cent., volatile acid reckoned as acetic acid, 0·19 per cent.; fixed acid reckoned as tartaric acid, 0·32 per cent.; and sugar, 0·20 per cent. No 2 extractives, 1·62 per cent., mineral matter, 0·18 per cent., alcohol, by weight 10·08 per cent., by volume 12·49 per cent., equal to proof spirit 21·89 per cent, volatile acids reckoned as acetic acid, 0·16 per cent, fixed acids reckoned as tartartic acid, 0·26 per cent., and sugar, 0·25 per cent. No. 3 extractives, 1·76 per cent., mineral matter, 0·16 per cent., alcohol, by weight 9·36 per cent., by volume 11·61 per cent., equal to proof spirit 20·35 per cent., volatile acids reckoned as acetic acid, 0·07 per cent.; fixed acids reckoned as tartaric acid, 0·36 per cent.; and sugar, 0·24 per cent. The wines present no striking differences in composition. They are decidedly dry and not expensive,

KALARI BISCUITS

(CALLARD AND CO., 65, REGENT-STREET, LONDON, W)

Though presenting the texture and crispness of an ordinary kind of biscuit the kalari biscuit is both starchless and sugarless Further, it is free from excess of fat, which is frequently an objectionable feature in food prepared especially for the needs of those suffering from diabetes or obesity In spite of the fact that the kalari biscuit is quite free from carbohydrates it is palatable, while on account of the high proportion of proteids it is undoubtedly nutritious. Kalari bread is made on the same basis.

MEDICAL MAGISTRATE — Mr. John Sidney Turner, M.R.C.S. Eng., F.L.S., has been appointed by the Lord Chancellor a Justice of the Peace for the County of Kent.

New Inventions.

TRACHEOTOMY INSTRUMENTS.

IN certain cases of diphtheria after tracheotomy the trachea exudes a gummy secretion of great tenacity which not only necessitates very frequent cleansing of the inner tube but renders its removal difficult. There is then risk of the nurse pulling both tubes together from the shield, and I have known this happen both with Parker's tubes and my own. The very simple contrivance figured (Fig. 1) renders such an accident impossible but it can only be used with tubes of my pattern. It is made of aluminium wire guarded at the ends with rubber and it is held in the palm of the right hand by means of the second finger crooked round the angle, leaving the thumb and the index-finger free. The instrument being gently pressed (Fig. 2) against the wings of the outer tube the handle of the inner is grasped between the index-finger above and the thumb below, and a good pull can now be exerted with perfect safety by the use of one hand only; further, the outer tube is held steady by the instrument and is not jogged about in the trachea.

FIG. 1.

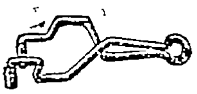
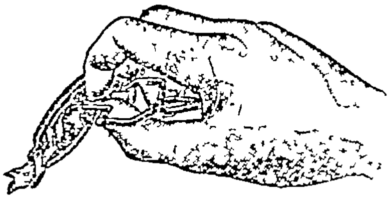


FIG. 2.



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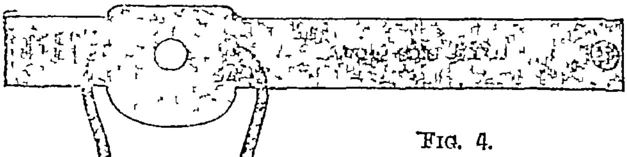

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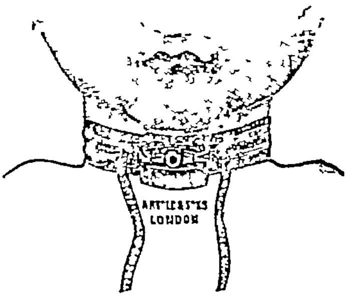

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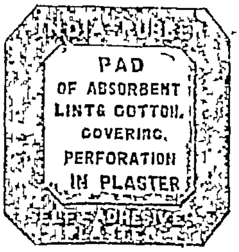

Looking Back.

FROM

THE LANCET, *SATURDAY, APRIL* 17, 1824.

ST. THOMAS'S HOSPITAL.

April 15.

HENRY PRINCE, the little child from whom Mr. TRAVERS extracted a urinary calculus, on the 12th ultimo, has now perfectly recovered from the effects of the operation, and is entirely free from symptoms of stone. In giving the concluding notice of this child's case, we cannot refrain from pointing out to the benevolent governors of St. Thomas's the forlorn and hopeless prospect of this poor little infant. Through their benevolence and the skill of their medical officers, he is restored to health, but if their kindness be not extended beyond the limits usually prescribed to the patient of the hospital, we apprehend his rescue from death will prove rather a source of misery than happiness. We are informed that he is the offspring of parents who have had the inhumanity to forsake him, and who have consigned his welfare to the casual stranger. Should this child, now scarcely more than two years of age, be discharged from the hospital, we believe it is uncertain even to what parish he will be sent, much less to what friend; therefore unless the governors humanely interfere to shield this infant and continue their protection, we fear they will only have kept him from one grave to which he was fast approaching for the purpose of sending him by a more painful and harrassing route to another. Now as we know that many of the governors peruse the columns of THE LANCET, we hope they will take the distressing circumstances of this orphan's case into consideration, and protect him from that want to which we fear he will otherwise be inevitably doomed.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of the society was held on April 9th, at 11, Chandos-street, W., the President, Mr. Christopher Heath, being in the chair The report for 1901 was read. Seven new members were elected and the deaths of four members were reported. Applications for the renewal of grants were read from 52 widows, 11 orphans, and five recipients from the Copeland Fund, and a sum of £1282 was voted to be given at the next court. Two fresh applications from widows were read and grants were made. Donations amounting to £221 15*s.*, including £200 from the executors of Miss *C. A. Birch*, were announced. *Nine members were* nominated for election at the annual general meeting to fill the vacancies in the court of directors. The expenses of the quarter were £58 5*s.* The annual general meeting will be held on May 21st, at 5 P.M.

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[1] New Tracheotomy Instruments, THE LANCET, July 21st, 1900, p. 180.

THE LANCET.

LONDON SATURDAY, APRIL 19, 1902

Cancer Research.

ALTHOUGH it is still disputed by some authorities we fear it is only too sadly true that within the last 30 years there has been a notable increase in the prevalence of cancer and other forms of malignant disease. The fact has been borne in upon the mind of the public as well as upon the medical profession and the result is a very general interest in, and a painful anxiety to fathom, the mystery that now enshrouds the whole subject of malignancy. The last 30 years has been a period also of great advance in medical knowledge and consequent improvement in our means of preventing or dealing with disease. It has witnessed the great results with which the name of LISTER will ever be associated, the secret of tuberculous disease has been laid bare by KOCH, and diphtheria has been robbed of much of its terror by the "serum treatment." But what has science done to unravel the tangled problem of cancer? What new powers have we of combating this scourge? The surgeons are ever widening their field of operation; they practise more extensive removal of parts, and often they are enabled by the public confidence in surgery to treat the disease at an earlier period of its history than before. The results are seen in a lessened mortality from their operations and a greater freedom from recurrence of the disease. But the most optimistic surgeon must confess that his art falls far behind his desire and of the other means at his disposal for combating malignant disease he can speak with only less confidence. This is known to the public just as fully as to the profession and it is therefore extremely natural that the public should be urging the profession to increase its efforts to discover the cause of, and the proper treatment for, cancer.

As is well known to our readers, it is proposed to raise £100,000 and to hand over this sum to a committee to be used for the sole and special purpose of investigating cancer. The Royal College of Physicians of London and the Royal College of Surgeons of England have drawn up a "scheme for the organised investigation of cancer" which is published in another part of our present issue. We need not assure our readers that we view every skilled investigation of cancer, from any standpoint whatever, with the very strongest sympathy and our columns have always been open for the recording of scientific results. There is no department of pathological research in which we and all our readers take a deeper interest than in the study of cancer; there is no branch of medical practice in which some great advance would be so welcome as in the treatment of cancer, and the impulse which gave birth to the scheme now before us has our deepest sympathy. But as we read the "scheme" which has now been promulgated by the two Royal Colleges we feel that it falls somewhat short of what we should have expected from such a source. To the rich man to whom the appeal for money is now made we would say, "It is vastly easier to give princely sums than to solve nature's problems." To the organisers of this investigation and the draughtsmen of the scheme we would say, "The work will be done by the scientific investigator, the patient toiler in laboratory or hospital ward, and not by any committee, consultative, advisory, or executive." The scheme before us appears to have been drawn up in forgetfulness of these truisms. There are to be two committees—the general committee and the executive committee. Of what service the general committee is to be to a very difficult scientific investigation it is impossible to imagine. We notice, too, that the executive committee, which is to have the real control of the fund and therefore of the work to be undertaken, is partly composed of *ex officio* members and it is no secret that those *ex-officio* members may not be in any way specially qualified to assume this responsibility. It seems to us that those who drew up this scheme have devoted too much thought to the construction of the committees—the flies on the wheel—and too little thought to the scientific investigators. Yet any one who sits down and thinks the matter out must see at once that cancer remains a mystery, not for lack of a committee, or of any grand scheme of collective investigation, or of big volumes of statistical, dietetic, and topographical information, but from lack of scientific observation and knowledge gained by highly trained workers. To solve the problem of cancer the real difficulty lies in getting the right workers, not in getting the right sum of money. How are they to be got? By wide scientific training in properly equipped laboratories. The question therefore naturally arises whether, if large sums of money are forthcoming for this work, they will not be more wisely spent in securing the highest possible training of suitable men in the most perfect methods of scientific research of all kinds than in continuing work along the narrow lines at present pursued. We have the fullest sympathy with the suggestions to subsidise individual workers, we should like to see all such men not only provided with due means for carrying out their investigations but also set free to devote their entire energies to the work in hand. Only too often in this country important scientific researches have to be made in the short hours than can be snatched after the pressing claims of a practice have been met and they are liable to grievous interruptions. It should be the ambition of the rich to bear their share in scientific progress by enabling such workers to devote their best energies to their highest call.

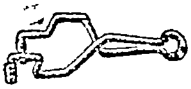
We notice that the first object of this fund is "to provide, extend, equip, and maintain laboratories to be devoted *exclusively* to cancer research" (the italics are ours). If we knew that malignant disease was something quite distinct from every other morbid process in the human body there might be some justification for this "exclusiveness." But in default of this knowledge it seems to us unwise thus to limit the purview of those supported by this fund. None can tell from what direction the great discovery will come—from physics, chemistry, or biology in its widest sense. It is, indeed, very probable that he who looks only at cancer will fail to "see" it. While, therefore, we feel in every way desirous that further and clearer light may be thrown on the mystery of malignancy, and to that

New Inventions.

TRACHEOTOMY INSTRUMENTS.

IN certain cases of diphtheria after tracheotomy the trachea exudes a gummy secretion of great tenacity which not only necessitates very frequent cleansing of the inner tube but renders its removal difficult. There is then risk of the nurse pulling both tubes together from the shield, and I have known this happen both with Parker's tubes and my own. The very simple contrivance figured (Fig. 1) renders such an accident impossible but it can only be used with tubes of my pattern. It is made of aluminium wire guarded at the ends with rubber and it is held in the palm of the right hand by means of the second finger crooked round the angle, leaving the thumb and the index-finger free. The instrument being gently pressed (Fig. 2) against the wings of the outer tube the handle of the inner is grasped between the index-finger above and the thumb below, and a good pull can now be exerted with perfect safety by the use of one hand only; further, the outer tube is held steady by the instrument and is not jogged about in the trachea.

FIG. 1.



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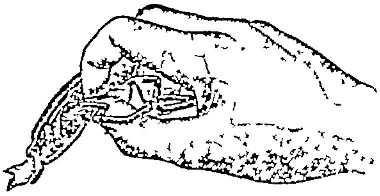

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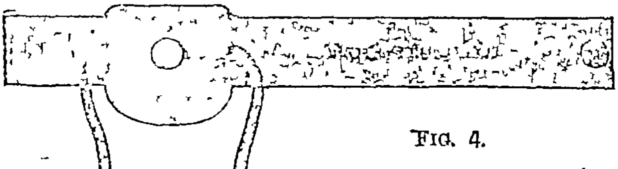

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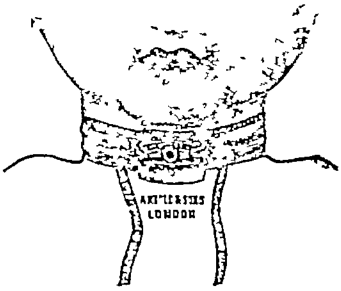
FIG. 4.



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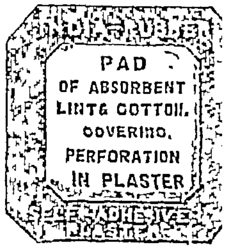

Looking Back.

FROM

THE LANCET, *SATURDAY, APRIL* 17, 182

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THE LANCET.

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Thoracic Phthisis: The Lumleian Lectures.

THE "Lumleian Lecture in Surgery" was founded in the year 1581 and in the annals of the Royal College of Physicians of London it is referred to as the "Chirurgical Lecture." A very ambitious scheme of surgical lectures was at first adopted, an account of which may be found in HOLINSHED ("Chronicles," vol. iii., p. 1349), but it soon ceased to be either practicable or required and the present lectures were substituted. The subject chosen by the Lumleian Lecturer for his discourses has generally been interesting from a clinical point of view, and Dr. FREDERICK T. ROBERTS in taking as his theme the Comprehensive Study of Thoracic Phthisis has accurately followed precedent and has furnished a valuable monograph which contains a vast amount of information culled from clinical experience. At first sight his title is disappointing. Within recent years the term "phthisis" has been gradually dropped by many leading authorities, the term "tuberculosis" with a qualifying adjective, especially "pulmonary," being employed in its stead. It would appear on a cursory glance, therefore, that Dr. ROBERTS is making use of a word which we had hoped was becoming obsolete, more particularly when applied to "pulmonary tuberculosis." Dr. ROBERTS, however, early in his lectures makes it perfectly clear that such is not the case. He explains that he employs the expression "thoracic phthisis" advisedly to emphasise two most important practical facts. First, in the cases of chest disease usually grouped as "consumptive" the morbid changes are by no means limited to the lungs but in the large majority of instances other thoracic structures are more or less affected as well and the mischief may even originate in certain of these structures. Secondly, even assuming the disease to be essentially a manifestation of tuberculosis, other lesions and pathological changes may be associated with the tuberculous mischief from the first or from an early period, while they are certain to develop or to supervene in various combinations and degrees during the progress of cases which are at all prolonged and especially in those of a markedly chronic type. Ultimately the conditions not uncommonly become extremely complicated. In other words, "thoracic phthisis" and "pulmonary tuberculosis" are by no means synonymous terms—a fact which, we admit, is sometimes entirely ignored or forgotten. Unfortunately, there is very generally a tendency to forget the hackneyed, but nevertheless true, phrase, "Tota ars medici est in observationibus," and, having discovered "crepitations" at one "apex," to designate at once the case as one of "consumption" and forthwith to advise "open air," or some other form of treatment, without paying due attention to the need of searching for other lesions. Dr. ROBERTS'S lectures are throughout a protest against any mere narrow perception of tuberculous disease of the thorax and its contents. We thoroughly endorse the lecturer's words when he says that, having adequately mastered the subject in the abstract and gained a fairly intelligent and definite knowledge of facts and not of mere theories, assumptions, or doctrines, and having acquired adequate skill in clinical investigation, the trained practitioner must regard it as his imperative and unfailing duty to deal with every individual case which comes under his care from a comprehensive standpoint—namely, to study it systematically and thoroughly, so as to be in a position to give rational and trustworthy advice, to do the best that is possible for this unfortunate class of patients, and to take suitable and adequate measures of a prophylactic or preventive nature as far as circumstances permit. The experience gained in the sanatoriums for the treatment of tuberculosis which already exist in this country bears witness to the want of care exercised in the selection of cases which are sent to such institutions. Doubtless the fault lies partly with the patients themselves, who are either unable, or perhaps unwilling, to perceive that their condition is such as cannot obtain benefit from treatment that would be suitable for cases in an earlier or less complicated stage of the disease. In some instances, however, the error lies on the part of the practitioner who may be inadequately acquainted with the principles of sanatorium treatment and the class of case most likely to benefit by it. The comprehensive view taken by Dr. ROBERTS of "thoracic phthisis" will, if carefully studied and followed, have a valuable effect in preventing such mistakes and a double benefit will follow. Disappointment, discomfort, and distress will be prevented in the case of a large number of patients and their friends, and results which tend to bring into disrepute a valuable therapeutic measure will be obviated.

There are many points raised by Dr. ROBERTS in these lectures to which reference might be made, but we must be content with noticing a few of those which concern not only individual patients but the general population. The mode of spread of the disease is most important to the medical profession. The idea that pulmonary tuberculosis is infectious has naturally created the greatest alarm amongst the community at large and extreme measures have been proposed to check the contagion. We join with Dr. ROBERTS in his protest against the modern tendency to regard all questions relating to tuberculosis too exclusively from the scientific side and to accept no doctrine or opinion as trustworthy or authoritative unless it emanates from a pathological or bacteriological laboratory. Scientific investigation does not cover the whole field and tuberculosis as it is seen in actual practice must be dealt with and studied on a much broader basis and from other standpoints. Pulmonary tuberculosis is, unfortunately, one of the most common of diseases. It may undoubtedly be communicated from one person to another, but the laity must be given to understand that it is not infectious in the same manner that scarlet fever is. There are some authorities who would have pulmonary tuberculosis added to the list of compulsorily notifiable diseases. We believe that the general enforcement of such a proceeding would have disastrous results on our social system and that commercial, professional, social, and practical life would be materially interfered with. We agree with Dr. ROBERTS, therefore, that it is our business as a profession at once to endeavour to allay this excessive and unreasoning alarm and to make the laity understand that with very simple precautions there need be little or no fear of infection. If the public is taught the danger of indiscriminate expectoration, especially in public places and vehicles, no legislative measures will be immediately necessary. The risk of communicating the disease is, of course, greatest where many people are gathered together. In this connexion Dr. ROBERTS gives publicity to a statement that no arrangements are made in post-offices in this country as regards expectoration, while in addition their want of ventilation and other sanitary defects are but too evident. We believe that in this instance he has been wrongly informed and that the necessary hygienic precautions are enforced by the postal medical offices.

In conclusion, we wish to congratulate Dr. ROBERTS on the essentially practical manner in which he has brought before the profession a most valuable and instructive discourse.

Deafness and Ear Disease in School Children.

THE Otological Society of the United Kingdom has rendered a service to national education and to the community. It has drawn attention to facts which are startling, and which cannot be lightly passed over by those responsible for the training and future well-being of the children of the poor. The facts are embodied in a report by Mr. ARTHUR H. CHEATLE on the Examination of the Ears of 1000 School Children, which formed the subject for discussion at a meeting of the society on Monday last, and a report of which will be found at p 1111 of our present issue The children examined were those of the Hanwell District School which receives the children of the poorest class from Southwark and the City of London. The school includes an ophthalmic department into which children suffering from diseases of the eye, especially ophthalmia, are received from all the metropolitan Poor-law schools. The object with which the investigation was undertaken was to ascertain what proportion of children suffer from deafness and diseases of the ear in order that attention, if necessary, might be drawn to the subject. In conducting such an investigation Mr. CHEATLE was confronted with a difficulty at the outset—namely, the want of a trustworthy, and if possible a standard, test of hearing in children. The test employed was that of putting simple questions in a quiet whisper at an arbitrary distance—which in this case was 18 feet. At first the children had both ears unclosed and the eyes shut; afterwards one ear was unclosed and turned to the speaker and then the other. The test was found to form a good working standard. Other precautions, such as tuning-fork tests, were applied when necessary and in all the cases of middle-ear disease inflation was employed in order that the diagnosis might be strengthened by the improvement obtained. After the hearing power had been noted the ears, the nose, and the pharynx, and in a large number of cases the naso-pharynx, were examined. The results of these examinations were classified in the report, an additional table being introduced to permit of comparison of results of the examinations made in the main school with those obtained in the ophthalmic school. On the whole the results obtained in the two schools corresponded. The feature of the report with which the medical profession as a whole is more particularly concerned is that out of 1000 school children the ears were found to be normal in only 432; of the remainder the external ear was found to be affected in 49, the middle ear in 518, and the internal ear in one. The hearing power was more or less defective in 520. In many of these children the defect had been unnoticed by the teachers. To quote Mr CHEATLE's words, "there is no disregarding the fact that the report is a startling one." Moreover, it appears from the discussion which followed that the statistics of the Hanwell school agree in important respects with those derived from a similar investigation conducted in Liverpool Before drawing any general conclusion from these statistics it is important to bear in mind that the figures upon which they are based are comparatively small and that the children who were dealt with were in both cases drawn from the poorest classes, living in insanitary surroundings and under conditions conducive to adenoid hypertrophy—which appears to have been present in 434 of the 1000 children examined at Hanwell. If we do not allow for these special considerations we may arrive at an unduly pessimistic conclusion; and, as was pointed out in the debate, it would be of interest for purposes of comparison to have statistics of an investigation conducted amongst children of the better classes who have always lived under fairer conditions. The whole matter is one that, now that it has been broached, should be thoroughly taken in hand by the medical profession. Mr. CHEATLE's report states that in the majority of the large cities in Germany physicians are appointed to the schools to examine the eyes and ears of the scholars. In the canton of Zürich according to the official school report for the years 1899 and 1900, 108,297 children were medically examined and the ears were found to be in some way affected in 117 per 1000 In Stockholm in 1901 two aural surgeons were appointed by the town government to examine all the poor school children The schoolmasters in the Swedish capital call on the parents of those affected to inform them of the necessity for treatment. From the economic aspect it would be difficult to mention a social grievance upon which the light of preventive medicine could be more profitably shed. The Otological Society of the United Kingdom has wisely appointed a committee from amongst its members further to investigate the matter—let us hope with a view of submitting some adequate scheme to the Board of Education These investigators will, we think, find that their organised efforts will meet with the approval and support of their professional colleagues.

THE Religious Tract Society will publish on May 1st a Life of James Chalmers, the great New Guinea missionary It has been prepared by the Rev. Richard Lovett, M A., to whom the family of the late James Chalmers have entrusted the whole of the letters, memoranda, and reports in their possession, including an autobiography from the pen of James Chalmers himself. This has been incorporated into the Life

Annotations.

"Ne quid nimis."

MEDICAL EDUCATION.

THE differences with regard to the control of the preliminary scientific education of the medical student which exist between the General Medical Council and the English Royal Colleges have been brought into recent public notice by an article in the *Times* of April 4th and by a letter from the President of the Royal College of Surgeons of England on April 11th. We published the debate on the subject in the General Medical Council on June 15th, 1901, and we expressed our opinion on the matter in our next number. The question, which has been for some years past, and is still, in dispute, is concerned with the recognition of schools for the teaching of the preliminary sciences—chemistry, physics, and biology. The authorities of the two Royal Colleges, knowing that there were many excellent science schools in Great Britain, as shown by the preliminary scientific and intermediate B.Sc. examinations of the University of London, which were quite open to anyone without any special bearing on medical studies, compiled a list of institutions from which they would receive certificates. Six months were allotted for chemistry, physics, and practical chemistry, and twelve for the same sciences with biology. An examination in these subjects was then passed under the control of the Conjoint Board of the two Royal Colleges, and this curriculum was only permitted in the case of those who had previously passed a recognised examination in Arts. In order to ascertain the science schools which were properly equipped with teachers and laboratories the Government grant list of the Science and Art Department was first taken into consideration, whilst others were personally inspected by the licensing authorities, as is now done in all cases. As the General Medical Council in July, 1890, extended the medical course to five years, providing that the first year might be passed at a university or teaching institution, the Colleges at once recognised the teaching at the science schools as a first year's course. The personal inspection of the schools has steadily been improved and many of them have been removed from the list, whilst others are frequently added to it. In November, 1898, the Royal College of Surgeons in Ireland made a formal complaint to the General Medical Council of this plan of procedure, alleging that it reduced the period of time in the case of the students affected to four years. It further stated that many of the schools were non-medical, "being either grammar schools or departments of local technical schools, the teaching of which may be open to question." It is most important to notice that these schools had been inspected by the Conjoint Board, whilst the General Medical Council had never visited them. The Council on the recommendation of the Executive Committee passed a resolution that no student should be registered until he had passed a preliminary examination as required by the General Medical Council and had produced evidence that he had commenced medical study at a university or medical school or at a scientific institution recognised by one of the licensing bodies and approved by the Council. The Conjoint Board replied to this official communication that it "failed to recognise any authority under the Medical Acts in virtue of which the General Medical Council may impose the conditions formulated in the regulation in regard to the registration of medical students" and that it "declined to recognise the requirement that scientific institutions where medical study is commenced should be approved by the Council." The Council adhered to its resolution, when the two Colleges resolved "no longer to require the registration of students by the Council as a condition of admission to examination for their diplomas, and that the regulation for the qualification of the two Colleges had been altered accordingly." The Conjoint Board is undoubtedly right in pointing out that the General Medical Council has gone beyond its province in demanding that before recognising institutions for teaching science the Colleges shall see that they are approved by that Council. The "authority of the Medical Council" does not legally exist. On its constitution only advisory and inspecting powers were given to it, with power to appeal to the Privy Council in case of any licensing body which it thought had abused its privileges, and in the case of the Apothecaries Hall of Ireland the Privy Council compelled the General Medical Council to appoint examiners in surgery as the Society had previously demanded. The last-named body is scarcely likely to appeal to the Privy Council against the Conjoint Board in November when there will be a further discussion in the General Medical Council on the matter. The Council has acted without the support of law, and the Royal Colleges have dealt a severe blow to the excellent system of registration of medical students which was formerly in vogue, even though it be in discharge of a function and a responsibility imposed upon them by charter.

PAYING WARDS OR PAYING HOSPITALS.

A RECENT correspondence in the *Times* has revived the question of payment by hospital patients. Among the writ on the subject are two experts on hospital management namely, Sir Henry Burdett and the Hon. Sydney Holland. The former is of opinion that "the moment is therefo favourable for the consideration of the introduction of p wards to large general hospitals, especially in London." S Henry Burdett's idea is that there should be an insuran office which would for an annual premium issue policies defray the cost of hospital maintenance and treatmen including the fees of the medical attendant. The schem outlined by Sir Henry Burdett is as follows:—

> To succeed, pay wards under the administration of the managers a great voluntary hospital must be in a separate building, with entrance quite distinct and apart from the free hospital and admini tration departments. The wards, on the continental plan, should graded, so that patients may be classified, and the rates of payme fixed according to the means of each patient. All patients' paymen to be pooled, and a percentage of them set apart for the remunerati of the medical men in attendance in the pay department, and ea patient to have the right of being attended, if he so wish, by his ow doctor. So organised, a pay ward should be popular with the patien and the profession, and a source of revenue to the hospital manage If an insurance company is established on the lines I have suggeste then the managers and the medical practitioners would be guarante against loss, and everybody should be satisfied and benefited.

The Hon. Sydney Holland, on the other hand, thinks that t paying wards should not be under the same roof as the no paying wards, but that if a hospital is to receive payin patients it should be a building entirely by itself. H scheme is as follows:—

> I feel sure that a hospital properly built for paying patients could t worked to give a fair return on its capital cost, and that such a hospit would meet a really great want. It should be managed as hospital are now managed; there should be first, second, and third class accom modation, leaving patients to make their own arrangements with the own medical attendants. The charge should be inclusive of everythin and should include the payment of a resident medical officer actin under the several doctors and surgeons attending the patients.

We think that, on the whole, the Hon. Sydney Holland's ide is the better of the two. There can be no doubt that hospital as opposed to a private nursing home is a sor need. The tax which a serious and long-continued illnes lays upon a middle-class family is very great. It involve the expense of medical attendance, the expense of at leas two nurses, and an upset of household arrangements. All th in a family whose income is perhaps only some £400 o £500 per annum spells something like ruination. Agai the average London home—we can scarcely call it a house—is not constructed with any views towards convenience in sickness. The mere question of food is a difficulty, for a decent larder is generally unknown. Sickness in a flat is a still more severe ordeal, and in the case of any infectious complaint it is a danger to the community. For all these reasons, then, we should welcome the paying hospital The expenses of the private nursing home are, in many cases, prohibitive, but such institutions are run as commercial speculations and the proprietors thereof have to make a profit. No such profit would have to be made by the paying hospital.

LETTERS ON THE BREAKFAST TABLE.

IT is the custom of many households to have the morning's post, including letters, newspapers, and circulars, placed upon the breakfast table. In fact, the parlourmaid usually takes upon herself the duty of sorting the post, placing the packets according to whom they are addressed in front of the seats occupied at the breakfast table by the respective members of the household. The classification is made all the more exact in many instances, perhaps, by putting the documents on the plate, which, after they have been removed, serves for the toast or the roll and butter The plan is convenient, but from a sanitary point of view it is appalling It is undeniably a dirty practice. In nine cases out of ten the envelope containing a letter is licked, as is also the stamp, by the sender Infection, therefore, may easily lurk here, especially as by the time the letter reaches its destination the stamp and sealed cover are dry Any materies morbi present would be easily detached. Then there are the risks of infection to which a letter is exposed in transit. The sorter at the post-office or the postman may not be as bacteriologically clean as is desirable. The dust of the road may adhere to any exposed gum or the letters may be dropped, and the bacteriology of road dust exhibits some well known pathogenic organisms. Letters are frequently smeared with road mud. Amongst the microbes recognised in road-sweepings are the microbes of pus, malignant œdema, tetanus, tubercle, and septicæmia. The post probably is a very wide distributing agency of all sorts and conditions of organisms and this it would be difficult to prevent. But surely care might be taken to keep from association the plate upon which food is partaken and the letter or newspaper packet. It follows that from a hygienic point of view letters should never be opened or read during a meal Good manners, moreover, would dictate the same thing and thus be in accordance with strict hygienic observance.

LACTESCENT ASCITES AND ATROPHIC CIRRHOSIS OF THE LIVER.

AT the meeting of the Société Médicale des Hôpitaux of Paris on March 21st M A. Souques read an important paper on Lactescent Ascites and Atrophic Cirrhosis of the Liver Following M. Jousset, he would substitute the term "opalescent ascites" for those of "chylous" and "chyliform ascites," because it has the advantage of describing the fluid without implying any pathological theory of its origin. M Jousset applies the term "opalescent" to fluids of all shades of colour intermediate between milky white and colourless and the term "lactescent" to the highest degree of opalescence. Examples of opalescent ascites associated with atrophic cirrhosis of the liver are rare. M. Souques described the following case of cirrhosis of the liver with lactescent ascites A man, aged 61 years, addicted to alcohol, was admitted to hospital on Dec 26th, 1901. He had been in good health until the previous June when he began to lose appetite and strength. In August he noticed that his abdomen was enlarging He was much wasted and had an earthy complexion. There was much ascites and the collateral venous circulation was developed. He often suffered from diarrhœa. The urine contained urobilin and a little reddish brown pigment. A few days after admission œdema of the lower limbs and scrotum appeared On Jan 20th, 1902, paracentesis abdominis yielded 13 litres of lactescent fluid. On the 24th the ascites was again beginning and the urine was dark and scanty (250 grammes in 24 hours) On Feb 12th paracentesis yielded 15 litres of milky-white fluid The general condition became worse and death took place on the 16th At the necropsy 10 litres of fluid similar to that which had been removed during life were found in the peritoneal cavity The liver was atrophic and weighed 1270 grammes; scattered through it were hard yellow granulations. Microscopic examination revealed annular extra-lobular cirrhosis. Some of the hepatic cells showed fatty degeneration. The abdominal lymphatic vessels were not dilated and showed no perforation. A "pocket" was found behind the aorta and between the pillars of the diaphragm which communicated with the thoracic duct and appeared to be the receptaculum chyli It was filled with blood-clots and must have formed an obstacle to the flow of chyle. The lactescence of the ascitic fluid was not modified by centrifugalising and when allowed to stand in a tube the fluid did not separate into layers but a slight reddish deposit of red blood corpuscles formed. Microscopically the fluid showed numerous small granules and refractile vesicles which did not stain and 12,000 mononuclear leucocytes, mostly lymphocytes, to the cubic millimetre. Ether did not render the fluid clear Chemical analysis gave per litre in grammes 8 1 albumin, 0·25 fibrin, and 7·32 globulin. M. Jousset has been able to collect only 14 cases of atrophic cirrhosis of the liver with opalescent ascites. Obstruction of the thoracic duct was found in some of the cases but it is evidently only a predisposing cause. Ligature of the thoracic duct may be performed in animals without producing effusion of chyle or even dilatation of the chyle vessels. M. Souques suggests that the alcohol taken directly affects the chyle vessels at their origin and causes diapedesis of leucocytes into the peritoneal cavity already filled with ascitic fluid. There they are destroyed, giving rise to an emulsion which determines the phenomenon of opalescence.

THE STATISTICS OF 100 CASES OF ABORTION.

SINCE the days of Hippocrates, who was one of the first to express this view, some obstetric writers have been accustomed to regard an abortion as more dangerous to the mother than a full term delivery That the danger of such an accident if it be properly treated is not so great as is often supposed is shown by Dr Blondel in a paper read before the Obstetrical Society of Paris and referred to by our Paris correspondent. In this paper he records the results of 100 cases of abortion, without a single fatal case, which had occurred in his private practice during a period of 12 years. The exact mortality of cases of spontaneous abortion is difficult to ascertain, but it is probably less than that of full term confinements Even the mortality following abortion criminally procured is really quite small, and it seems certain that Tardieu, who met with 60 deaths amongst 116 cases, had quite an exceptional experience. Brouardel, for instance, mentions 72 cases of criminal abortion without a death, and amongst Dr Blondel's 100 cases 52 were certainly of such a character, and possibly 26 of the remaining cases were of the same kind. The proper treatment of a case in which there is reason to suspect that criminal measures have been used is always a difficult matter to decide in the absence of positive indications for interference, such as evidence of septic intoxication or septic infection or the retention of portions of the ovum. Dr. Blondel recommends the following plan of treatment which he pursues in all cases where there is reason to suspect that criminal intervention has taken place. The uterus is curetted with the finger and with a curette. It is then swabbed out with glycerine of creasote of a strength of 1 in 3, is douched out with tincture of iodine, and a gauze drain dipped in glycerine of ichthyol (1 in 10) is introduced. The drain is changed every two days; at the same time the uterus is flushed out with a solution of corrosive sublimate. The results obtained are certainly very good, but it is a question whether they would not have been equally good with a less energetic plan of treatment. It is to be noted that in 60 of the cases the fœtus and placenta had already been expelled from the uterus when they were first seen. The most interesting part of the paper concerns the methods by which the criminal abortion was induced. Of the 100 cases of abortion which came under Dr. Blondel's notice 52 were purposely procured. In 22 of these a midwife was the culprit and in no less than 19 instances the patients carried out various manipulations upon themselves. On 15 occasions the midwife passed a sound and on 10 occasions a gum elastic catheter was used and an injection, presumably intra-uterine, was given. According to Brouardel this is one of the commonest means employed by French midwives. Some of them, with the view of still further swindling their clients are accustomed to inject so-called "eau d'argent" or "eau d'or" in the form of coloured water for which a correspondingly larger sum has to be paid. In two cases the patients had procured abortion upon themselves, in one instance by introducing a knitting needle and in another instance a bone knitting pin into the uterus. In nearly all cases where the patient has succeeded in passing instruments of this kind into her own uterus the organ has been found to be somewhat prolapsed. It is difficult to believe that any woman can succeed in such a manœuvre unless such a condition of the uterus is present. The fact that Dr. Blondel, even in cases where there was no doubt that instrumental interference had been carried out, could detect no wound or abrasion of the cervix, sufficient to swear to as evidence, is not at all exceptional. It is only, as a rule, when the patient dies that any trace of what has been done can be found and even then great care must be exercised in the interpretation of any supposed signs of injury.

CRUELTY TO FISH.

ON Feb. 17th a fishmonger of Berwick-street, Oxford-street, was charged at Marlborough-street Police-court by the Royal Society for the Prevention of Cruelty to Animals with having caused unnecessary suffering to 700 carp. On Dec. 23rd, 1901, he had upon a stand outside his shop a glass tank, 33 inches long and 15 inches wide, containing water about seven and a half inches in depth, in which were about 700 Prussian carp from four to six inches in length. They were put into the tank early in the morning and at 10 P.M. a large number were lying dead on the bottom. The fish were brought from Holland and were sold to foreigners for 2*d.* each at Christmas time. They were not kept in water during the voyage but were packed in trays with perforated bottoms; the uppermost tray contained ice, the water from which trickled down on to the fish beneath. Counsel for the prosecution said that the present case was the first of its kind, the proceedings being taken under the Cruelty to Wild Animals in Captivity Act, passed in 1900, which defined an animal as any "bird, beast, fish, or reptile" which was not included in the Cruelty to Animals Acts of 1849 and 1854. An offence of cruelty might consist in permitting unnecessary suffering or in cruelly abusing or terrifying an animal in captivity and might be punished with a fine not exceeding £5 or imprisonment not exceeding three months. Evidence was given to the effect that the deaths were caused by suffocation and that fish required a good supply of water in order that they might obtain sufficient air for respiration. The defendant was fined £2 with £3 3*s.* costs. At the same police-court on April 9th a naturalist of Great Portland-street, W., was charged by the same society with causing unnecessary suffering to goldfish. In his shop-window there were 13 bowls containing goldfish, some of them being dead and the water being dirty. This state of matters continued for four or five days during which the place was locked up. The defendant was fined £2 with £2 4*s.* costs. It may be mentioned that a few years ago a dealer in small tortoises was fined for having an undue number packed in casks so that many died.

CONGENITAL PORENCEPHALUS LIMITED TO THE AREA OF A PARTICULAR CEREBRAL ARTERY.

WHILE the condition of porencephaly, either congenital or acquired, is not particularly rare the opportunity for full and satisfactory pathological investigation is less frequent. In the first volume of "Studies" from the Royal Victoria Hospital, Montreal, issued in January last, Dr. D. A. Shirres has published a lengthy paper on a case of Congenital Porencephalus in which the distribution of the lesion corresponded to the territory of the middle cerebral artery. The case was of special importance owing to its long duration, its characteristic mental and physical symptoms, and the facility which it afforded for tracing the course of various nerve-tracts in the brain and medulla oblongata. The patient was a woman, aged 76 years, who died from pneumonia occurring during a state of dementia. No etiological factor in connexion with the patient's nervous system could be traced except the fact that severe fright and threatened abortion affected the mother during the seventh month of pregnancy. The child was, however, carried till, and born at, full term and seemed to be a normal infant, but when a week old she manifested stiffness of the right arm and fingers. Later she appeared to be a little backward in intelligence, not walking till the third year or talking till the fourth. Owing to paresis of the right hand the patient was taught to write with the left. She never suffered from epilepsy or fits of any kind. The right foot was inclined to drag a little in walking but it did not seem to hinder progress to any extent. There was some kyphosis of the spine and the right shoulder was lower and more forward than the left. She married twice but had no children by either marriage. When she attained the age of 60 years her mental faculties began to weaken rapidly. She became very religious, obstinate, and eccentric, living by preference a hermit's existence apart from her friends. At this period she developed delusions of persecution and was somewhat demented. She contracted pneumonia and died at the age of 76 years as already stated. A distinct family history of neurasthenia and arterio-sclerosis was obtained. Thus of seven other members of the family two brothers and one sister died from apoplexy and one brother had an apoplectic stroke but was still alive though nervous and mentally enfeebled. The necropsy revealed the following lesions. Upon opening the dura mater of the skull a remarkable and extensive condition of porencephaly was recognisable in the left cerebral hemisphere. The area of destruction was of a sausage-like shape extending around the Sylvian fissure into the temporo-occipital region and involving evidently the centres of speech, the face, and the upper extremity, the brain substance being replaced by a membrane distended with clear fluid. The left cerebral hemisphere weighed 302 grammes, while the right weighed 560 grammes, but the right half of the cerebellum was markedly smaller than the left. The right hemisphere was normally and richly convoluted, whereas in the left hemisphere the convolutions were "very poorly developed though not simplified." Dr. Shirres regarded the condition as due to an occlusion (thrombosis) of the middle cerebral artery outside the origin of the perforating arteries for the basal ganglia. "The lesion had apparently occurred in the later months of fœtal existence and was due to rupture of fœtal vessels in the placenta." The corpus callosum appeared to be normal in size and the corpora striata were equal. There were general atrophy of the left optic thalamus both as regards the cell-bodies and nerve-fibres of its various portions, and marked atrophy of the posterior limb of the internal capsule, corpora quadrigemina, and optic tract on the left side. Bundles of degenerated pyramidal fibres could be traced through the left cerebral peduncle and the fronto-cerebellar and occipito-temporo-cerebellar bundles were degenerated in the same situation and in the pons. Other degenerations were found in the fillet and in several of the nuclei throughout the left half of the pons. The nuclei of cranial nerves in the floor of the fourth ventricle were normal.

THE MEDICO-LEGAL SOCIETY.

AS we announced in THE LANCET of April 5th would be the case, a general meeting of the newly formed Medico-Legal Society was held on April 10th at 20, Hanover-square, London, W. The usual rules for the conduct of a society were adopted and the following officers were elected: President: Dr. W. J. Collins, L.C.C., barrister-at-law. Vice-Presidents: Dr. M. Hay, Professor of Medical Jurisprudence in the University of Aberdeen; Dr. A. Bostock Hill, Professor of Medical Jurisprudence in the University of Birmingham; Mr. A. J. Pepper; Dr. G. Danford Thomas, Coroner for London and Middlesex. Council: Mr. S. B. Atkinson, M.A., B.Sc., barrister-at-law; Dr. C. O. Hawthorne; Dr. T. N. Kelynack; Dr. H. Harvey Littlejohn, Lecturer on Medical Jurisprudence in the University of Edinburgh; Dr. J. S. Risien Russell, Professor of Medical Jurisprudence in University College, London; Dr. F. J. Smith, Lecturer on Medical Jurisprudence at the London Hospital; Dr. W. R. Smith, Professor of Medical Jurisprudence at King's College, London; Dr. F. J. Wethered, Lecturer on Medical Jurisprudence at the Middlesex Hospital; and Dr. H. W. Williams. Honorary treasurer: Dr. W. Wynn Westcott, coroner for North-east London. Honorary secretaries: Dr. W. McCallin, barrister-at-law; and Mr. R. Henslowe Wellington. The object of the society is to advance the knowledge of medico-legal matters.

THE HEALTH OF THE CITY OF LONDON.

THE monthly report of the medical officer of health of the City of London for the four weeks ending March 15th affords some interesting reading. In the four weeks there were registered 97 deaths but 52 of these occurred in St. Bartholomew's Hospital. There were 34 cases of infectious disease notified, of which 10 were cases of chicken-pox. Six cases of small-pox were notified but two of these were subsequently proved not to be small-pox. To come to the smoke nuisance, 552 observations were made and intimation notices were served upon the owners or occupiers of the Bucklersbury Restaurant and the *Daily Telegraph* printing works. A list of places is given where notices have been served and where in the majority of cases improvement has been effected. Some cases, however, are marked with an asterisk, owing to the nuisance still existing. These are nearly all taverns or restaurants. Certainly, in our experience the chief offenders against the smoke enactments, apart from factories and electric-light works, are restaurants and bakeries. With regard to adulteration milk is still the article most extensively adulterated, or perhaps we should say sold fraudulently. Nothing is added except water but in many cases fat is abstracted. There were 12 prosecutions under the Food and Drugs Acts, mainly concerned with milk, while under the Public Health Act of 1901 six persons were prosecuted, chiefly for dealing in diseased meat. One scoundrel, a farmer, was fined £80 for depositing four quarters of diseased beef for sale. His name is Samuel Egar and he lives at Thorney, Peterborough.

THE ANTI-VACCINATIONIST IN HIS TRUE COLOURS.

IN THE LANCET of April 12th, p. 1074, under the above heading, we commented upon the statements of a person named W. D. Stokes. Mr. Stokes told many untruths, but then he is ignorant and probably believed that what he said was true. The following paragraph appeared on the second column of the third page of the *Morning Leader* of Tuesday, April 15th. It is an editorial paragraph and the editor of the *Morning Leader* is an educated man. Yet he can publish such stuff as this.—

AFTER VACCINATION.

ANOTHER LITTLE GIRL DIES A PAINFUL DEATH.

> Particulars are to hand of another particularly distressing fatality arising presumably through vaccination, and the circumstances of which bear a very close resemblance to the case of the little girl Harriet Stow, which was inquired into by Dr. Wynn Westcott, at Hackney, as reported in the *Morning Leader* of Jan. 30th. The deceased was Nellie Cooksey, aged seven years, the youngest child of a brass finisher, residing at 86, Waldon New road, Croydon, and in consequence of the notices issued by the school authorities she was subjected to vaccination, the operation being performed by Dr Adams, jun., at the surgery of his father, who is public vaccinator for Croydon. A week afterwards the child was examined by Dr. Adams, sen. On the eleventh day, however, the child became very ill, and during the succeeding night she was seized with a fit. The following day Dr. Neligan was called in, and he pronounced the patient to be in a serious condition. She lost the use of her limbs, the mouth became fixed, and the brain appeared to be paralysed. She expired exactly 14 days after the operation had been carried out. Prior to this the deceased was quite well and strong, and she had not had any illness for four years. The symptoms—as described—were quite consistent with lockjaw and in trying to force the mouth of the little sufferer open a tooth was broken, yet the causes as notified on the certificate were "Pneumonia and heart failure."

True it is that "a lie which is half the truth is ever the basest of lies." It is true that the child died after vaccination. Numbers of people have died after vaccination, so no doubt have numbers of people died after reading the *Morning Leader*. Why does the *Morning Leader* say that the fatality arose "presumably through vaccination"? and what does it mean by saying the "symptoms—as described—were quite consistent with lockjaw"? In lockjaw or tetanus the brain is not paralysed, but severe nervous symptoms are quite common with pneumonia, especially in children. Surely Dr. T. R. Adams and Dr. J. W. Neligan are more likely to know what was the matter with the child than is the editor of the *Morning Leader*. We can respect the honest, though mistaken, anti-vaccinationist, but it is prostituting the press to make it the medium of circulating deceitful paragraphs such as the one which we have quoted.

DEMENTIA PRÆCOX.

CONSIDERABLE attention has been given during the last few years to a group of mental disorders belonging to the adolescent period of life and designated "dementia præcox," a description of which was given in these columns two years ago.[1] In a recent *Thèse de Paris* (1902) Dr. René Masselon deals with the subject in its latest developments and carries the classification of the various mental disorders of this group a step further. Four forms of dementia præcox are recognised—viz., a simple, a hebephrenic, a katatonic, and a paranoid form. Simple dementia præcox is marked by a slow and progressive mental enfeeblement beginning during adolescence and pursuing its even course without the development of delusions. The hebephrenic or delusional form is characterised by a medley of states of mental excitement, depression, hallucinations, and mental confusion. The delusions are never systematised. The vesanic manifestations are mobile and the temper and humour of the patient are variable. The katatonic form is marked by phases of stupor and negativism—i.e., of passive resistance to enforced movements and acts, cataleptoid and stereotyped attitudes, postures, and marked responsiveness to suggestion The clinical group of symptoms of the latter class was long ago described by Kahlbaum under the general name of katatonia. The paranoid form is marked by rapid intellectual enfeeblement with sensorial disturbances and delusive conceptions evolved in an atmosphere of apparent mental lucidity. Among the somatic disturbances attending dementia præcox there may be exaggeration of the knee-jerks, pupillary anomalies (mydriasis with sluggish reflexes), vaso-motor feebleness and instability, secretory disturbances, and occasionally fits of convulsive character, marked by much histrionic and hysterical movement. Dr. Masselon gives the detailed clinical histories and minutiæ of 13 patients personally observed, of whom five were males and eight were females. The ages at the onset of the mental disease were as follows. In three single women the ages were 17, 17, and 21 years, in five married women the ages were 26, 26, 27, 29, and 35 years, and in five males the ages were 16, 17, 18, 22, and 23 years. The faculty of voluntary attention was lost in all cases and the will was enfeebled, or, in the severer cases, entirely abolished. Apathy and an almost entire absence of curiosity were observed, while bizarre attitudes, echolalia, and motor *tics* were common. As regards curability it was found from the study of a large number of cases and observations collected from the literature of the subject that 8 per cent. of the hebephrenic and 13 per cent. of the katatonic patients recovered. It is possible that a fifth form of dementia præcox may yet have to be added to the above four enunciated by Dr. Masselon—viz., a form of dementia præcox in which loss of inhibition or self-control and a predominance of dangerous and destructive impulses and instincts are among the most notable features which appear, soon to be followed, however, by mental enfeeblement and unmistakeable signs of insanity. Cases of this sort developing during adolescence are not unknown to psychiatric literature though but little studied hitherto. They are not to be confounded with the so-called cases of moral imbecility in which the malady has an earlier origin and pursues a different course.

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[1] THE LANCET, Feb. 10th, 1900, p. 337.

THE "CURE" OF INTEMPERANCE.

IT must be reckoned as a fact of hopeful augury when a disease or a disorder is chosen as the battle-ground of rival "cures." The habit of intemperance, though not in the strict sense a disease, resembles one in this particular. It has given rise to a variety of systems of reform. Nostrums innumerable have been levelled at it. Like all others of their class they promise perfection and even profess to have realised it but they do not furnish the proofs of even moderate success. As might be expected the secret which they profess to have discovered is guarded with all the jealousy of a trade patent. Nothing is given away to humanity. The miracle will be performed but the entertainment must be paid for. This is, in brief, the usual history of these so-called cures. They are merely appeals to faith—and to credulity. To this fact they owe any slight value which they may possess, for there is no drug known or discoverable which can obliterate a moral propensity. It does not follow, however, that the drinking habit or even the condition of alcoholism is intractable. The mere existence of so many "infallible" remedies is one evidence that mankind as a whole does not despair of the drunkard's reformation. Wherever his enslaved will can be aroused to an effort for freedom and can be sustained in the effort there is a reasonable hope that it will succeed in its endeavour. This fact, not the use of any drug—except, of course, where this may be required to combat a physical malady—indicates the true line of treatment. Any system in order to be successful must include the removal of the source of temptation or of the individual from it, the stimulation of his interest in some wholesome pursuit, his regular occupation in it, and a plain and sufficient diet strictly moderate in respect of meat and free from substances known to excite thirst. It is on these principles that the recently established inebriate homes are conducted. If only they were generally remembered and acted on in private life by the relatives and friends of the intemperate a genuine cure would be more common than it is.

THE DISTRIBUTION OF PLAGUE.

DURING the week ending April 6th 13 cases and 9 deaths from plague have been reported throughout Egypt. 2 cases and 2 deaths, 1 of which took place out of hospital, were reported from Kom el Noor; 7 cases and 5 deaths, 1 out of hospital, from Deshneh; 3 cases and 2 deaths, 1 out of hospital, from Ezbehs near Benha; and 1 case from Sheblanga. As regards the Mauritius a telegram from the Governor received at the Colonial Office on April 11th states that for the week ending April 10th there were three cases of plague and three deaths.

GYNÆCOLOGISTS AND THE CORONATION.

A REFERENCE to our advertisement columns will show that it is proposed to hold during the Coronation week a reunion of the gynæcologists and obstetricians of the Empire. The date of the reunion is June 24th, and there will be a reception at 20, Hanover-square, London, W., and a dinner in the evening at the Whitehall Rooms, Hotel Metropole. Sir John Williams, Bart., is the President, and the invitations are issued by him, by the President of the Obstetrical Society of London (Dr. Peter Horrocks), and by the President of the British Gynæcological Society (Dr. J. Halliday Croom). Applications for tickets and information should be made to Dr. T. W. Eden, 26, Queen Anne-street, Cavendish-square, London, W.

PENTOSURIA.

IN the *Deutsche Medicinische Wochenschrift* of April 10th Dr. Manfred Bial of Kissingen describes a chemical reaction for pentosuria which is more rapid and convenient than those at present in use. The disease, he says, is not very common but is nevertheless of clinical interest because in it the urine gives the ordinary reactions of diabetes although no glucose is present. The commonly employed reaction for pentosuria is that devised by Salkowski and Blumenthal and consists in boiling the urine for about half a minute with fuming hydrochloric acid and orcin; a green substance is thereby formed which can be separated by shaking with amyl alcohol and shows a characteristic absorption band under the spectroscope. This method succeeds well in the laboratory but in the consulting-room it is inconvenient on account of the acrid vapours of the acid and the tendency to percussive ebullition. Dr. Bial's reagent for pentosuria is a solution of a gramme or one and a half grammes of orcin in 500 grammes of fuming hydrochloric acid to which 25 or 30 drops of a 10 per cent. solution of perchloride of iron are added with careful trial on a test sample. Four or five cubic centimetres of this reagent and two or three cubic centimetres of the suspected urine are poured into a test tube which is plugged with cotton wool and held over a flame until the first bubbles of steam rise. If the cases is one of pentosuria a green substance either forms abundantly in thick flocks or, in the event of the proportion of pentose being small, the liquid becomes of a fine green colour in 15 or 20 seconds as it cools. If the process be conducted in a somewhat different way—namely, with two or three cubic centimetres of urine, as much orcin as will lie on the point of a knife, four or five cubic centimetres of fuming hydrochloric acid, and one or two drops of a 10 per cent. solution of perchloride of iron, boiled together for two or three minutes, the compounds of glycuronic acid, even in normal urine, are acted on and a green colour is produced, but it is quite easy to avoid confusing the two reactions. The distinction between pentosuria and diabetes is of importance to the patient because of the dietetic restrictions and the difficulties in life assurance which diabetes involves.

THE USE OF BORAX AND BORIC ACID AS FOOD PRESERVATIVES.

Professor Victor C Vaughan and Mr. W H. Veenboer of Michigan University have published in *American Medicine* of March 15th last the results of an elaborate research on the use of borax and boric acid as food preservatives with especial reference to their use in meat, bacon, cream, milk, and butter In a previous communication on Cases of Boric Acid Poisoning by Dr J F Rinehart, an account of which has already appeared in these columns,[1] it was shown that mental dulness and apathy might in some cases follow upon the ingestion of borax or boric acid if the proportion of the drug was at all considerable, when taken internally by the mouth or when applied to some absorbent surface within the body In 1900 Professor Oscar Liebreich of Berlin showed that boric acid was harmless when given in small quantity—three grains daily—to a dog and that the same applied to borax He also showed that borax and boric acid could be used for preserving fresh foods but could not be used to restore decomposed foods to a fresh state because they were not disinfectants but only feeble antiseptics The committee appointed by the Local Government Board in 1899 to investigate the use of preservatives and colouring matters in food stated in 1901 that meat and bacon exported from America into England and butter sent from Australia, America, and France contained boric acid Among the recommendations of the committee were the following: that the only preservative which it shall be lawful to use in cream shall be boric acid or borax to the extent of ¼ per cent. and that in butter or margarine the quantity shall not exceed ½ per cent. Professor Vaughan and Mr Veenboer estimated the relative degrees of bacterial growth in finely chopped meat and bacon, cream, and butter treated with varying quantities of boric acid up to 1 per cent. and exposed to the air for a variable number of days Finely chopped meat was mingled with boric acid solution and exposed for three days out of doors at a temperature slightly below freezing-point and then was placed indoors at a temperature varying from 15° to 25° C Loop-cultures were made at intervals from the mixture on gelatin and agar agar plates and the number and rate of bacterial growths were estimated. The results showed that while quite small quantities of boric acid served to preserve the meat the growth of bacteria was not entirely prevented. Similar but more marked results in the number and rate of bacterial growths were obtained with cream. In butter and margarine the growths were slower and less in number "We observed in our experiments that meat without boric acid when kept at ordinary temperatures became 'slimy' within a few days From the surface of such meats we made gelatin and agar plate-cultures and from these we obtained 20 different kinds of micro-organisms. Of these 14 were [species of] peptonising bacteria, and all of these 14 were aerobes.' The sprinkling of boric acid on hams, bacon, and meat prevented the growth of these bacteria and kept the flesh from getting slimy The following conclusions were drawn: 1. The use of borax or boric acid as a preservative in butter and cream in the quantities stated in the report of the English committee was justified by practical results and by scientific experiment. 2. The dusting of the surfaces of hams and bacon with borax or boric acid not exceeding 1½ per cent. of the weight of the meat was effective from a sanitary standpoint. 3. Meat thus treated was prevented from becoming slimy

THE PREVALENCE OF SMALL-POX.

THE returns of small pox in London for the past week show the following figures. On Saturday, April 12th, 29 fresh cases were notified and removed; on Sunday, the 13th, there were 19 fresh cases, on Monday, the 14th, there were 37 fresh cases; on Tuesday, the 15th, there were 44 fresh cases, and on Wednesday, the 16th, there were 59 fresh cases. In the county of Essex for the week ending April 12th there were notified 76 cases, but this number includes all occurring in the Chingford district since Jan 1st, for, says the report from which we quote the figures, "in consequence of a *change of medical officers of health the returns of cases of* small pox from that urban district have not hitherto been received." In all, from Jan. 1st 782 cases have been reported throughout the county

THE BETTERMENT OF LONDON ASSOCIATION AND STREET NOISES

WITH the return of the flat-racing season the "winner" yeller wakes up from his winter sleep and howls in the manner in which Scottish divines of the sixteenth century described the fiends and their victims in hell as doing We have done our best to awaken the varied authorities which nominally govern London to a sense of their duties but little has been done so far The London County Council passed a by-law after bitter opposition from Professor Stuart and those who think with him. It has not had much effect because the magistrates are so very unwilling to grant relief, with the honourable exception of Mr Plowden who will convict newspaper hawkers on the complaint of a constable alone. We are glad to see that an association, calling itself "The Betterment of London Association,' has been formed which is going to agitate for a variety of improvements which, if carried out, will certainly make London cleaner, healthier, and quieter Among the matters with which the association will concern itself are the employment of children under 10 years of age in the streets, street hawkers and musicians, and the perpetual digging up of the streets by gas companies and others These nuisances are quite enough to begin with, although there are plenty of others. The London County Council does admirable work from a health point of view If it would do something to make London quieter there would not be so much grumbling at the perpetually rising rates Perhaps if the Betterment of London Association were to worry county councillors, borough councillors, and the London Members of Parliament something might be done. Any way we wish the association all success.

AT the last meeting *of the British Association* a *special* committee, with Professor C. S Sherrington as chairman, was appointed to consider the conditions of health essential to carrying on the work of instruction in schools The committee now is collecting information, and communications from medical men bearing upon the subject will be gratefully received by Mr White Wallis at 72, Margaret-street, W, the office of the Sanitary Institute

BY the munificence of Professor William Whitla of Belfast the Ulster Medical Society will soon be in fine building specially erected for its accommodation and destined no doubt to have an important effect in bringing together members of the medical profession in the North of Ireland. We trust that the society will have a prosperous existence in its new home.

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[1] THE LANCET, Nov 30th 1901, p. 1514

A STATUE of Cecil Rhodes executed by Mr. John Tweed, the sculptor mentioned in Cecil Rhodes's famous will, is to be published immediately in a bronze 18 inches high. Full particulars may be obtained of Carfax and Co., Limited, 17, Ryder-street, St. James's, S.W., where a cast of the statue, a most vigorous and striking piece of work, may be inspected.

AN urgent appeal by University College, London, for over £1,000,000 has been brought before the public during the week by Lord Reay, President of the College. A Special Appeal Committee, including many influential names, has been formed and a public meeting has been arranged to take place at the Mansion House at a near date.

A FESTIVAL dinner to celebrate the sixty-sixth anniversary of St. Mark's Hospital, City-road, E.C., will take place on Thursday, April 24th, at the Whitehall Rooms of the Hôtel Métropole, London, at 7.30 P.M. The Right Hon. the Lord Mayor, Sir Joseph Dimsdale, M.P., will preside.

INTERNATIONAL CONFERENCE OF MEDICAL PRESS ASSOCIATIONS.

(FROM OUR SPECIAL COMMISSIONER.)

THE International Congress of the Medical Press which met in Paris from July 26th to 28th, 1900, was to have been followed by a succession of congresses destined to unite the medical press throughout the world. This scheme, however, was as vast as it was vague. The object of such a union was subject to varying and to contradictory interpretations. This was shown in the accounts which we published of the congress.[1] Indeed, so great were the difficulties that it was decided that the second congress should be preceded by a meeting of delegates. The medical press associations of various countries were each to appoint two or three delegates who would prepare a scheme to submit to the second congress for general discussion and adoption. This second congress was to have met in Brussels last year and it was intended that the delegates should have assembled in conference two or three days before the congress. But, as already explained in these columns, the multifarious correspondence in regard to the Brussels conference and congress gave evidence of such diversity of opinions that these proposals had to be abandoned for the time being. At one time it seemed as if the Paris congress would bear no fruit and that nothing further would be attempted. It was at this critical moment that the intervention of the Prince of Monaco saved the situation. There exists in the principality a medical society which in itself is a sort of international association, for the practitioners who reside at Monaco belong to many different nationalities. The president, Dr. V. Godineau, is a Belgian; the vice-president, Dr. R. Pryce Mitchell, is an Englishman; the general secretary, Dr. H. Guimbail, is a Frenchman; and among the other members there are Italian, Swiss, German, and Austrian practitioners. This society was aware that Prince Albert I. was most anxious to encourage scientific research and would like to see his principality become a neutral meeting-ground for all who sought to promote the cause of peace and scientific progress. Already an International Maritime Congress had met at Monaco. The medical society, and notably the general secretary, Dr. Guimbail, suggested that the representatives of the medical press associations should be invited to the principality, and this proposal was in complete harmony with the desire of the Prince. His Highness at once offered every hospitality and placed the Oceanographic Museum, which he is constructing, at the disposal of his guests. A tempting programme of entertainments was prepared and so many facilities were offered that the difficulties which stood in the way of the meeting at Brussels seemed to melt away like the winter snows on the sunlit shores of the Mediterranean. The permanent bureau or committee of the International Medical Press Association, which has its headquarters at Paris, and its general secretary, Dr. R. Blondel, actively seconded these proposals. It was finally decided that the international conference of the delegates of the medical press associations should be invited to meet at Monaco on April 7th. The object was to decide whether a sufficiently common ground of agreement could be found so as to establish definitely an International Medical Press Association, to draw up a scheme of statutes for such an association, and to fix upon a place of meeting for a general congress which would confirm or amend this scheme. All these objects have been attained. A set of rules or statutes was adopted and it was decided that an International Congress of the Medical Press would be held a few days previous to the meeting of the International Medical Congress which is to assemble at Madrid during the month of April next year. This plan of action is now endorsed by the delegates of the medical-press associations of Austria, Bohemia, Belgium, Denmark, England, France, Germany, Holland, Italy, Norway, and Spain. In regard to the details of this conference the debates and the text of the resolutions adopted and a full and official report, based on shorthand notes taken at the time, will be published in the course of a few weeks. It will then be time enough to enter into the full consideration of, and to devote criticism to, the proceedings. For the moment it will suffice to give some account of the princely reception accorded to the 28 delegates who represented the above-mentioned nationalities.

The greater part of the delegates were received at the Hotel de Paris, where a special room was provided, so that they might have their meals together in private and discuss in an informal manner the business in hand. The formal opening ceremony was held on Monday, April 7th, in the Oceanographic Museum which was gracefully draped with flags of all nations and ornamented with flowers. The Prince of Monaco and suite were present Professor Cornil (Paris) presided and His Excellency M. Olivier Ritt, Governor-General of the Principality, delivered an eloquent address of welcome on behalf of His Most Serene Highness Prince Albert I. of Monaco. Dr. Godineau then spoke very gracefully in the name of the Monaco Medical Society and speeches from the foreign delegates followed. In the evening the members of the conference were received in state at the palace. On the Tuesday there were business meetings in the morning and the evening and in the interval a visit was paid to the yacht of the Prince of Monaco. This is the third yacht which Prince Albert has caused to be constructed for the purposes of scientific research. The first was called *l'Hirondelle* and with this ship he carried out his investigations at the Azores. These related mainly to fishing and to ocean currents. A great number of metallic and glass bottles containing written explanations were dropped into the sea and, being ultimately picked up on different and distant coasts, the directions of various currents were thus determined. With the second yacht, *Princess Alice*, experiments were made to test the depth of the ocean. The apparatus required for such purposes is so weighty that a third and much larger yacht had to be built which is also called the *Princess Alice*. It was this last-mentioned ship which the members of the medical press conference visited. Here they were able to examine the cable weighing three tons, by which apparatus can be let down to a depth of 6000 metres. Even at this great depth living organisms, mainly shell-fish, were discovered and captured. On board there are three laboratories, one above the other, for chemical analyses, the preservation of specimens, &c. Two expeditions were made to the Arctic regions where at some risk to his life the Prince was able to prove that the same sort of fish existed as in the tropics when the lower depths of the ocean were reached. The result of all these journeys and researches are collected together in the Oceanographic Museum which is built on the extreme and farthest edge of the rock of Monaco. This building is destined as a meeting-place for *savants* from all parts of the world and especial facilities will be afforded for the study of the secrets of the ocean. It was here that the Prince was anxious to welcome the representatives of the medical press, for, as he himself put it, if the origin of life may be found in oceanic protoplasm its preservation rests in the hands of the medical profession. It was, therefore, as a man of science addressing himself to brothers in science that the Prince was desirous of offering hospitality in his principality to the representatives of the medical press

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[1] See THE LANCET, August 4th (p. 347), 11th (p. 454), and 18th (p. 520), 1900.

To terminate the second day of the Conference a gala representation was given to the delegates at the Monte Carlo Theatre. On the Wednesday, the third day, the conference met in the morning and in the afternoon and Prince Albert made a point of being present at the closing ceremony The delegates then proceeded with the Prince to assist at the inauguration of the new hospital which has just been built, and in the evening all the delegates dined with His Highness. But though the work of the conference was now terminated this did not conclude the entertainments offered On the following (Thursday) morning the delegates were taken by a special train to La Turbie where there remain the ruins of the great tower built by the Emperor Augustus Cæsar Here, high up among the offshoots of the Maritime Alps, the delegates were driven in carriages to the Nice Observatory After viewing the instruments of this magnificent institution they returned to Monaco by the lower Corniche road, thus enjoying some of the finest mountain and seashore scenery of Europe In the afternoon there was a classical concert and in the evening the delegates went to Nice where the mayor and municipality entertained them at a banquet at the new and palatial Imperial Hotel and at a gala performance at the opera house. It was not till after midnight that the delegates parted company on the platform of the Nice railway station. The members of the Monaco Medical Society wore special badges, by which they implied that they held themselves at the disposal of the delegates, and they all vied with each other in courtesy and in the rendering of every possible assistance. The greatest cordiality prevailed throughout, and for the successful issue of the conference the medical press is deeply indebted to His Highness Prince Albert I and to the Monaco Medical Society

Monaco, April 12th

THE ROYAL COLLEGES AND THE INVESTIGATION OF CANCER.

WE announced some two months ago that the Royal College of Physicians of London and the Royal College of Surgeons of England had come to a joint resolution to draw up a detailed scheme for systematic investigation into the causes, prevention, and treatment of cancer The delegates appointed by the two Royal Colleges have now submitted to their respective bodies the following scheme, and the subsequent step will be an influentially signed appeal to the public for pecuniary support.

DRAFT SCHEME

I —OBJECTS OF THE FUND

IN order to promote investigations into all matters connected with, or bearing on, the causes, prevention, and treatment of cancer and malignant disease steps shall be taken:—

1. To provide, extend, equip, and maintain laboratories to be devoted exclusively to cancer research

2. To encourage researches on the subject of cancer within the United Kingdom or in the British Dominions beyond the seas.

3. To assist in the development of cancer-research departments in various hospitals and institutions approved by the Executive Committee.

4 And generally to provide means for systematic investigation in various other directions into the causes prevention, and treatment of cancer.

Should the object of the fund be attained by the discovery of the cause and nature of cancer and of an effective method of treatment the Royal Colleges with the consent of the trustees shall be empowered to utilise the fund either (*a*) for equipping with the necessities for such treatment such hospitals as they may select, or (*b*) for forwarding research into other diseases.

The fund shall be administered by a president, vice-presidents, trustees, honorary treasurer, General Committee, and Executive Committee

II.—THE PRESIDENT, VICE PRESIDENTS TRUSTEES, AND TREASURER.

1. The first President shall be ——————
2. The first Vice-Presidents shall be ——————
3. There shall be five trustees of the fund

4 Of the first trustees three may be nominated by the donors of sums of £1000 and upwards and one each by the Royal Colleges of Physicians and of Surgeons.

5. In the event of vacancies occurring by death, resignation or other cause the general committee may nominate new trustees and shall be called upon to do so in case the number shall fall below three.

6. All moneys other than annual grants or subscriptions, or sums specially given for definite objects or under special conditions, shall be invested as capital in the names of the trustees.

7 The first honorary treasurer shall be

8. In the event of a vacancy in the post of honorary treasurer the general committee shall appoint some person to that office

9 The honorary treasurer may be one of the trustees.

10 The honorary treasurer shall be responsible for the receipt of all moneys on behalf of the fund

11 The honorary treasurer shall pay over to the account of the Executive Committee all annual grants and subscriptions, as well as any sums specially given for definite objects or under special conditions.

III —GENERAL COMMITTEE

1. The general committee shall consist of: (*a*) the president; (*b*) the vice-presidents, (*c*) the five trustees, (*d*) the honorary treasurer; (*e*) the Executive Committee, (*f*) one member to be nominated by the Local Government Board; (*g*) one member to be nominated by the Colonial Office, (*h*) one member to be nominated by the Royal Society, (*i*) one member each nominated by the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow the Royal College of Physicians of Ireland and the Royal College of Surgeons in Ireland; (*j*) one member each nominated by the Royal Veterinary College, London, the Royal Veterinary College, Edinburgh, and the Royal Veterinary College of Ireland (*k*) donors of sums of £1000 and upwards, whether given in one sum or more; with power to add to their number

2. The General Committee shall nominate two members of the Executive Committee who shall hold office for three years and shall be eligible for re-election

3 The General Committee shall meet from time to time to receive reports from the Executive Committee on the general progress of the scheme, an account of expenditure, and the audited financial statement

4 The office of the General Committee shall (with the consent of the Royal Colleges) be at the Examination Hall, Victoria Embankment.

IV —THE EXECUTIVE COMMITTEE

1 The Executive Committee shall consist of:—

(*a*) The President (for the time being) and two Fellows of the Royal College of Physicians of London	3
(*b*) The President (for the time being) and two members of the Council of the Royal College of Surgeons of England	3
(*c*) Two members of the Laboratories' Committee of the Royal College of Physicians and Surgeons	2
(*d*) Two members nominated by the General Committee	2
(*e*) One member nominated by the Royal Society	1
(*f*) One member nominated by the Royal Veterinary College London	1
	12

The members of the Executive Committee shall hold office for three years and shall be eligible for re-election

2. The Executive Committee shall have control of the income of the fund which shall be expended in furthering the objects stated in Section I, including the assignment of funds: (*a*) for the erection or extension of laboratories or for the equipment of any existing laboratory in which investigations are, or shall be, pursued; (*b*) for grants to individual workers in other laboratories or elsewhere; (*c*) for investigations other than those in laboratories; (*d*) for the collection of statistical dietetic, topographical, and other information; (*e*) for the salaries of any officials who may be appointed

3 The Executive Committee shall be charged with the general supervision and management of the arrangements to carry out the objects of the fund and shall be required to report their proceedings from time to time to the General Committee.

4 The Executive Committee may seek the advice of the members of the working and consultative staff on any questions relating to the objects of the fund and may appoint committees to conduct investigations or to collect statistics and information, and may provide funds for the expenses of these investigations and for the remuneration of the members of these committees.

5. The Executive Committee shall apoint the working and consultative staff under such conditions as they may think desirable.

6 The Executive Committee may make arrangements for investigating methods of treatment in cases of cancer and malignant disease.

7 The Executive Committee may make arrangements to establish a system of correspondence with foreign and colonial laboratories and workers.

8. The Executive Committee may appoint a general superintendent of the investigations who may be director of the central laboratory and such assistants as may be considered necessary

9 The Executive Committee shall draw up the regulations under which the work of the staff shall be conducted and shall determine the conditions under which laboratory accommodation at the Examination Hall or elsewhere may be provided

10. The Executive Committee may appoint a secretary or other official to conduct the correspondence, summon and attend the meetings, keep the accounts write the minutes, &c.

11 The Executive Committee may make contributions towards the development of the cancer research department of the Middlesex Hospital, or a similar department of any other hospital, if established

12. And generally the Executive Committee shall make such arrangements as shall seem to them best for the thorough investigation of this disease in all its aspects

V.—WORKING AND CONSULTATIVE STAFF

1 The working staff shall consist of:—(*a*) A general superintendent of the investigation who may be the director of the central laboratory; (*b*) assistants to the general superintendent and director; (*c*) any other persons who may be appointed to make special investigations

2. The consultative staff shall consist of persons skilled in scientific investigations, representatives of various home and colonial government departments, physicians and surgeons attached to hospitals, statistical experts and others, appointed by the Executive Committee.

3. The consultative staff may receive fees for attendance at meetings

and may be remunerated for any services performed in connexion with the objects of the fund, on such conditions as the Executive Committee may determine.

THE VOLUNTEER MEDICAL ASSOCIATION.

THE annual dinner of the above association was held at the Hotel Cecil on April 9th, Surgeon-General W. TAYLOR, C.B., Director-General of the Army Medical Service, being in the chair. About 75 members and guests were present and amongst the latter were Surgeon-General Keogh, C.B., Deputy Director-General, Lieutenant-Colonel W. Babtie, V.C., R.A.M.C., Major W. G. Macpherson, R.A.M.C., and Colonel W. L. Gubbins, R.A.M.C., Principal Medical Officer of the Home District. Among the members supporting the chairman of the association, Brigade-Surgeon-Lieutenant-Colonel A. Clark, were the following:—Brigade-Surgeon-Lieutenant-Colonels Russell, Raglan, H. G. Thompson, G. Danford Thomas, H. W. Kiallmark, and C. Boyce; Surgeon-Lieutenant-Colonels M. Baines, F. W. Humphreys, A. Cooper, Adams, R. T. A. O'Callaghan, A. T. Norton, C.B., W. Gandy, and W. D. Waterhouse; Surgeon-Majors C. Godson, Dundas Grant, W. Culver James, F. E. Fenton, A. H. Robinson, W. J. Harnett, and J. J. de Z. Marshall; and Surgeon-Captains J. Cantlie, Macgregor, T. H. Openshaw, C. A. Goullet, and Sharpe.

After the usual loyal toasts had been proposed and heartily responded to Mr. HOWARD MARSH proposed "The Imperial Forces."

The CHAIRMAN then proposed the toast of the evening, "Success to the Association," and in the course of his remarks he alluded to the recent letters from the War Office sanctioning certain changes in respect to the Volunteer Medical Service, stretcher-bearer companies, &c. All that had been asked for had not been granted, but in future the bearer companies were to be separate units and to become an integral part of their respective brigades, the channel of communication being through the senior medical officer of the brigade. These units would draw their own capitation grants and other allowances, and a sergeant-instructor of the Royal Army Medical Corps would be attached to each company. An ambulance wagon would also be issued for drill purposes to each company. Should a bearer company find it convenient to make its headquarters the same as that of any particular battalion in the brigade and to become attached to the same, and should satisfactory arrangements be made, it might do so, but the members thereof would be supernumerary in every respect to the authorised establishment of the battalion. These arrangements would not interfere with the regimental medical officers who would continue to train regimental stretcher-bearers in the proportion of two men per company. With the exception of the Royal Army Medical Corps Volunteers, the compound titles would still continue to exist. With regard to increasing the number of brigade stretcher-bearers to 110 rank and file so as to provide for a field hospital no order had yet appeared, but, added Surgeon-General Taylor, anything that he could do to support this proposition he would do gladly as he appreciated the necessity for, and advisability of, the increase suggested. He concluded by expressing the opinion that the Volunteer Medical Association was doing good service and had done much in effecting the changes already mentioned; and in proposing success to the association he had much pleasure in coupling with the toast the name of Brigade-Surgeon-Lieutenant-Colonel A. Clark, the chairman of the council, and in expressing the hope that every volunteer medical officer would become a member of the association.

Brigade-Surgeon-Lieutenant-Colonel CLARK replied, and in thanking the Director-General for his kind promises of help so far as it lay in his power in perfecting the volunteer medical organisation he referred to the work of the council during the past year, which in a great measure had resulted in the changes of which they had heard that evening. They would be glad to have as members all the volunteer medical officers, and he looked forward to an increase in numbers in the course of the present year. Classes of instruction were arranged for those officers who wished to present themselves for examination and there was a very handsome challenge shield which was competed for annually by regimental stretcher-bearers. The council was always ready to receive and to consider all communications from members and their experiences, and when occasion required to take active steps towards obtaining improvements or reforms, and this could often be done more effectually by an organised association than by individual effort only. He thanked the Director-General for his presence that evening, and all those present for their hearty response to the toast.

Brigade-Surgeon-Lieutenant-Colonel DANFORD THOMAS proposed the toast of "The Visitors," which was responded to by Colonel GUBBINS, R.A.M.C.

The toast of "The Chairman" was then given by Surgeon-Lieutenant-Colonel A. COOPER, and was received with musical honours.

The DIRECTOR-GENERAL replied and then proposed the health of Surgeon-Major Marshall, the honorary secretary, in doing which he thanked him for the able manner in which he had arranged all the details for their entertainment that evening. This was warmly responded to.

During the evening selections of vocal music were given by the members and their friends.

THE ROYAL ORTHOPÆDIC HOSPITAL.

THE annual meeting of the Court of Governors of this hospital was held on April 10th at 15, Hanover-square, W., when Mr. H. Marks, the chairman of the Committee of Management, presided.

Dr. DAVID WALSH called attention to certain omissions from the report, as did also Mr. REEVES. Considerable discussion followed, but eventually the report was adopted. The report stated that the subscriptions amounted to £438, as compared with £452 in the previous year, and the donations to £475, against £547 in 1891. The income, exclusive of legacies, had reached £1900. King Edward's Hospital Fund had given a grant of £200. The total expenditure for the year had been £2881, being £65 less than in the previous year. The in-patients admitted were 255. In the out-patient department there were 1060 new patients and 4390 attendances. The total number of patients benefited by the hospital since its foundation had been 84,452. Mr. Marks was then elected chairman of the Committee of Management and the following gentlemen were appointed members of that committee: Mr. E. Flower, M.P., the Hon. Claude G. D. Hay, M.P., Mr. James Head, Major Ricarde-Seaver, Mr. H. A. Reeves, Mr. W. Gordon Campbell, Mr. Frank Mathews, and others. Mr. R. B. Martin, M.P., was re-elected honorary treasurer. The honorary surgeons and the auditors were also re-elected. Mr. Marcus Cuerton was elected a vice-president in consequence of the large amount of financial help which he had given to the hospital. Various officers were then reappointed. This concluded the business of the court and a special court was constituted to discuss the question of the hospital site and other matters. On the question of the hospital site Mr. MARKS moved:—

> That the agreement made by the Committee of Management for the disposal of the existing site, having received the approval of the trustees and the Charity Commissioners, be ratified, and the governors hereby authorise the committee to take all necessary steps for the acquisition of the site and the erection thereon of a new hospital.

He said that the work of the hospital had been frequently hampered and seriously interrupted on several occasions owing to the unsatisfactory condition of the premises. The total cost of repairs had been £2160, an average of £432 per annum. In 1899 the committee of the hospital wished to sell the site for £28,000. This led to the appointment of a new committee who subsequently received an offer for the purchase of the site on a basis of 29 years' purchase at £1300 per annum, or £37,700. Subsequently a proposal was made that the site should be leased for 99 years at an annual rental of £1400 and that the lessees should have the option during three years to purchase at £40,000. The trustees considered this offer favourable and they recommended its acceptance. The Charity Commissioners considered the offer favourable and so did the committee. The present site was unsuitable for the reconstruction of a new hospital upon modern plans and approved lines.

Dr. WALSH said he thought that the scheme put forward was unbusinesslike. He had been told by an expert valuer that the present site of the hospital was worth £63,000. The matter ought to be referred to a court of abitration or the value tested by putting the site up to public auction, and o alleged that the present meeting was illegal, inasmuch s the rules of the charter of incorporation had not been omplied with and any person buying the hospital would do o on an insecure tenure.

Mr E. FLOWER, M.P., supported the motion.

Mr R B MARTIN, M.P., regretted that it should be ecessary to remove the hospital, but he had come to the onclusion that there was no other alternative.

Mr REEVES took the point of view that the present site ught to be retained.

After a prolonged discussion Mr FLOWER moved that the uestion be now put. This was carried and the original motion was adopted

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A QUARTERLY meeting of the Council was held on April 10th, Mr HENRY G HOWSE, the President, being in he chair

Sir William H Bennett, K.C.V.O., Mr. Frederic S. Eve, nd Mr W Watson Cheyne, C.B., made declarations in the erms of the oath prescribed by the Charter of 1800 and were admitted members of the Court of Examiners.

It was resolved to connect the College with the telephone ystem

The subject for the Jacksonian Prize for the year 1903 was hosen—namely, "The Various Forms of Conjunctivitis heir Pathology and Treatment."

On the recommendation of the Nomination Committee it was resolved :—

> That it is inexpedient that any member of the Court or of any Board of Examiners of the College should conduct or assist in conducting any preparatory or special course of instruction or tutorial class, either with or without emolument, in the subject in which he is an examiner other than his recognised and regular course

Sir William Bennett and Mr C H. Golding Bird were elected members of the Court of Examiners Section of the Board of Examiners in Dental Surgery

Mr William Henry Power, principal medical officer of the Local Government Board, and Dr George Bagot Ferguson President of the British Medical Association, were elected to the Fellowship as Members of over 20 years' standing

A draft scheme for organising cancer research was submitted and the Council gave its general approval to the scheme.

Mr F Richardson Cross was nominated a delegate of the College to the annual congress of the Royal Institute of Public Health to be held in Exeter from August 21st to 26th.

THE METROPOLITAN WATER-SUPPLY

VII [1]

THE NEW RIVER COMPANY

THE New River is the oldest of all companies which supply water to London and of late years it is one of those which has given little cause for complaint on the part of its customers Readers of some of the previous articles of the present series cannot have failed to notice that the quality of the water supplied by the New River Company has been proved to be superior to that distributed by many of the other undertakings It is, however quite true that in regard to the absence of constant service complaints have been made in the City of London within the last few years, but in this case the citizens had no just right to expect sympathy, for the remedy has long been in their own hands and their own apathy alone deserves blame. The citizens have also intermittently and rather plaintively complained of the price which they have had to pay for the water,[2] yet the New River Company has not exacted and doubtless has been well advised in not exacting, the full rents which were due under the statutory regulations which fix the maximum charges. The full title of the company is "The Governour and Company of the New River brought from Chadwell and Amwell to London" The Acts for enabling the enterprise to be carried out were passed in the early years of the reign of James I (3 James I, c. 18, and 4 James I., c. 12) and the company was afterwards incorporated (June 21st, 17 James I) It is not necessary here to give an account of the early history of the adventure and those who may be interested in the original charter will find it amongst the Patent Rolls at the Record Office, No 2214 (67) It is not without importance to note that of the original sources of supply the Amwell spring has long ceased to discharge its water into the New River and that the flow of the Chadwell springs has been steadily diminishing during the last few years—a fact very clearly brought out by Lord Robert Cecil at the Llandaff Commission. More than one attempt was made to obtain the sanction of Parliament to the charter of James I and Bills to that effect were introduced into the House of Commons in 1621, in 1623, and in 1642. It seems, however, that the Members objected to confirm a monopoly by Act of Parliament.

The first Act obtained by the company after the reign of James I was passed in 1738 (12 Geo. II c. 32) and by this Statute the company was allowed to take water from the river Lee upon the payment of an annual sum which was to be spent in improving the navigation of the river In addition to this only two Acts having reference to the company where passed before the middle of the last century (12 Geo II cap 32 and 3 Geo IV c. 109). In the year 1850 the sources of supply of the company were the river Lee, Chadwell springs, and wells at Amwell, Amwell hill, Cheshunt, and Hampstead road There were two reservoirs at Cheshunt comprising an area of over 18 acres, two at Stoke Newington having an area of 42½ acres, and one reservoir at New River head having an area of five acres. None of the water was filtered and the only method of purification adopted was that due to subsidence. At Cheshunt, where the water was derived from the higher ground to the north of the reservoirs, it was generally retained for a month to undergo purification The company maintained that the water was also much improved in passing down the New River in the course of its transit. The current flowed gently and there was therefore "much time for the deposit of any alluvial matter" which it might contain, and this was markedly the case at five enlarged portions of the river

Between the years 1850 and 1855 considerable alterations were effected in the works of the company, but it is evident from the remarks on the undertaking contained in the reports made to the General Board of Health[3] that there was considerable delay in making necessary improvements. The Metropolis Water Act had then been passed and the company had obtained three additional private Acts (15 and 16 Vict., c. 160, 17 Vict. c. 39, and 17 Vict., c. 72) Of these, one enabled the company to divert the Hertford sewerage from the point at which it entered the Lee above the intake which led to the New River but nothing has been done towards carrying out the work. On this matter the report referred to having emphasised the fact that at that time the Lee was the main source of the company's supply, continued to point out that "under these circumstances it does seem important that the drainage of Hertford which discharges immediately above this source of supply should be diverted from it," and a hope was expressed that the powers obtained by the company to effect this object would soon be put into operation. It is evident that at this period the sources of the water were open to objection. In regard to other important matters, however, improvements had been made. Five filter beds, having together an area of six and a half acres, had been constructed at Stoke Newington, three filter beds covering an area of two and a half acres had been made at the New River head Claremont-square reservoir had been covered over (as required by the Metropolis Water Act 1852) and two new covered service reservoirs had been built at Maiden lane. It seems rather curious that at this period the "length of pipage possessed by the company" was not accurately known The quantity of water pumped for distribution daily was 25 000 000 gallons and the number of tenements supplied was 95 083. The supply was given "daily,

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[1] Articles I, II III, IV V and VI appeared in THE LANCET of March 1st (p 614), 8th (p 692), 15th (p. 767), 22nd (p. 842) and 29th (p. 915) and April 5th (p 985) 1902, respectively

[2] At the Llandaff Commission the City Remembrancer suggested that the price paid was not less than that which would have been paid for beer The charges due are made on the rateable value of a property not on the amount of water consumed on the premises

[3] General Board of Health Reports to the Right Hon William Cowper M P President of the General Board of Health on the Metropolis Water-Supply under the provisions of the Metropolis Water Act London 1856.

Sundays excepted," to all parts of the district "and where necessary in the poorer localities" on Sundays also. It is noted in the report already quoted that "the New River head is not a very desirable locality for filter beds." It seems somewhat strange that the Clerkenwell station should have remained in use for that purpose even to the present day; it shows a truly conservative spirit on the part of the directors of the company, and from a sentimental point of view it would be a matter for much regret should the New River head be destroyed.[4]

Of late years very many improvements have been made in the works of the New River Company and the way in which the New River itself has been kept has of late, we believe, been in accord with the best traditions of the enterprise. A full description of the river itself and of the method by which it was protected and the manner in which it was worked was given in THE LANCET Special Commission on the Metropolitan Water Supply.[5] It is unnecessary to repeat what was there stated. At the time at which the survey was made much had recently been done to ensure the purity of the river and the company had not, as was the case with many of the other undertakings, a large amount of accumulated arrears of neglected work to make good. Table I. gives in parallel columns statistical details compiled from information given by the New River Company for the month of June, 1897, and the corresponding figures derived from the Water Examiner's report for the month of June, 1901.

TABLE I.—*Giving Statistical Details for the Month of June, 1897, and the Month of June, 1901, from Information given by the New River Company and the Report issued by the Water Examiner*

—		June, 1897.	June, 1901.
Supply	Average daily supply in gallons (filtered) ...	34,646,498	39,650,229
	Number of houses supplied	162,169	173,060
	Number of houses on constant supply	129,017	164,529
	Estimated population supplied	1,176,000	1,254,685
Reservoirs, subsiding and storage	Number	20	20
	Area in acres	99½	99½
	Available capacity in gallons	168,100,000	168,100,000
Storage filtered water reservoirs	Number	11	12
	Capacity in gallons ...	37,540,000	38,240,000
Water-pipes... ...	Total number of miles of water-pipes	841	880
	Number of miles of water-pipes in the metropolis	781	806
	Number of hydrants erected within the metropolis: public fire ...	6,517	7,723
	street-watering	618	715
	private fire ...	4,296	5,154
Filters	Number of beds	20	20
	Area in acres	16¼	16¾
Sources and amount of water filtered and pumped, daily average in gallons	Springs and wells	13,359,635	19,057,410
	River Lee	21,286,863	20,592,816
Sources and amount of water delivered unfiltered, daily average in gallons ...	Ponds	3,904	2,149
	Springs and wells	2,197,261	2,298,696
	River Lee	1,148,337	1,842,395

The table shows that no great changes were made in the arrangements of the company between June, 1897, and June, 1901. The most noteworthy thing in the table is, perhaps, the fact that an increased amount of water was derived from "springs and wells" during the later period (June, 1901). It is to be regretted that full particulars are not accessible as to the amount of water derived from each of the wells possessed by the company. In the so-called "details" supplied to the Water Examiner the whole amount of water derived from springs and wells is given, but there is absolutely no "detail" as to the amount derived from any particular well. It is known that the pumping at one well affects the water level at another well belonging to the company, but the most obstinate reticence has been adopted by the directors in withholding information as to the water level in the wells. A great deal of evidence has been given by independent witnesses as to the way in which that part of the county of Hertfordshire which is adjacent to the pumping stations of the New River Company has of late years suffered from the depletion of water, and it is a matter of great importance that the exact state of the case should be known. If one of the most important recommendations given by the Balfour Commission had been acted upon the facts would now be known accurately.

The sources from which the New River obtains the water for drinking purposes are the River Lee and a number of wells, but to provide for future contingencies the company has joined in the Staines reservoir scheme and therefore in the ordinary course of events the customers of the company will some day be supplied in part at least by water derived from the Thames. During last year the water supplied by the company was generally of excellent quality, but it contained more organic carbon and more organic nitrogen than that supplied by the Kent Company. The results of the examinations made by the analyst appointed by the Local Government Board are given in Table II. It will be noticed that the quality of the Kent water varied very little, but that of samples taken of the New River water was not always equally good.

TABLE II.—*Showing the Results of Analysis expressed in Parts per 100,000 of Organic Carbon and of Organic Nitrogen in the Water supplied by the West Middlesex Waterworks Company, the New River Company, and the Kent Company in each Month of the Year 1901 and in the Month of January, 1902. (Compiled from the Reports of the Results of Analysis made by Dr. T. E. Thorpe, F.R.S., on behalf of the Local Government Board.)*

Year and month.	Organic carbon, expressed in parts per 100,000.		Organic nitrogen, expressed in parts per 100,000.	
	New River Company.	Kent Company.	New River Company.	Kent Company.
1901.				
January	0·070	0·039	0·010	0·008
February	0·073	0·044	0·012	0·010
March	0·141	0·043	0·013	0·010
April	0·124	0·043	0·012	0·008
May	0·081	0·042	0·013	0·006
June	0·068	0·036	0·009	0·007
July	0·062	0·058	0·010	0·012
August	0·049	0·038	0·007	0·005
September	0·115	0·037	0·013	0·009
October	0·046	0·058	0·010	0·007
November	0·070	0·055	0·009	0·009
December	0 093	0·048	0·009	0·006
1902.				
January	0·077	0·059	0·008	0·006

In Dr. T. E. Thorpe's report on the sample of water examined in March, 1901, he says: "The New River Company's water during March was inferior to that delivered in February, mainly on account of the higher amounts of organic matter found in samples taken in the middle of the month"; he adds, "this company's water was, however, always superior to that of the Thames companies." The sample of which the one full analysis was made was taken on March 16th from the cab rank, Tottenham-court-road. Dr. Thorpe's report on the water analysed in April states that "the New River water was much ...... superior to any of the Thames-derived supplies." The one sample of which a full analysis was made was taken from the cab rank at Canonbury station. In regard to the supplies given in

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[4] Myddelton here built a house for the Governor of the company; it must have been a most pleasant place.

[5] THE LANCET, Oct. 23rd to Dec. 18th, 1897, inclusively.

September Dr Thorpe says that "the New River Company's water on a few occasions was found to contain somewhat more organic matter than usual." It will be seen that the results of the one full analysis made during that month which are given in the above table show this increase. The sample was taken from the cab rank near St. Clement's Danes Church, Strand, on Sept. 10th Dr Thorpe further says that "from information supplied by the secretary of the company it appears that these abnormal results were due to an admixture of filtered Thames water, this being necessary in connexion with the arrangements whereby the East London Company has been assisted during the past month" From this it is evident that the New River Company cannot always "assist" the East London Company without prejudicing the interests of its customers by supplying them with water of a quality inferior to that to which they have been accustomed. The present working of the intercommunication scheme is certainly unfair to them and it ought not to be allowed to continue for an indefinite time.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Cardiff Port District.—In his report for the last quarter of 1901 Dr Edward Walford gives the results of the examination in a bacteriological sense of samples of drinking water taken from vessels frequenting this port. The number of micro-organisms at 37° C. ranged from 36,000 per cubic centimetre to 76 per cubic centimetre Although no information is given as to the nature of any of the organisms found the numbers detected in several instances suggest the need of a reform in the methods of water storage on board the vessels from which the samples were taken. Cardiff is an important channel through which frozen meat finds its way from South America into this country, and it is assuring to learn that this meat is duly inspected on arrival and that a notice of the destination of the cargo is sent to the sanitary authority of the district to which the meat is consigned.

Aston Manor Urban District.—The vital statistics of this district within recent years are not altogether encouraging to the sanitary administration of the council When the figures for 1882–91 are compared with those for 1892 1901 the only diminution detectable is in the birth rate which has fallen from 34·1 to 33·2 per 1000. The general death rate has increased from 16·1 to 16·4 per 1000 and the zymotic death-rate from 2·7 to 3·5 per 1000, while the infantile mortality has risen from 145 to no less than 177 per 1000 births. Infantile diarrhoea seems, as usual, to have accounted for much of this latter mortality but this does not adequately explain why the total infantile mortality has gone on increasing In order to arrive at an accurate conclusion as to this the causes of the deaths of infants should be further differentiated and contrasted year by year. As Mr Francis H. May remarks this increasing infantile mortality will result in altering the age distribution of the population.

Crewe Urban District.—Dr Alfred Greenwood, the medical officer of health of this district, made an effort during 1901 to bring about the notification of sickness through the agency of the 27 friendly societies in Crewe. The corporation offered to pay to the secretaries of these societies a fee of 2*d*. per case. But this reward induced only 17 out of the 27 societies to respond. Dr Greenwood explains that he hoped in this manner to obtain information with regard to cases of phthisis and diarrhoea which would otherwise not be brought under his notice It is not stated if the cost of postage is defrayed by the corporation and in view of the small amount here in question this item may be worth *consideration*

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN 76 of the largest English towns 9494 births and 4971 deaths were registered during the week ending April 12th. The annual rate of mortality in these towns, which had been 18·2 and 17·6 per 1000 in the two preceding weeks, further declined last week to 17·4 per 1000 In London the death rate was 17·3 per 1000, while it averaged 17·5 in the 75 other large towns The lowest death-rates in these towns were 5·5 in Hornsey, 7·8 in Reading, 9·1 in Newport (Mon.), 10·1 in Leyton, 10·8 in Bury, 11·0 in Bournemouth, 11·1 in Wallasey, and 11·2 in Warrington; the highest rates were 22·1 in West Bromwich, 22·2 in South Shields, 22·3 in Barrow in Furness, 25·2 in Huddersfield, 25·9 in Hanley and in Merthyr Tydfil, 26·0 in Burnley, and 28·5 in Middlesbrough. The 4971 deaths in these towns included 596 which were referred to the principal zymotic diseases, against 602 and 572 in the two preceding weeks, of these 596 deaths 161 resulted from measles, 145 from whooping cough, 94 from small-pox, 85 from diphtheria, 45 from scarlet fever, 44 from diarrhoea, and 22 from "fever" (principally enteric) No death from any of these diseases occurred in Hornsey, Bournemouth, Reading, Ipswich, Handsworth, Smethwick, Wallasey, Warrington, Bury, York, or West Hartlepool, the highest zymotic death rates were recorded in Tottenham, West Ham, Hanley, Burnley, Blackburn, Barrow in Furness, Middlesbrough, and Stockton. The greatest mortality from measles occurred in Willesden, Oldham, Rochdale, Burnley, Blackburn, and Barrow in Furness, from scarlet fever in Burton on-Trent, West Bromwich, and Stockport, from diphtheria in Portsmouth, Hanley, Burnley, Middlesbrough, and Rhondda, from whooping-cough in Devonport, Wolverhampton, Aston Manor, Barrow in-Furness, Stockton, and South Shields, and from diarrhoea in Walsall and King's Norton The mortality from "fever" showed no marked excess in any of the large towns. The fatal cases of small pox registered last week included 73 in London, 15 in West Ham, three in Tottenham, two in Swansea, and one in Walthamstow The number of small-pox cases under treatment in the Metropolitan Asylums hospitals, which had been 1567, 1528, and 1522 at the end of the three preceding weeks, had further declined to 1437 on Saturday, April 12th, 274 new cases were admitted during the week, against 449, 389, and 376 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2146, against numbers decreasing from 3137 to 2126 on the 15 preceding Saturdays, 264 new cases were admitted during the week, against 258, 250, and 228 in the three preceding weeks The deaths referred to diseases of the respiratory organs in London, which had been 388, 360, and 317 in the three preceding weeks, further declined last week to 299 and were 67 below the corrected average number The causes of 59, or 1·2 per cent, of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in West Ham, Nottingham, Salford, Bradford, Leeds, Newcastle, and 41 other smaller towns, the largest proportions of uncertified deaths were registered in Liverpool, Wigan, Warrington, Blackburn, Sunderland, and South Shields

HEALTH OF SCOTCH TOWNS

The annual rate of mortality in the eight Scotch towns, which had been 20·3 and 21·3 per 1000 in the two preceding weeks, further rose to 22·1 per 1000 during the week ending April 12th, and was 3·7 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·9 in Leith and 20·1 in Edinburgh to 25·1 in Aberdeen and 26·5 in Greenock The 715 deaths in these towns included 21 which resulted from whooping-cough, 10 from measles, eight from scarlet fever, eight from diarrhoea, five from "fever," two from small pox, and two from diphtheria. In all 56 deaths resulted from these principal zymotic diseases last week, against 59 in each of the two preceding weeks. These 56 deaths were equal to an annual rate of 1·7 per 1000, which was 0·4 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 13 and 14 in the two preceding weeks, further increased last week to 21, of which eight occurred in Aberdeen, seven in Glasgow, two in Edinburgh, and two in Dundee The deaths from measles, which had been 14 and 11 in the two preceding weeks, further declined to 10 last week, and included four in Glasgow, three in Edinburgh and two in Dundee The fatal cases of scarlet fever, which had been three and eight in the two preceding weeks, were again eight last week and included four in Glasgow and three in Greenock. The deaths from diarrhœa, which had been 25, 22, and 15 in the three preceding weeks, further declined last week to eight, of which three were registered in Leith, two in Glasgow, and two in Edinburgh. The fatal cases of "fever," which had been four, one, and four in the three preceding weeks, further rose to five last week and included three in Glasgow. The two deaths from small-pox corresponded with the number in the preceding week and both occurred in Glasgow, where the two fatal cases of diphtheria also were recorded. The deaths referred to diseases of the respiratory organs in these towns, which had been 217, 173, and 160 in the three preceding weeks, rose again last week to 188, and were 33 in excess of the number in the corresponding period of last year. The causes of 34, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·4, 27·5, and 26·8 per 1000 in the three preceding weeks, further declined to 26·7 per 1000 during the week ending April 12th. During the past four weeks the death-rate has averaged 25·9 per 1000, the rate during the same period being 18·6 in both London and in Edinburgh. The 194 deaths of persons belonging to Dublin registered during the week under notice showed a slight decline from the number in the preceding week, and included 11 which were referred to the principal zymotic diseases, against seven and six in the two preceding weeks; of these, four resulted from diarrhœa, three from measles, two from whooping-cough, and two from "fever." These 11 deaths were equal to an annual death-rate of 1·5 per 1000, the zymotic death-rates during the same period being 2·6 in London and 1·4 in Edinburgh. The deaths from measles, which had been one in each of the three preceding weeks, increased last week to three. The mortality from whooping-cough, from "fever," and from diarrhœa was also in excess of that recorded in the preceding week. The 194 deaths in Dublin last week included 34 of children under one year of age and 47 of persons aged upwards of 60 years; the deaths of infants slightly exceeded the number in the preceding week, while those of elderly persons showed a slight decline. Six inquest cases and six deaths from violence were registered during the week, and 83, or more than two-fifths, of the deaths occurred in public institutions. The causes of 12, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: G. D. Twigg to the *Duke of Wellington* and Anthony Kidd to the *Benbow*. Surgeon T. B. Shaw to the *Duke of Wellington*.

IMPERIAL YEOMANRY (IN SOUTH AFRICA).

35th Battalion: John J. Scanlan to be Medical Officer, with the temporary rank of Captain.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Henry J. W. Barrow to be Colonel, vice E. Townsend, promoted. Dated Sept. 25th, 1901.

Lieutenant-Colonel Robert Oriel Cusack retires on retired pay on account of ill-health. Dated April 16th, 1902.

The undermentioned officers retire on retired pay (dated April 16th, 1902):—Lieutenant-Colonel George Herbert Le Mottée and Lieutenant-Colonel R. W. E. H. Nicholson.

Captain J. Grech joins at Aldershot and is posted to the Connaught Hospital for duty. Major C. T. Blackwell, Aldershot, proceeds to South Africa. Major G. T. Alexander rejoins at Aldershot from a tour of trooping duty, and is posted to the Connaught Hospital.

ROYAL ARMY MEDICAL CORPS (MILITIA).

Supernumerary Lieutenant J. Clarke to be Captain and to remain seconded.

IMPERIAL YEOMANRY.

Nottinghamshire (Sherwood Rangers): George Thomson to be Surgeon-Lieutenant. Northamptonshire: Edward Milward Knott to be Surgeon-Lieutenant.

The undermentioned officers resign their commissions and receive new commissions subject to the provisions of the Militia and Yeomanry Act, 1901, each retaining his present rank and seniority, viz.:—

Royal North Devon (Hussars): Major and Honorary Lieutenant-Colonel W. N. Hoare and Surgeon-Captain J. R. Harper. Fifeshire and Forfarshire: Surgeon-Captain T. F. Dewar. Herts: Surgeon-Captain L. Drage. Lanarkshire: Surgeon-Major R. E. Wood. Norfolk (King's Own): Surgeon-Captain J. F. Gordon Dill. Warwickshire: Surgeon-Captain R. Bullock.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Banff: Norman Davidson to be Surgeon-Lieutenant. 1st Edinburgh (City): Surgeon-Lieutenant R. B. Purves to be Surgeon-Captain.

Royal Engineers (Volunteers): East London (Tower Hamlets): John William Thomson Walker to be Surgeon-Lieutenant.

Rifle: 1st Volunteer Battalion the Manchester Regiment: Surgeon-Lieutenant J. Orr to be Surgeon-Captain. 2nd Cadet Battalion the King's (Liverpool Regiment): Frederic Henry Allfrey to be Surgeon-Lieutenant 3rd Volunteer Battalion the Lincolnshire Regiment: Henry Stanley Walker to be Surgeon-Lieutenant.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Woolwich Companies: Supernumerary Lieutenant M. Taylor to be Captain and to remain Supernumerary. The Maidstone Companies: John Monkhouse Rogers-Tillstone to be Lieutenant

VOLUNTEER INFANTRY BRIGADE BEARER COMPANY.

4th London: Surgeon-Captain A. O. Tunstall, from the 1st Tower Hamlets Volunteer Rifle Corps, to be Surgeon-Captain, and to command the Company under paragraph 55A Volunteer Regulations.

SOUTH AFRICAN WAR NOTES.

Civil Surgeon Miles, dangerously wounded, was reported slightly improved on April 11th.

The following have been discharged from hospital to duty:—Lieutenant-Colonel J. C. Culling, R.A.M.C., Major S. Butterworth, R.A.M.C., and Civil-Surgeons Corby and Balfour.

THE DUTY OF THE MEDICAL DEPARTMENT ON THE FIELD OF BATTLE.

In a recent discourse pronounced by Dr. Choux, principal medical officer of the Paris garrison, with reference to the special military medical manœuvres which were held under the auspices of the commandant of the city, allusion was made, amongst other important matters, to the duty of the medical department on the field of battle. The subject is one that has excited great attention of late years, and evidently there is now a tendency to question the expediency of exposing non-combatants within the zone of fire. The spectacle of a medical officer, adequately seconded, amputating a wounded man's leg under a hail of missiles is certainly very fine and flattering, but, unfortunately, says Dr Choux, it *is based on a false conception* of the condition of things during a battle and by no means represents the reality. What the wounded man wants is to be placed in a safe place. As Lehrnbecker has it: "He has now only one desire, one object—to be withdrawn out of reach of additional wounds which will make an end of him." General Verdy du Vernois in his "Studies" doubts whether medical officers and their subordinates render any real service under fire. Port, who went through the war of 1870–71, shares this view, and so likewise do the German surgeons Peltzer and Scholtz. Pirogoff, the veteran, is of opinion that a medical officer in going under fire loses valuable time which might be better employed elsewhere. Summing up the argument Dr. Choux comes to the conclusion that medical officers should only venture into the fighting line during pauses. An engagement in these days is not continuous. There are intervals of calm, of tacit truce, and the surgeon should, without losing an instant, take advantage of these to explore the field and to remove the wounded. Stopping to dress them where they lie is time wasted and the wounded themselves would much prefer to be taken as quickly as possible to a place of safety. Absolutely indispensable dressings alone should be applied, for the action may again become active at any moment. In fine a medical officer's duty on the field of battle consists, says Dr. Choux, first, in removing his patient out of danger; secondly, in ministering to his sufferings, and especially to his thirst; and thirdly, in attending to his wounds. 99 out of 100 wounded men would welcome the appearance of trained bearers rather than that of the most skilful surgeon.

THE MEDICAL STAFF CORPS.

Mr. W. Carlile, M.P., who recently introduced a deputation of medical officers to Lord Raglan, has received from Sir E. W. D. Ward, Permanent Secretary of the War Office, a letter communicating the decision of the Secretary of State upon the points raised. The following are some of the more material portions of the official reply:—

> While the Volunteer Medical Staff Corps, officers and men, have been affiliated to the Royal Army Medical Corps, under the title of the Royal Army Medical Corps (Volunteers), by Army Order 28 of 1902, and the compound title of the officers abolished, Mr. Brodrick does not consider it advisable to interfere with the position of medical officers belonging to regiments or corps, their *status* being quite different from that of officers of the Royal Army Medical Corps (Volunteers).
>
> Mr. Brodrick further does not consider there is any necessity for the appointment of a volunteer medical officer to the office of the Director-General, or as a member of the advisory board for army medical services, as the interests of the volunteer medical service are already considered and duly safeguarded. It is also deemed unnecessary to introduce additional examinations for promotion. Mr. Brodrick, however, is of opinion that the period of service required for promotion to the rank of Surgeon-Major, or Major, in the Royal Army Medical Corps (Volunteers) should be reduced from 15 years to 12, and intimates that steps will be taken accordingly. The formation of the bearer companies of the volunteer infantry brigades as independent units has been authorised, and Mr. Brodrick trusts that this step may be to the advantage of the whole volunteer medical service, and that it will add to the efficiency of the brigades themselves. Careful consideration is being given to the questions of the provision of equipment and the allotment of volunteer medical officers for duty on mobilisation. The rates of pay and allowances for volunteer medical officers of all branches of the service have been arrived at after mature consideration and it is not apparent that there is any reason for departing from the scales approved.

The communication concludes with the announcement that the Secretary of State is prepared to approve of the granting of a step of honorary rank (on retirement only) under the same conditions as those operating for other branches of volunteers up to and including the rank of Honorary Surgeon-Colonel, or Colonel, in the Royal Army Medical Corps (Volunteers).

FOREIGN AMBULANCES FOR SOUTH AFRICA.

Aid to the sick and wounded in war on the part of neutral powers has, theoretically speaking, much to commend it to support and encouragement if only on the score of humanity, but nevertheless it opens up some difficult questions. It appears that Vicomte Villebois-Mareuil applied to the War Office for permission to supply an ambulance with its staff and accessories to the Boers in South Africa. While the receipt of the Vicomte's application was acknowledged in courteous terms befitting the occasion his request was not acceded to owing to the fact that similar requests received from other foreign Red Cross societies had been refused. It had been found that these foreign ambulances had not been always used exclusively for their intended purpose. It may be easily understood that ambulances and international systems of relief of this kind may, with the best intentions in the world on the part of their promoters, be open to this objection, especially where the sympathies are strongly on one side or the other. Moreover, the tendency of such organised systems, it might be urged, is, by taking care of their sick and wounded, to relieve the belligerents of much of the cost and responsibility of war. In proportion as a Government has not to provide for its sick and wounded the more money will it have to spend in the purchase of shot and shell and the better will a general be enabled successfully to prosecute a campaign. It is extremely difficult, too, for an international aid society to balance its services equally and fairly between two belligerent forces. With national aid societies the case is altogether different, for here the nation and the Government are supposed to be animated by a common purpose and to the working together to a common end.

MEDICAL AID TO THE WOUNDED DURING THE SEA BATTLES OF THE FUTURE.

In a recent article in the *Archives de Médecine Navale* Dr. Léo protests vigorously against what he maintains is the prevailing and paralysing notion that in the naval battles of the future the wounded will have to be left untended during the progress of active hostilities. With the best will in the world, it was argued, the inevitable condition of things at such times would render effective medical intervention an impossibility; and, moreover, owing to the multiplicity of indispensable fighting material with which modern warships are encumbered, there is no space available for properly constructed hospitals. These arguments were repeated over and over again *usque ad nauseam*, but they were none the less misleading fallacies. For many years Dr. Léo has combated these deplorable errors, not only exposing their lack of foundation, but also indicating the remedy. There is nothing chimerical, he says, or incapable of realisation in his *desideratum*. As he lately showed the *Suffren*, a new French ironclad, lends itself extremely well to the kind of medical installation which he recommends. Unquestionably every war vessel should be fitted with an armoured refuge for the wounded and also with adequate passages leading to it from all parts.

GALLANTRY OF MEDICAL OFFICERS.

It has frequently been our gratifying privilege during the present war in South Africa to call attention to the gallant and self-sacrificing way in which medical officers have performed their duties. In his despatch describing the engagement which took place on April 7th last at Tweebosch in the Lichtenburg district General Lord Methuen states that Colonel E. Townsend, C.B., C.M.G., R.A.M.C., the principal medical officer of his (Lord Methuen's) force, remained in the fighting line until he had received three wounds. "He has from the commencement of the campaign always acted most gallantly." And in the same despatch it is further stated that Civil Surgeon Prentice, with the rear-guard, and Captain H. S. Thurston, R.A.M.C., with the guns, continued to afford surgical aid to the wounded throughout the engagement. Considering how fierce the fighting was and how heroic was the stand made on that occasion by detachments of the Northumberland Fusiliers and Loyal North Lancashire Regiment and a section of a field battery of Royal Artillery some estimate may be formed of what this meant.

ROYAL NAVY MEDICAL SERVICE REGULATIONS.

A new Order in Council dated March 24th has been issued dealing with the regulations for the entry of candidates for commissions in the Medical Department of the Royal Navy and with the regulations as to medical officers.

A Memorandum dated War Office, April 15th, 1902, states that the undermentioned officers resign their commissions and receive new commissions subject to the provisions of the Militia and Yeomanry Act, 1901, each retaining his present rank and seniority, viz.:—Montgomeryshire: Surgeon-Lieutenant F. E. Marston. North Somerset: Surgeon-Lieutenant-Colonel J. Saville.

Colonel J. S. Wilkin, *D.S.O.*, *I.M.S.*, has been specially deputed to proceed to South Africa to supervise the concentration camps in the Transvaal and Orange River Colony.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin*: Dr. Albert Hoffa of Würzburg has been appointed Extraordinary Professor of Surgery in succession to the late Dr. Wolff.—*Genoa*: Dr. Ambrogio Cuneo of Rome has been recognised as *privat-docent* of Surgical Anatomy and Operative Medicine.—*Giessen*: The chair of Gynæcology having been declined by Professor von Herff of Basle, to whom it was first offered, has been accepted by Dr. Pfannenstiel of Breslau.—*Göttingen*: Dr. Jenkel has been recognised as *privat-docent* of Surgery.—*Gratz*: Dr. Rille of Innsbruck has been offered the chair of Dermatology vacated by the death of Dr. Jarisch.—*Halle*: Dr. Wullstein has been recognised as *privat-docent* of Surgery.—*Jena*: Dr. F. Lommel of Erlangen has been recognised as *privat-docent* of Dermatology.—*Naples*: Dr. D. de Berardinis has been recognised as *privat-docent* of Ophthalmology.—*Pisa*: Dr. Pasquale Sfameni has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Prague (Bohemian University)*: Dr. Ottokar Srdinko has been recognised as *privat-docent* of Histology and Embryology, Dr. Ottokar Kose as *privat-docent* of Medicine, and Dr. Wenzel Pitha as *privat-docent* of Midwifery and Gynæcology.—*Rome*: Dr. V. Marzone has been recognised as *privat-docent* of Anatomy.—*Vienna*: Dr. Riehl, Professor in the University of Leipsic and formerly *privat-docent* in Vienna, has been appointed to succeed the late Dr. Kaposi as Professor of Dermatology. Dr. Arthur Schattenfroh has been promoted to an Extraordinary Professorship of Hygiene, Dr. Emil Fronz to an Extraordinary Professorship of Children's Diseases, Dr. Mannaberg to an Extraordinary Professorship of Medicine, and Dr. S. Freud to an Extraordinary Professorship of Nervous Diseases.

Correspondence.

"Audi alteram partem."

THE OBSTETRICIAN—PHYSICIAN OR SURGEON?

To the Editors of THE LANCET.

SIRS,—Under the above heading an annotation appeared in THE LANCET of April 5th, p. 979, and as I am the physician referred to I trust that you will, in common fairness to myself, allow this letter to appear in THE LANCET.

You make various statements which are described as "facts." On the whole the case is fairly stated, as far as it goes, but that I was "remonstrated with by the senior surgeon" is untrue. The real facts of the case are as follows and I defy the senior surgeon or anyone else to prove otherwise. The Lincoln County Hospital has for its staff two consulting surgeons (who have no beds in the hospital), two physicians, and four surgeons. Each member of the staff is an ordinary general practitioner; there is no gynæcologist appointed. The present senior physician and my predecessor were appointed to the staff many years ago when gynæcology was little known as an art and abdominal section was considered an almost unwarrantable proceeding. Both these physicians took under their care from time to time gynæcological cases and advised as to treatment which was often followed out by the resident medical officer. I do not believe that they ever performed even a minor operation, such as curettage, in the hospital, but the patients were theirs and they therefore were responsible for the treatment. Immediately after my appointment two years ago I undertook gynæcological work and have treated my cases, no matter what the nature of the disease, in my own way. In those two years I have done as much gynæcological work as any other member of the staff and not until a few weeks ago has a single word of disapproval been addressed to me. I do not think that your statement that "sundry gynæcological cases having been admitted under his care" fully described the position.

Curiously enough, not until quite recently did I treat a case which in my opinion required a major operation and then five cases were admitted almost simultaneously. Three required abdominal section and two vaginal hysterectomy. The usual written notice was delivered to each member of the staff the day prior to that fixed by me for an abdominal section and no objections were raised—although ample time was given—until the patient was on the table in the operating-room and the anæsthetic was about to be administered. At this most inopportune moment two of the surgeons entered and protested against my operating and stated that they would appeal to the weekly board. No right-minded man would surely expect me to put off this operation, but as the surgeons had now raised objections, and *for the first time since my appointment*, I postponed two operations which I had decided to do two days afterwards in deference to their objection. A memorial, signed by all the members of the staff excepting the senior surgeon, who was absent on holiday, and myself, was presented to the weekly board—who are practically the board of managers—asking for an injunction to prohibit me from doing any gynæcological work. The members of the staff are all members of this board of management and four surgeons and two physicians were present at the meeting. Without any dissenting motion the board decided that physicians could treat gynæcological cases by operation or otherwise and there evidently the matter ended.

At my future operations—one a hysterectomy and the other an abdominal section—the three acting surgeons kindly assisted me and in every way aided me by their presence and help and by their so doing surely acknowledged their willingness to accept the position as laid down by the board of managers. On the return of the absent surgeon he addressed a letter to the managers asking for an explanation of their decision and the reply he received was even stronger than the wording of the original agreement and pointed out to him very clearly that I could perform any gynæcological operation. Not content with this decision of the board, whose verdict and opinion the surgeons had sought, the senior surgeon called a meeting of the staff, which all the members except myself attended, and passed a remarkable resolution to the effect that they would not assist me at any operation or take any responsibility for such work.

Now let me sum up the facts. The weekly board includes the staff. The staff—excepting myself—appeal to this board for a decision. They get such a decision and because they do not approve of the verdict they decide to boycott me—because, I presume, I act according to the rules laid down. There is no mention of any appeal to a quarterly meeting of the governors in the minutes of the meeting alluded to. This conduct seems to me to be somewhat illogical. After the decision the surgeons who were present assisted me and only after the arrival home of the senior surgeon do they change their attitude and frame this remarkable minute and decide upon an equally remarkable course.

I have been compelled to state the case fully and for the length of this letter I must apologise. I have no wish to enter into any "newspaper controversy." I decline to do so. I agree with you that no hard-and-fast rule can be drawn between the gynæcological physician and surgeon. In nearly every large hospital in London the gynæcologist is a physician and does his own operative work.

I have never objected to the surgeons of our hospital treating these cases as they think fit. I desire to live and let live and to do this successfully the less we interfere with our neighbours the more likely are we to attain our object.

I am, Sirs, yours faithfully,
J. STITT THOMSON, M.D. St. And., F.R.C.P., F.R.C.S. Edin.,
Physician to Lincoln County Hospital, &c.
April 9th, 1902.

PS.—Since the above was written a meeting of the quarterly board has been held (at which all the members of the staff were present) and by a majority the decision of the weekly board was upheld. J. S. T.

THE MOST CONVENIENT SITE FOR RE-VACCINATION IN THE MEDICAL MAN.

To the Editors of THE LANCET.

SIRS,—I lately revaccinated myself. Not having been revaccinated for 25 years it naturally "took" in a very vigorous manner. On the evening of the third day my temperature rose to 101° F. and the two subsequent days to a few points over 100°. There were three large pocks which were surrounded by a wide area of inflammation. This case, therefore, seems to me to be a particularly fitting one for testing the practical value of the position I chose for revaccination, as indicative of the best available spot on the body for revaccination in the case of the general medical practitioner. The site I selected was the space over the lower part of the sternum, between the breasts, the centre of the area being a point on the horizontal nipple-line, midway between the two nipples. The reasons why I chose this position were as follows.

Firstly, it was a most convenient place for self-revaccination. This point, of course, particularly applies to country practitioners and to such of these especially who are either "unopposed" or "uncomfortably opposed," or in any other way unable to get a professional brother to perform the little operation. I myself found it fairly easy to do it in this position without the help of a looking-glass, but to such as are somewhat short-necked or unsupple it can be readily done with the kindly aid of a mirror.

Secondly, I was afraid if my revaccination were going "to take," in what we euphemistically tell our patients, "in a splendid manner," I might be temporarily partially disabled from doing my work. As a country practitioner is essentially a "chirurgeon" in its full etymological significance this point was an important one. He has no limbs to spare even for partial disablement and a sacrifice of any one of these may entail an inability to perform a highly-skilled and urgently called for professional piece of work.

Thirdly, it is one of the most sheltered spots on the body. Lying as it does between the slightly protruding male breasts it is afforded protection from bumps and jars and, unlike the usual position on the outer surface of the upper part of the arm, it is not exposed to knocks sustained by self-forgetfulness or to the jostling citizen who cannot be expected to know that the man he has just elbowed his way against has a very tender spot that he treats with much sanctity.

Fourthly, I thought there would be much less liability to get axillary glandular pain and swelling. When the site chosen is between the breasts the area of absorption of inflammatory products has its drainage area doubled. Both sets of axillary glands now receive the irritating products of inflammation instead of its being concentrated on the one axilla, as it is when the vaccination is performed in the usual place. There seemed to me, therefore, much less likelihood of glandular swelling

Summing up, then, I may say that all my surmises in my own case proved correct. Although the case was a severe one, both locally and constitutionally, I had the perfectly free use of my arms all the time and not the slightest inconvenience in any way regarding this most important point. I had no axillary glandular pain or swelling, which I should undoubtedly have had had I been revaccinated in the usual place. I had not a single bump or jar, which few people, I think, can say who have been revaccinated with any great effect on the outer surface of the arm

Two more points may be incidentally mentioned. The position chosen is above the place one is naturally inclined to rest against the writing-desk when dealing with professional correspondence, and, lastly, one may turn over in one's sleep from one side to the other without any vague feelings of misgiving that one will have to pay dearly for one's hoped-for increased comfort.

I am, Sirs, yours faithfully,
T WILSON PARRY, M.A., M.B Cantab, &c.

Youlgreave, April 12th, 1902.

THE PLUMBERS' REGISTRATION BILL

To the Editors of THE LANCET.

SIRS,—The valuable special article in THE LANCET of March 29th last, page 901, as to the passing through the House of Lords of the Plumbers' Registration Bill and the probable opposition it may receive from those who think that if the plumber is rendered responsible to his fellow man for the reliability of his work it will be impossible for the oppositionists to undertake plumbers' work in the future puts the whole facts very clearly I sincerely trust that it may be read and digested by every Member of the House of Commons, and should be glad if it were possible that every Member could be likewise informed of the fact that until the plumber is made *responsible by registration it is hopeless to expect that reliable sanitary work can ever be thoroughly* carried out, notwithstanding by-laws, rules, regulations, patents, fads and fancies, past, present, and future. In connexion with registration the present system of training plumbers must be improved. At present it is most unsatisfactory as a whole, the so-called technical teaching being very hollow in its afterwards practical results, and the course so persistently followed by the Worshipful Company of Plumbers should be supported and followed The Bill has the hearty support of all good master and operative plumbers who are anxious to be placed in a true and reliable position and that position to be known, their motto being that of the Worshipful Company of their craft. I am, Sirs, yours faithfully,

Ebury-street, S W, April 7th, 1902. D T BOSTEL, Sen.

A CASE OF NUTMEG POISONING

To the Editors of THE LANCET

SIRS,—Mr Robert A. Pitter reports an interesting case of poisoning by nutmeg in THE LANCET of April 12th, p. 1035, and asks for information as to other cases. He will find abstract reports of several cases in "Forensic Medicine and Toxicology," by Dr J Dixon Mann, published by Messrs. Charles Griffin and Co Limited, price 21s

I am, Sirs, yours faithfully,
ANTONY ROCHE, M R C P Irel,
Professor of Medical Jurisprudence, Catholic University

Dublin April 12th, 1902.

THE NOTIFICATION OF PHTHISIS —The Knutsford, Middlewich, Winsford, and Biddulph Urban and the Bucklow Rural Districts have practically adopted the voluntary notification of phthisis at the usual fee per case. But the results are not promising In the whole combined district but six cases have been notified and the majority of these were near to death at the time when the information was received. Certainly, as Mr T W. H. Garstang the medical officer of health of the districts, observes, notification has not been received favourably in this locality

THE MEDICAL CONGRESS OF AUSTRALASIA

(FROM OUR OWN CORRESPONDENT IN AUSTRALIA.)

THE sixth session of the Intercolonial Medical Congress of Australasia was held at Hobart from Feb 17th to 22nd. The first business was to elect a President owing to the sad death of Mr R. S Bright who had been appointed to that position at the last session in Brisbane The Executive Committee had selected the Hon. G H. Butler, M L.C, for the honour, and after the report of the committee had been read the selection of Mr BUTLER was confirmed by the Congress and he took the presidential chair A vote of condolence with Mrs. Bright was unanimously passed in silence, all the members upstanding

In the evening the Congress was formally opened by His Excellency Sir H HAVELOCK, Governor of Tasmania, who also offered a hearty welcome to Tasmania to the visitors from other States, as did the Premier of Tasmania and the Mayor of Hobart. The PRESIDENT, owing to the shortness of time at his disposal, omitted the usual lengthy address but shortly welcomed the members and then referred in feeling terms to the deaths of Mr Bright, Sir James Agnew, M D (a vice-patron), Mr J G Johnson (one of the sectional secretaries), Dr E. W Way of Adelaide (a vice president), and the Australian members of the Army Medical Corps who had died in South Africa. Mention was made of the work of the Congress, especially the discussion on Cancer, which it was hoped would arouse general interest on the subject and give a basis for further investigation, but the President cautioned members not to be hasty in arriving at any definite conclusions. Other subjects on which it was hoped that some expression of opinion might be given were the Responsibilities of the States Governments to provide Sanatoriums for the Open air Treatment of Consumption, a Uniform System of Compulsory Vaccination; Quarantine Regulations, and the Training of Medical Students and Practitioners in Medical Ethics It was advised that an Ethical Section should be formed in the Congress, as suggested by the Western Australian Branch of the British Medical Association. The Congress would also have to consider the advisability of changing its name and of appointing a permanent executive committee with representatives in each State. With regard to these suggestions, on the final day of meeting it was decided that the name should be changed to "The Australasian Medical Congress," but no alteration was made in the constitution The Congress also adopted the following motions which were brought up by the Public Health Section:—

That vaccination should be uniformly enforced in all the States with the view to an early alteration of the existing quarantine arrangements and that the Federal and State Parliaments be requested to institute the necessary legislation to give effect to this resolution

That in the opinion of this section, in consequence of the prevalence of water-borne diseases in campaigns, instruction in hygiene, including the sterilisation of drinking water, should form part of the field training of the soldiers as far as practicable the drinking water supplied to the soldiers should be sterilised before issue.

That in the opinion of this Congress steps should be taken by the States of the Commonwealth and New Zealand to unify the Public Health Acts throughout Australasia.

That the term "pestis minor" should not be applied to non plague cases.

A motion regarding sanatoriums for tuberculosis was proposed but was not carried, difference of opinion existing as to what should be done, especially as to whether sanatoriums should be established and controlled by Government.

It is impossible to give a detailed account of all the work done in the various sections In Medicine the President of the section, Dr JAMES JAMIESON (Melbourne), gave a very interesting and thoughtful address, chiefly on the significance of the term "cure" in medicine He traced the history of medicine to a considerable extent from the days of superstitious belief in the infallibility of drugs through the period of scepticism, to the modern and scientific methods of guiding the natural process and influencing and controlling it, as by producing immunity and by serum- and organo-therapy He observed that nothing was more dangerous and more unscientific than to use powerful drugs for the relief of symptoms "causal conditions must be discovered and the causes removed or there could be no cure." This was illustrated by the treatment of pyrexia which might be part of nature's curative effort After a somewhat grimly humorous tilt at surgery and its advances and its smaller "cures" by removal of organs and structures which were necessary to the well-being of the patient, he concluded by saying that practitioners entered on the new century with the hope and expectation of triumphs greater than those of the past and by asserting that they could now effect genuine cures by *removing causes of disease*, killing or expelling parasites, putting an end to sources of irritation, and by counteracting and getting rid of poisons which had entered the body or had been produced within it.—Dr. W. C. WILKINSON (Sydney) read a long paper advocating the Use of Tuberculin as a Remedy for Pulmonary Tuberculosis.—The members of the section did not agree with his views and said that their experience of the remedy was unfavourable.—Mr. W. T. HAYWARD (Adelaide) read papers on Empyema and on Enlarged Bronchial Glands in Children.—Dr. JARVIE HOOD (Sydney) discussed the recent epidemic of Cerebro-Spinal Meningitis.—Dr. SYDNEY JONES, sen. (Sydney), read a paper on the Serum Diagnosis of Disease.—Dr. G. H. HOGG (Launceston) gave an account of the Aboriginal Medicine of Tasmania. Bleeding was stopped by clay and leaves, and incisions and scarifications were in much favour to let out the pain or disease. Massage was employed and the application of cold by compresses was used to relieve headache and other pains. The usual treatment for all skin diseases was for the patient to wallow in wood ashes. Rheumatism was common and was treated by incision and rubbing in mutton-bird oil. The use of charms made of the bones of the dead was common, both as preventives and as cures. Before European colonisation the aborigines appeared to have been very healthy but afterwards lung diseases, especially phthisis, and syphilis became common and were the chief cause of their extermination.—An important paper was read by Dr. F. GOLDSMITH (Queensland) on the Necessity for Education in Tropical Medicine in Australia He pointed out that there were large centres of population, such as Rockhampton, Townsville, Cooktown, Cairns, and Charters Towers, within the tropical zone where such diseases as malaria, dysentery, ankylostomiasis, beri-beri, filariasis, leprosy, dengue, plague, &c., existed in either endemic or epidemic form. The various States were in daily communication with India, China, and the Pacific Islands, from which tropical diseases were introduced, and the outbreak of plague was still in evidence. He strongly advocated the providing of a school of tropical medicine in Australia.—As a result of this paper a committee was appointed which reported as follows:—

> The committee consider it desirable that a school of tropical medicine and research should be established for the scientific and systematic investigation of tropical diseases in Australia, and to this end they recommend the following: 1. That Brisbane would be the most suitable place to carry out such investigations. 2. That the proposed school should be established on lines similar to those of the school for tropical medicine in London. 3. That the Right Hon. the Premier of the Commonwealth and the Premiers of the various States should be officially approached by the executive of this Congress for grants to enable such an institution to proceed with its work, and that the Right Hon. the Secretary of State for the Colonies and Dr. Patrick Manson (the head of the School of Tropical Medicine in London) be communicated with on the subject. 4. The section recommends the Congress to appoint Dr. Goldsmith as its representative in England.

In the Surgical Section Mr. L. E. BARNETT (Dunedin), the President, delivered an admirable address, practical and yet often eloquent in diction. He took the opportunity afforded by the presidential Address in Medicine to point out that advances into regions previously held sacred to the physician had been the characteristic of latter-day surgery, and where medicine failed surgery had come to the rescue. To its credit stood hundreds of operative procedures established by the experiences of physicians as well as of surgeons as the best and safest cures for the diseased conditions concerned Mr. Barnett then mentioned many of these in detail. Referring to anæsthesia he emphatically declared that there were far too many deaths under chloroform which was so frequently the selected anæsthetic in Australasia. Chloroform administered by an expert anæsthetist was probably safe enough and was simpler and pleasanter to administer than ether, but expert anæsthetists were few and far between. Now, to the average man he made bold to say: "Learn to give ether, and give it freely, and give it often. Follow the lead of America and reserve chloroform for the special cases." Then there would not be so many inquests and patients would not have such a dread of going under an anæsthetic. Appreciative reference was made to the debt which modern surgery owed to bacteriology and he strongly advocated aseptic as opposed to antiseptic methods. "It did harm rather than good to swab and douche healthy living tissues with antiseptics." In regard to some details of surgical technique he thought the extreme value of saline enemata and saline transfusion in averting and combating shock and the use of the Trendelenburg position were not sufficiently appreciated by general surgeons, though much used by gynæcologists. Sir Felix Semon's strictures on over-operating by specialists were mentioned and he (Mr. Barnett) was afraid that the same might be said of general surgeons, and it must be admitted that there were too many who degraded the science and art of surgery into a highly lucrative craft. Not only had modern surgery introduced a multiplicity of operations but also of operators. The success rendered possible by asepsis tempted too many men to become operators who had not received a sufficient training. All general practitioners ought to have sufficient knowledge of the general principles of surgery and aseptic technique to perform imperative surgery when the services of a skilled surgeon could not be immediately obtained. To save life the general practitioner should be prepared to operate for strangulated hernia, appendical abscess, &c., but not in the same way to undertake lightly the operation of radical cure or appendicectomy when the patient could be sent to a skilled operator. He concluded with a fine peroration on the work of the Australian surgeons in the South African campaign.—In the sectional work papers on the Treatment of Prostatic Enlargement were read by Mr. G. A. SYME (Melbourne) and Dr. H. V. C. HINDER (Sydney), both advocating total prostatectomy in the early stages of the disease for most cases, a procedure advised by the former in 1897. Operation should be performed as soon as the use of a catheter became necessary.—Dr. W. MOORE (Melbourne) discussed the Treatment of the Appendix in cases of Abscess and advised its removal, quoting cases in illustration.—Dr. W. KENT HUGHES (Melbourne) read a paper on the Treatment of Deformities following Infantile Paralysis, advocating free tenotomies and transplantation of tendons.—One of the most original and ingenious papers contributed to the Congress was that by Mr. R. HAMILTON RUSSELL (Melbourne) on the Congenital Factor in Hernia Mr. Russell had formerly maintained that all cases of inguinal hernia were congenital and due to the existence of a preformed sac. He now maintained that all forms of hernia—femoral, obturator, &c.—were also due to a congenital condition, and he elaborated a most ingenious hypothesis to account for the formation of the sac by assuming a protrusion of the inner layer of the mesoderm into the budding lower limb at the fourth week of fœtal development, and also expressed the belief that it was the existence of this preformed sac and its relation to the developing blood-vessels of the lower limb, especially the branches of the common femoral artery, that determined the course taken by a femoral hernia.—Dr. W. A. WOOD (Melbourne) discussed the Treatment of Congenital Dislocation of the Hip and narrated five cases treated by the Lorenz method, three with marked success.—Dr. J. B. NASH (Sydney) read a paper entitled "Some Observations in Relation to Nephrectomy," and Dr. ALAN MACKAY (Melbourne) contributed a practical paper on the Use of the Double Thomas's Splint in Hip Disease.

In the section of Midwifery and Gynæcology Dr. RALPH WORRALL of Sydney, the President, took as the subject of his address the Advances on the Subject since the First Session of the Congress. In midwifery the greatest advances had been in the adoption of Cæsarean section instead of destruction of the child, the re-introduction of symphysiotomy, the aseptic conduct of labour, especially the avoidance of vaginal examinations and douches, and the management of the third stage by waiting for the placenta to be naturally expelled. One of the most marked advances was in the early recognition and treatment of extra-uterine gestation. In gynæcology the treatment of uterine deviations had been completely changed—the pessary had become obsolete and operative measures, especially the Alexander-Adams operation, the rule. In pelvic surgery, and especially the treatment of fibro-myoma, the greatest advance was seen in the methods of restraining hæmorrhage, for which the profession in Australasia were greatly indebted to Professor A. Watson of Adelaide who anticipated the methods of Howard Kelly and whose procedure was even better than Kelly's.—A feature of the addresses in medicine, surgery, and gynæcology, delivered by leaders of their professions in three different States, was a marked tendency to object to the encroachment of others in what they regarded as their own sphere of work. Dr. Jamieson gibed at the surgeons, Mr Barnett returned the compliment and further objected to general practitioners doing surgery, and finally Dr Worrall lodged a very strong protest against general surgeons doing gynæcology —In the sectional work Professor WATSON (Adelaide) read a paper on Some Points in Connexion with the Gynæcological Surgery of the Round and Broad Ligaments. It was chiefly anatomical, with reference to the blood supply of the different pelvic organs and the best means of isolating and separately controlling the various vessels—in fact, very similar to his paper on the subject at the previous congress —Dr G R ADAM (Melbourne) opened a discussion on the Treatment of Chronic Pelvic Suppuration —Dr H O COWEN (Eaglehawk Victoria) read a paper on an Analysis of 700 Consecutive Confinements in Private Practice, a rejoinder to a paper which had been read by Dr Purdy at the Brisbane Congress and a plea for "standard details" on midwifery, and leaving "the shifting sands of individual experiment for the sure standing ground of collective experience" The minimum of interference with nature's processes, in the way of examination, douching, forceps or expression of placenta, was the main contention of the paper, which, with a paper by Dr ALAN MACKAY on Symphysiotomy, was specially discussed.

Public attention at medical congresses chiefly concentrates itself on the section of Public Health, the work in which is most fully reported in the public press. Dr T CHERRY (Melbourne), the President, gave a very comprehensive and up-to-date address on the Etiology of Typhoid Fever He detailed the results of observations on the typhoid bacillus and the various forms of colon bacilli and their separate and conjoined effects and summarised the most recent literature on the methods of contagion and spread of the disease, especially drawing attention to the probable share of flies and dust in this connexion. He concluded an admirable address by stating that many mild cases of fever were often classed as slight attacks of typhoid fever and might serve to distribute contagion Typhoid fever itself might be a composite disease or a series of diseases caused by a closely allied organism. Typhoid fever at once disappeared from the community with the introduction of a proper system of the disposal of excrement and household refuse in towns. The disease was spread chiefly by the contamination of water, milk, and articles of food. In hot countries at least flies and dust had a considerable share in bringing about this contamination The length of time during which the bacilli could exist outside the body was unknown There was evidence to show that contagion hung about old cesspits and contaminated soil for several years.—In the work of the section Mr T M KENDALL (Sydney) read a paper on Sewage Disposal, detailing the results at Sydney where various systems were employed discharge into the ocean land filtration lime precipitation, the Scott-Moncrieff system and the septic tank method. After being screened in this manner the sewage fell into a septic tank, constructed on the Dortmund principle, and thence it was sent laterally into a Scott Moncrieff cultivation tank, through which it passed by upward filtrations, to be distributed over a percolating filter, composed of coke or coal The distribution was so arranged that a definite quantity of sewage was applied to every square yard of the filter in an intermittent manner and the filter itself was composed of coke stacked without any retaining wall —Dr JAMES JAMIESON read a paper on a Milk Epidemic of Typhoid Fever, illustrating the Duration of Infectivity He showed that typhoid germs might lodge in the body of a patient for a long period after recovery and that the disease was more liable to be spread from contaminated urine than from fæcal discharges, even after apparent convalescence. He detailed a series of typhoid fever cases occurring among customers of a dairy in Melbourne. During the time that the proprietor was absent suffering from fever the milk was all right, but upon his returning to work as cured the milk gave rise to a series of typhoid fever cases in instances where the customers required fresh cows milk, not sterilised. The man, it was assumed, distributed the infection through his hands in milking the cows The duration of the period of infectivity pointed to three months.—Dr CHERRY gave an address on Pseudo-Tuberculosis (Caseous Lymphatic Glands) in Sheep. Probably the inoculation took place from cuts and scratches at shearing time. The disease was spreading and was important because of the relation of the micro-organisms to that of glanders. Should the horse become infected it would be exceedingly difficult to diagnose it from glanders, and unless care was taken it might be confused with the plague bacilli, which it was not unlike.—Dr W EAMES (Newcastle, New South Wales) read a paper on Diseases in War, pointing out that the greatest mortality was from water borne diseases. He advocated training the soldiers in sanitary precautions and especially in the methods of sterilising drinking water

In the section for Diseases of the Eye, Ear, and Throat Dr T K. HAMILTON (Adelaide) the President, gave a short address on the Progress of these Special Departments. Specific diseases of the eye were discussed at some length, as was the treatment of middle-ear suppuration and sinus suppuration Two evening meetings of the whole Congress were held to discuss the subject of Cancer —Professor H. B. ALLEN (Melbourne) opened with a most elaborate paper, giving an exhaustive review of the recent literature and experiments on the nature and parasitic origin of cancer He observed that in its predilection for people in declining years it was unlike most parasitic diseases and also in its mode of dissemination and stated his own opinion decidedly that cancer was not a parasitic affection He also thought that the tendency for innocent tumours to become malignant was much exaggerated. As regarded the influence of race, the savage races of mankind suffered much less than did the civilised He considered that the influence of local irritation in favouring the evolution of cancer was beyond question Most carefully compiled statistics were given of the prevalence of cancer in Australasia. During the first five years 6 8 per cent. of the deaths so recorded were due to cancer, during the second five years 6·9 per cent., during the third, 9 1 per cent., during the fourth, 10 2 per cent., and during the fifth, 10 4 per cent Allowance must be made, in the first place, for increase of population, and it was then found that the Australasian death rate from cancer for every 10 000 living had risen in the last 30 years for all persons from 2 75 to 5·72, for males from 2·65 to 5·91, for females from 2 86 to 5 50, or, if they took 100 as the standard 30 years ago, to 223 for males and to 192 for females. In this short period, therefore the recorded cancer rates per 10 000 living had somewhat more than doubled in males and somewhat less than doubled in females The female rate, which was the higher, had become substantially the lower In Australasia there had been a striking increase in the number of old people, of persons in the cancer period, both an absolute increase and an increase in proportion to the whole population. The old men had nearly doubled in numbers in relation to the whole community, while the old women had far more than doubled A large part of the increase in cancer was explained in this simple way Not only was the death rate from cancer in persons under 25 years of age very small, but since 1880 it showed no increase. The rate for cancer in children and young people was not increasing Professor Allen's general conclusion was as follows While I am not prepared absolutely to deny that there has been any increase in the prevalence of cancer I can state positively that malignant tumours in young people show no recent sign of increase, that among the external cancers which are easily recognised those of the face and lip in males appear to be less frequent than formerly, while cancer of the breast in women has also decreased, that uterine cancer has only slightly increased the rates for women under 55 being lower than they were 30 years ago that the apparent increase of cancer is most marked in old people and particularly in women of 75 and upwards, and I am strongly of opinion that most of this apparent increase is fictitious, being due partly to changes in the age distribution of the population and partly to more regular medical examination better diagnosis, and more explicit registration'—Dr J C VERCO (Adelaide) read a paper on the Cancer Statistics of South Australia which confirmed those of Professor Allen —Dr WILKINSON (Sydney) spoke on the Etiology of Cancer, upholding the parasitic view —Mr F D BIRD (Melbourne) contributed a paper on the General Results of Radical Operations, maintaining that while many cases could be said to be unpromising none could be called hopeless.—Dr SYDNEY JAMIESON (Sydney) discussed the Influence of Injury Irritation, and Preceding Inflammation on the Production of Cancer and held that it was considerable.—Owing to the time occupied in reading these papers none was left for general discussion.

An account of the Congress would be incomplete without reference to the hospitalities showered on the members The President and Mrs. Butler entertained the members at a garden party and at a reception. The President also gave a dinner to the leading officers of the Congress. The Governor of Tasmania and Lady Havelock gave a garden party and the Premier and Mrs. Lewis held a reception. The Mayor entertained the Congress with an excursion to New Norfolk and the Salmon Ponds. The Union Steamship Company provided a trip down the D'Entrecasteaux Channel, and Senator and Mrs. Macfarlane gave a garden party. It was decided to hold the next session at Adelaide and Dr. E. C. Stirling was elected President.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Success of the Dufferin Fund.—The Plague Epidemic.—Refusal of Commissions in the Indian Medical Service.—Increase of the Indian Army Nursing Service.—Improvements in Rangoon.

A REPORT recently issued shows that the work of the Dufferin Fund has become one of great magnitude. No less than 1,750,000 patients received relief at the hands of its female medical practitioners last year and it is of interest to record that Pardah Nashin women are being increasingly attended to. There are now 40 lady practitioners holding qualifications from the United Kingdom and 82 others who possess Indian licences. Amongst its own hospitals there were 7516 in-patients and 231,427 out-patients, the rest of the patients going to affiliated hospitals. The work of the association offers a training to nearly 500 students and a large number of women are being educated as midwives. The funds are also flourishing, for including the six and half lakhs of rupees collected by Lady Curzon the total investments of the fund amount to 31 lakhs.

The plague continues to increase in the Punjab but shows some signs of abatement elsewhere. Both in Bombay city and in Calcutta there has been a decline. In the Punjab the course of the disease is instructive. Here it first broke out in 1897 and for three years kept in the limits of two districts. There were 3500 cases in the first year, 423 in the second, and 859 in the third. In 1900-91 it began to spread and for that year 10,000 cases were reported. Since then the previous precautions have been abandoned, or, at any rate, they have not been enforced, and the disease has advanced rapidly. In the past five months 90,000 cases have been recorded and now eight districts and five native States are affected. The native press was formerly very bitter against the Government for enforcing preventive measures but now it is blaming the Government for not pressing them. The results of inoculation for plague among the Parsi community in Bombay speak well in favour of the process. During 42 months there were 1033 deaths among the uninoculated section and 51 amongst the inoculated. If the latter had suffered in the same ratio there would have been 170 deaths; so it is estimated that inoculation saves about 70 per cent. of those who might have died.

It appears that several of the plague medical officers who were offered commissions in the Indian Medical Service have for various reasons been unable to accept them. As the treatment of the medical officers sent out to India for plague duty has not been marked by excessive liberality it would be interesting to know what hindrances were placed in the way of the officers accepting these commissions.

In the programme of improvement for the army in India provision is made for an increase in the Army Nursing Service. The increase is to amount to 39 but it will be limited next year to three superintendents and 13 nursing sisters.

The movement for improving some of the worst quarters of the native parts of many Indian cities is extending and Rangoon is now brought under its influence. The Government of India has approved of the scheme concerning the Sadr Bazaar. The most insanitary portions will be entirely demolished and its inhabitants will be removed to another part of the city. The place was not only a nuisance but a serious source of danger to the public. Work of a similar kind is going on in Bombay city and in Calcutta. The danger seems to be that in some places improvements will be permitted rather than the enforcement of complete demolition and reconstruction. A mild policy in these matters will only lay up troubles for the future.

March 26th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

A Liverpool Private Hospital and the Sale of Throat Pastilles.

IN the Chancery Court of Lancashire at St. George's Hall last week, before the Vice-Chancellor, Messrs. Evans, Sons, and Co., wholesale druggists of Liverpool, claimed to set aside an agreement with William Alfred Jones (formerly export manager in their employ) in respect to the manufacture and sale of throat pastilles. The plaintiffs (Messrs. Evans, Sons, and Co.) also claimed damages and an account of all moneys received by the defendant (William Alfred Jones) under the said agreement and prior thereto; and in particular such portion thereof as was intrusted to the defendant on behalf of the Liverpool Hospital for Diseases of the Throat, Nose, and Ear; and also payment to the plaintiffs of the amount not properly applied. The defence was a denial of the allegations made by the plaintiffs and the defendant counter-claimed for a declaration that plaintiffs were no longer entitled to manufacture and to sell the pastilles and the delivery up to him of the formula and various documents, an injunction against the plaintiffs from advertising, manufacturing, or selling the pastilles, and payment to defendant of £220 10*s.* 2*d.* due from plaintiffs to him. Mr. Maberley, in opening the case for the plaintiffs, said that the defendant was in the employ of the plaintiffs as export manager for 35 years and in 1893, while defendant was honorary secretary and treasurer of the Throat Hospital, a private institution in Oxford-street belonging to Mr. John Bark, M.R.C.S. Eng., in which patients were treated gratis, he was given some lozenges by Mr. Bark for the use of his wife who was suffering from an affection of the throat. At defendant's request Mr. Bark wrote out a formula for less costly lozenges which defendant took to the plaintiffs. He suggested that they should manufacture and sell them and that apart from the business profit a substantial portion of the proceeds should be handed over to the hospital. The plaintiffs agreed to the proposal and a royalty of 6*d.* per pound weight was fixed verbally as the amount to be devoted to the hospital. The first payment on account of the royalty was made in the year 1896 and other payments followed up to December, 1901, a list of which counsel handed in. The Vice-Chancellor said that the total was £2393 18*s.* 2*d.* In April, 1900, the defendant produced a letter from Mr. Bark in which that gentleman wrote: "I have no claim or interest in the prescription you got for me some years ago for the throat pastilles"; and following that the defendant, who described himself as sole proprietor of the formula, offered in writing an authorisation to the plaintiffs to manufacture the pastilles for sale in all parts of the world in consideration of their paying him a royalty of 6*d.* per lb. weight. On May 9th the plaintiffs wrote confirming the arrangement, adding that they understood that the royalty (as advertised by them) was largely applied by defendant for the benefit of the hospital. Afterwards the plaintiffs found that while the sales were going up by leaps and bounds the defendant was not devoting any part of the royalty, which now amounted to over £800 a year, to the hospital; and they now contended that defendant, who had ceased his connexion with the hospital, was acting merely as their agent and that they were entitled to demand that the royalty should be refunded to them in order to be handed over to the hospital. Mr. John J. Evans, senior active partner of the plaintiffs' firm, deposed that the agreement with the plaintiffs in 1893 was that the royalty of 6*d.* per pound of the pastilles should go to the hospital, of which defendant said that he was the secretary. Nothing was said about defendant retaining any part of the royalty. At Mr. Bark's request that gentleman's name was withdrawn from use. Witness, in the course of his evidence, said that he remarked to Mr. Jones that the hospital must be getting very rich owing to the large amount it was receiving. Mr. Edward Evans, jun., another member of plaintiffs' firm, deposed that the statement in the advertisements that part of the proceeds went to the hospital assisted the sale. In cross-examination witness said that it was his absolute conviction that defendant was applying the money to the hospital. He had understood that the hospital was a public institution and it was a disclosure to him to find that it was a private concern. Mr. Bark deposed that the Liverpool Throat Hospital was a private hospital in that no subscriptions were asked for from the public, but it was public inasmuch as nobody was refused whether he could pay or not. There was no committee and witness managed it. In 1892 or 1893 he became acquainted with defendant whose wife and children witness attended. He remembered giving the formula of the pastilles to Mr. Jones, but nothing was said about any benefit to the hospital or anything of that sort. About 1896 witness appointed Mr. Jones as secretary to the hospital and defendant told him on several occasions that Messrs Evans were going to give a donation to the hospital. Nothing was said about a royalty and Mr Jones never told him he was receiving anything for the hospital. Witness removed defendant from the office of secretary in September, 1900, as he was dissatisfied with the accounts and other things, and defendant assigned to him his interest in the lease of the premises The defendant claimed that the royalty was his absolutely He did not recognise the right of Mr Bark to dismiss him from the honorary treasurership. He claimed that he was still the treasurer and that therefore there was no concealment from the plaintiffs of his dismissal. Judgment was given for the plaintiffs There would be an account taken of the royalty due from the defendant and that money, together with the royalty in the plaintiffs' hands, would be paid into court where it would remain until a scheme, of which the Attorney General would have notice, had been settled for placing the hospital on a permanent basis.

April 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Public Health. Examination of Pathological Products

IN THE LANCET of previous weeks reference has been made to the position of this question. It may be recalled that the examination of certain pathological products had been carried out at the laboratory of the Royal College of Physicians of Edinburgh for the public health authorities. The arrangement covered the examination of swabs from the throat in suspected diphtheria, sputum from cases of suspected tuberculosis, blood from suspected cases of enteric fever, and urine and milk for tubercle bacilli The remuneration was a small charge for each specimen examined, the total sum amounting to about £120 in the course of a year When the Usher Institute of Public Medicine was nearing completion the trustees or committee, under whose guidance the institute was planned, expressed their readiness to undertake the examination of practically all kinds of suspected material brought under the notice of the public health authorities For this purpose certain rooms in the new institute were to be set apart in accordance with the expressed desire of the donor whose name the institute bears. It was indicated also that a medical man, a trained bacteriologist, would be appointed specially for this work and that he would work under the direction of the professor of public health, who is of course, a highly trained and expert bacteriologist and who is called upon to make expert reports on matters affecting the public health in different parts of Scotland The sum suggested as suitable payment was larger than that earned by the laboratory of the Royal College of Physicians of Edinburgh, but the proposals covered a much wider range of investigation When the proposals from the trustees of the Usher Institute came before the Public Health Committee of the Edinburgh Town Council it was decided that until the town council had a laboratory and a bacteriologist of its own the arrangement with the Royal College of Physicians of Edinburgh should be maintained When this decision came up before the town council it was disapproved and upset, the council deciding in favour of transferring the work to the Usher Institute This, as was mentioned at the time, led to much heart-burning, and two meetings of the medical men of Edinburgh were called and votes were passed expressing confidence in the College laboratory and requesting that the examinations should continue to be made there. Those who were at the trouble of getting up those meetings were further at the trouble of organising an exhaustive canvass of the individual members of the profession and of getting the great majority of the local profession to sign a petition against the proposed change. A deputation also appeared before the town council with the same object in view. All this was undertaken in the expectation that the town council might reverse its decision when its own minutes came up for approval and confirmation The last vote was taken on April 9th and the minute transferring the work to the Usher Institute was confirmed by a majority of one, but a number of members absented themselves. The majority of the profession in Edinburgh have thus failed to carry their point. They felt that the town council had acted ungraciously to the College laboratory but now that their generous sentiments have had expression they will doubtless realise the value of the gift which Sir John Usher has made to the University and the city, and as there can be no question as to the efficiency of the arrangements which the University and the trustees of the institute will make it may be hoped that certain feelings which have been aroused will be allowed to subside.

University of Edinburgh · Graduation Day

The spring graduation ceremonial of the University of Edinburgh was held in the M'Ewan Hall on April 11th, when degrees were conferred in arts, science, and divinity As Sir William Muir, Principal of the University, was unable to be present owing to his recent illness, the degrees were conferred by Sir William Turner, K.C.B., senior professor Among the honorary graduates was one medical man, Sir John Batty Tuke, on whom the University conferred the degree of LL.D. A similar honour was conferred on Miss Dorothea Beale, Principal of the Ladies' College, Cheltenham The address to the graduates was delivered by Professor MacGregor of the chair of Natural Philosophy Professor MacGregor made appreciative reference to the late Professor Tait whom he had succeeded in the chair. In the course of his address he pointed out that the four main characteristics of Professor Tait's teaching were 1. His full consciousness of the evils of the system which makes examination the sole test of fitness for a degree. 2. His efforts to counteract these evils by interesting his students in the practical study of his subject and exciting in them the love of investigation for its own sake. 3. His habit of throwing his laboratory students upon their own resources and encouraging them to cultivate originating power 4. His success, notwithstanding the difficulties which the examination system and the lack of funds occasioned, in making his laboratory, by his own efforts and the enthusiasm which he was able to rouse in his students, one of the most productive laboratories in the United Kingdom Professor MacGregor then referred to the Tait Laboratory Endowment Fund as a scheme which presented the most suitable method of commemorating the great services which Professor Tait had rendered to the University, and announced that the fund had been started by an unsolicited and unexpected subscription of £1000 from a donor who did not wish his name to be announced. He felt sure that Professor Tait's old students throughout the world would be eager to raise to his memory so appropriate a memorial.

Bequest for the Chair of Bacteriology in Edinburgh University

By the will, dated Jan 5th, 1891, of the late Robert Irvine, Fellow of the Chemical Society, the testator leaves certain shares in the Christmas Island Phosphate Co., Limited, as a separate trust to be invested by his trustees in their own names until the property accumulates to the value of £25,000 or £30,000, when the trustees are to pay the sum over to the Association for the Better Endowment of the University of Edinburgh, or to such authorities in connexion with the University of Edinburgh as the trustees shall deem expedient, for the purpose of founding a professorship of bacteriology in the said University and the equipment of a class-room and laboratory for the teaching of the same and for conducting original investigation in that subject. The testator suggests that in order to promote the study of bacteriology merely nominal fees should be charged for attendance at lectures and in the laboratories The trustees under this will are Dr German Sims Woodhead, professor of pathology in the University of Cambridge; Dr David Patrick of Edinburgh, Mr David Jardine, manager of G and J Cox, Limited, Edinburgh, Mr Robert M'Vitie, biscuit manufacturer, Edinburgh, Mr William Maxwell, journalist, London, and Mr George Muro Wood, S S C., Edinburgh

St Andrews University Graduation Ceremonial.

The annual graduation ceremonial of St. Andrews University was held on April 2nd in the New Library Hall, Principal

Donaldson, Vice-chancellor of the University, presiding. Among several gentlemen who received the honorary degree of LL.D. was Sir William Turner, K.C.B., professor of anatomy in the University of Edinburgh, and President of the General Medical Council.

University of Aberdeen: Graduation Day.

Graduation day in connexion with Aberdeen University was observed on April 10th, when Lord Strathcona took farewell of the students in his capacity as Lord Rector. In the morning Lord Strathcona was entertained at breakfast by the Students' Representative Council. After the graduation ceremony the venerable Lord Rector was entertained at luncheon in the Students' Union, and in the evening, with Lady Strathcona, he attended a brilliant reception given in the Mitchell Hall by the Principal and the professors of the University. The Lord Rector's Prize in the Faculty of Medicine was awarded to Harry O. Nicholson, M.D. The following awards were also made: Fife Jamieson Memorial Gold Medal in Anatomy, Bertie R. G. Russell, Orkney; Lizars Gold Medal in Anatomy, Catherine E. Anderson, Ceylon; Keith Gold Medal in Surgery, L. D. Cruickshank, Tarves; Shepherd Gold Medal in Surgery, Alex. Callam, Aberdeen; Dr. James Anderson Gold Medal and Prize in Clinical Medicine, R. D. Keith, Turriff; Matthews Duncan Gold Medal in Obstetrics, R. D. Keith, Turriff.

Aberdeen Royal Infirmary.

Lord Mount Stephen has generously offered a capital sum sufficient to yield an annual revenue of £1000 to Aberdeen Royal Infirmary. Lately he gave £25,000 to the same institution to pay the existing debt.

Death of Alexander Macgregor, M.D. Aberd.

The death is announced, at his residence in Queen-street, Berkeley-square, London, of Dr. Alexander Macgregor who was for many years assistant to the professor of medicine in Aberdeen University as well as a prominent private practitioner.

April 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of Dr. Thomas More Madden.

I MUCH regret to announce the death of Dr. More Madden, the well-known gynæcologist and obstetric physician to the Mater Misericordiæ Hospital, which occurred on Monday last at his country residence, Tinode, co. Wicklow.

The Smyth Memorial Fund.

The balance sheet of the Smyth Memorial Fund appeared in the *Irish Times* of April 15th and affords satisfactory reading, the total sum of £7629 being highly creditable to the public spirit and philanthropy of the various districts that concerned themselves in the matter. Dublin as usual heads the list with a contribution of £3600, the commercial wealth of Belfast is represented by £1700, Londonderry generously sent £1500, while from London nearly £800 have come. The Duke of Abercorn and Dr. T. Myles, President of the Royal College of Surgeons in Ireland, are the trustees of the fund and have arranged that the interest on one half of the total sum will be paid to Mrs. Smyth during her life while the interest on the remaining half will be devoted to the maintenance of her children. The deed contains powers to utilise a proportion of the capital for the advancement in life of the children.

Meath Hospital and County Dublin Infirmary.

The annual meeting of the governors of the Meath Hospital and County Dublin Infirmary took place on April 15th, when the 148th annual report of the institution was presented. In proposing that the thanks of the meeting should be accorded to the Dublin County Council and the City of Dublin Corporation for their continued support. Sir John W. Moore alluded to the great danger of a small-pox epidemic to which the citizens were recently exposed and to the necessity for those precautions which had up to the present proved so successful. He mentioned that the late Registrar-General, Dr. Grimshaw, had calculated that the epidemic of that disease in 1872 had cost the inhabitants of Dublin between £20,000 and £30,000.

Ulster Medical Society.

The sixth meeting of the session was held in the Museum, Belfast, on April 10th, the President (Professor W. Whitla) being in the chair. Dr. A. Fullerton showed a Gall-stone of Unusual Structure; Dr. J. B. Darling read notes of a case of Cholecyst-duodenostomy; Dr. W. Donovan read notes of a case of Hodgkin's Disease; Mr Robert Campbell described a case of Colo-colostomy for Stricture of the Colon; and Dr. Darling showed a case of Skin Disease in a man, aged 80 years. In the discussion which followed these communications Dr. W. Calwell, Professor J. W. Byers, Dr. W. B. McQuitty, Mr. W. G. Mackenzie, Dr. H. L. McKisack, and the President took part.

The Education Question.

A committee of the Belfast Chamber of Commerce has been appointed to consider the desirability of having classes of the same standing as those of the Royal College of Science of Dublin established in connexion with Queen's College, Belfast. The best way to accomplish this would be to ask for a part of the annual State endowment, £30,000 per annum, which is paid to the Royal College of Science, a purely local Dublin institution, to be diverted to Belfast for scientific education.

The Royal Horticultural Society.

The Royal Horticultural Society has just presented the Veitch memorial medal to Dr. Augustine Henry, F.L.S., a native of County Derry and a former student of Queen's College, Belfast, in recognition of his great services to botany. Dr. Henry has sent home from China, to Kew and other great botanical institutions on the continent, in America, and in India, an enormous collection of plants. He has, according to Sir Thiselton Dyer, who proposed his health at a dinner given by the London Horticultural Society, given the world the first information concerning the flora of the interior of China, perhaps the richest and most beautiful now known.

The Ulster Medical Institute.

On Saturday afternoon last, in the presence of a large number of members of the medical profession, Dr. P. Redfern, late emeritus professor of anatomy and physiology in Queen's College, laid the foundation-stone of the new Ulster Medical Institute which Professor W. Whitla, the present president of the Ulster Medical Society, has in the most generous way signified his intention of erecting and equipping. The building, which will be in College-square North, Belfast, will be fitted up in the most complete manner with all necessary requisites. It will be entered by an outer porch and an inner porch leading to a large recreation hall which is divided from the library by a stone arcade filled in with glazed folding doors. These rooms cover the front portion of the ground floor, at the back of which are the staircase and private consulting-rooms with the usual accessories. The first floor is entirely occupied by the great lecture hall, above which on the top floor are a billiard-room, the librarian's quarters, a kitchen, drawing-rooms, &c. The front of the building, facing College-square North, is designed in perpendicular gothic work and presents a frontage of 45 feet to the street by about 46 feet high to the top of the parapet, with a gable in the centre, and contains many architectural features boldly and effectively treated. Every arrangement has been adopted to make the institution as perfect as possible in all its internal details. Frequent reference was made by the various speakers to the very great munificence and generosity of Professor Whitla, who by his gift of this institute, which will cost between £5000 and £6000, has done so much to provide a long-wished-for building which will be the exclusive property of the Ulster Medical Society in Belfast and the North of Ireland.

April 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Statistics of 100 Cases of Abortion.

AT the meeting of the Obstetrical Society which was held on March 20th Dr. Blondel read a paper embodying the results of 100 cases of abortion which had occurred in his private practice during a period of 12 years. Of all these cases not one had proved fatal, a fact which Dr. Blondel explained by saying that in private practice the medical attendant is called in by his patient at a much earlier date than that at which a hospital patient applies to the hospital Some of the cases, however, were very grave and showed signs of a general infection with commencing peritonitis. The number of grave cases was 30 in all; in six of these there was profuse hæmorrhage, in 19 the uterine adnexa were affected by inflammation, in five there was diffuse suppuration which was relieved in four cases by an opening being made through the vagina and in one case by spontaneous evacuation into the rectum. In three cases chronic salpingo-ovaritis occurred and two of these were treated without operation while one was treated by an abdominal salpingectomy. The treatment consisted in a thorough curetting first with the finger and afterwards with a curette; in swabbing out the uterus with glycerine of creasote of a strength of one in three; and in injections of tincture of iodine and in a gauze drain, the gauze being dipped in glycerine of ichthyol of a strength of one in 10 This drain was renewed every two days and when it was changed the uterus was well flushed out by means of Dr. Blondel's sound, a solution of corrosive sublimate being employed No untoward results were noted. From the clinical point of view those 100 cases of abortion were divided into eight at the third month and 92 at a later date. At the fourth month there were 59, at the fifth month 28, and at the sixth month two. The greatest number occurred between the thirteenth week and the seventeenth week. On eight occasions when Dr Blondel arrived he found abortion threatening or just begun, on 80 occasions the fœtus was already expelled, on 60 occasions the placenta was expelled as well, and on 20 occasions it was altogether, or almost completely, still within the uterus As regards the etiology among the 100 cases, eight were obviously due to syphilis and five were probably so, one was due to a carriage accident, one to malaria, and one to tuberculosis, 52 were confessedly purposely procured, and 26 had probably been so as septic infection was present. One case was due to an error in diagnosis. The 52 cases of purposely procured abortion were divided up as follows according to the statements of the patients which, however, it must be remembered, are by no means trustworthy. On 22 occasions the operator was a midwife, on two occasions a medical student, on one occasion a medical man, on one occasion a pharmacist or a pupil in pharmacy, on six occasions a "lady friend," and on one occasion the husband of the patient 19 of the patients said that they had operated on themselves in five instances by taking medicine (!) and in 14 instances by manipulation, nine times by injections of soap, three times by violent exercises, once with a knitting needle, and once with a bone knitting pin. As regarded the midwives, the patients made the following statements In three instances the name and address of the midwife had been obtained from an advertisement in a newspaper. Two midwives continued to visit the patient unknown to the medical attendant in the intervals between his visits. On 15 occasions the midwife used a steel sound and on 10 occasions a gum elastic catheter and an injection. This last method was extremely painful and on two occasions brought on an attack of syncope. In no case, even when there was no doubt that instrumental interference had been employed, did Dr. Blondel detect any wound or abrasion of the cervix enough to swear to as evidence of criminal procedure. Abortion came on generally within eight days after the operation. Two patients made two visits to two different midwives, the first having done nothing but swindle the patient. Dr. Blondel mentioned one case that he knew of in which a woman whose menses had not appeared paid a large sum of money to a woman to procure abortion for her The woman went through various complicated procedures but the patient was not pregnant at all. Dr. Blondel concluded by saying that in every case where he suspected that criminal intervention had taken place he was accustomed to disinfect the uterus thoroughly, even though no sign of sepsis was present. An unnecessary cleansing, if properly performed, did no harm even if it did no good, but if the cleansing process were put off till late the time quickly arrived when no operative measures could ward off septicæmia.

Prophylactic Injections of Anti diphtheritic Serum.

M. Netter, M. Bourges, and M Bergeron have recently made some important researches into the prophylaxis of diphtheria by injections of anti-diphtheritic serum. M Sevestre, to whom was assigned the duty of inquiring into the investigation on behalf of the Academy of Medicine, made his report at the meeting of March 18th. He agreed with the above-named three observers in being favourable to the use of the injections. He considered them to be efficacious and from the facts before him he drew the following conclusions. Preventive injections of serum have a manifest action—they immunise children exposed to the infection of diphtheria. They have up to the present never given rise to any serious consequences. At the most they produce in a certain number of cases a fleeting eruption and very rarely pains in the joints. Unfortunately, the period of immunity does not last long, only for three or four weeks at the most. In those rare cases where, despite the use of the injection, diphtheria has been contracted the attack has been very light. These injections are specially called for in families where a case of diphtheria has developed for the protection of the remainder of the family, although if the children can be kept away from the affected person and can be under the surveillance of a medical man near at hand the injections may be dispensed with in their case. Preventive injections are equally called for in circumstances where children are massed together, such as in schools or hospital wards where a case of diphtheria has occurred. Even where there is no diphtheria these injections are useful in cases of scarlet fever or measles. In the latter disease the prophylactic action of the serum seems uncertain and the injections ought to be given in increased strength and at shorter intervals than in other diseases. The injections do not do away with the necessity for other preventive measures, such as disinfection and isolation, but by their use the carrying-out of the ordinary measures is rendered easier and of more effect. The Society of Pediatrics had in 1901 passed a resolution advising the use of prophylactic injections of anti-diphtheritic serum in cases where children were massed together or were not under skilled surveillance.

Radica and Doodica.

Dr Doyen read an interesting paper before the Academy of Medicine at the meeting of April 8th upon the case of Radica and Doodica. He pointed out that it was an error to describe a xiphopagous monster as being joined by a membrane. In the case under consideration there was no supplementary tissue and that which was improperly called the membrane of union was nothing but a false pedicle produced by the dragging upon the normal tissues, the length of the pedicle increasing with the age of the monster. The formation of such monsters is explained by the simultaneous double fertilisation of one ovule; two embryos are formed side by side which are always of the same sex The two portions of the monster possess a certain individuality although their circulation is in common, a fact which is demonstrated by the use of methylene blue, an interchange of blood takes place very quickly All the time that Doodica suffered from a high temperature the temperature of Radica was also raised but only slightly. It appeared also by the great degree of feebleness exhibited by Radica, after separation, although she remained well in other respects, that she received a fair amount of arterial blood from her sister. Doodica, on the other hand, appeared to become immediately more resistant, as if she had received mainly venous blood before separation Despite the width of the uniting band there was but little blood lost during the operation The death of Doodica was solely due to the tuberculous peritonitis from which she was suffering Radica was now quite well but the lateral curvature with which she was affected, due to walking in the constrained position which the junction with Doodica necessitated, greatly impaired her powers of walking alone.

April 16th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Osteomalacia

AN interesting case of osteomalacia has been published by Dr. Holländer in the *Deutsche Medicinische Wochenschrift.* The patient was a woman, 36 years of age, who had for 10 years been suffering from what was supposed to be a rheumatic affection in the extremities and the chest, and finally she had become unable to walk. She said that during the last six or seven years her height had decreased by about 20 centimetres (eight inches) and on examination it was found that her lower ribs were in fact very near the iliac spines and that her vertebral column had sunk downwards and forwards. This had the effect of causing her arms to appear lengthened, her fingers reaching nearly to her knees. She walked in a very characteristic way: she fixed her knee-joints and by turning her body alternately to the left and to the right side she moved each leg slowly forward. At last she was not able to move even her legs but standing on her heels she made movements of rotation round her longitudinal axis. The suspicion that the case was one of osteomalacia was confirmed by means of the Roentgen rays, the radiograms showing that the rays passed easily through the decalcified bones. Internal treatment and orthopædic measures proved useless and Dr. Holländer then tried removal of the ovaries, a method employed successfully in two instances by Professor Hofmeier of Würzburg and Dr. Truzzi of Milan. The result was that on the third day the patient declared that she was able to breathe more freely than before and that she felt less impeded in her movements. In a fortnight she made her first attempt to walk and a month later she no longer required to use a walking-stick. At the present time, six months after operation, she is able to walk several kilometres (a kilometre is about five-eighths of an English mile)

The First-Aid and Accident Service.

Delegates from the larger towns representing the medical profession and the Government met recently in Berlin at the offices of the Government Medical Department which is attached to the Cultus-Ministerium, the object being to discuss questions connected with the first-aid and accident service. There has not hitherto been any uniform system of working adopted in this important organisation, as the municipal authorities have done but little in the matter. In some towns the employers' associations under the law relative to workmen's insurance against accidents have organised an accident service without the coöperation and to the prejudice of the medical profession. In Berlin the medical profession, together with some rich philanthropists, have also founded a special society for this purpose, so that there are two associations for first-aid the adherents of which often take opposite sides both in newspaper correspondence and at public meetings. Similar difficulties exist in some other places and the Government therefore convened the above-mentioned meeting for the purpose of settling the principles on which the first-aid service should be conducted with due regard to the interests both of the public and of the medical profession. The meeting after a long discussion adopted the following general principles. First-aid associations shall not continue to attend injured persons after first-aid has been rendered. It shall be the duty of the local medical association to organise the first-aid service. As a rule, first-aid is to be rendered in the accident wards of the public hospitals; when special premises other than the hospitals exist for the giving of first-aid such premises must be used for that purpose exclusively and not for the subsequent treatment of patients or for other cases. First-aid shall be given not by specially appointed surgeons but by any member of the medical profession who is willing to undertake such work. A central committee to act under the general supervision of the Government was then formed and Professor von Bergman was elected chairman. The committee will control the organisation of the accident service according to the above principles.

The Sick Clubs.

The Prussian statistical office reports that there exist under the Workmen's Insurance Act 9916 sick clubs with 4,337,714 members, of whom 844,217 are females, so that 137 per 1000 of the population belong to these clubs. On an average each member has to pay 16 marks 91 pfennigs (16*s.* 8*d.*) per annum, and the average expenses for each member are 15 marks 99 pfennigs (15*s.* 7*d.*), of which 98 pfennigs are for general expenses, 6 marks 46 pfennigs for maintenance during illness, 3 marks 24 pfennigs for medical aid, 2 marks 72 pfennigs for medicine, 1 mark 78 pfennigs for hospital expenses, and 80 pfennigs for other expenses.

Treatment of Foot-and-Mouth Disease in Cattle.

Professor Guido Baccelli of Rome, the well-known physician and at the present time the Italian Minister of Agriculture, not long ago recommended intravenous injections of corrosive sublimate as a certain cure for foot-and-mouth disease in cattle. The announcement attracted much attention and aroused great expectations, for this disease not only inflicts serious losses on agriculturists but it is sometimes communicated to the human subject. Professor Löffler of Greifswald and Dr. Uhlenhuth were therefore directed by the Prussian Government to make a fresh series of experiments on the effects of the treatment and their report is now published in the *Deutsche Medicinische Wochenschrift*, but it is unfortunately not at all favourable. In their experience injections of corrosive sublimate were useless as a prophylactic. Small doses of the drug neither shortened the fever nor reduced the local symptoms; when the dose was increased the symptoms were aggravated and the animals became emaciated. It could not be determined whether or not the injections diminished the mortality, for in Germany the disease is seldom fatal, but the investigations showed that the effect of corrosive sublimate was neither prophylactic nor curative.

Treatment of Inoperable Angioma.

Dr. Honsell of the Tübingen surgical clinic, writing to the *Beiträge zur Klinischen Chirurgie*, states that subcutaneous injections of alcohol have been found beneficial in the treatment of inoperable angioma. He describes a case in which a large and progressive angioma occupied the left side of the neck, the parotid region, and the cheek. Daily injections of from one to three cubic centimetres of an alcoholic solution were made round the growth at a distance of one centimetre from it, the alcoholic strength of the solution being at first 50 per cent. and afterwards 70 per cent. and the area inclosed by the injections being gradually reduced. The injections produced infiltration and cicatrisation of the perivascular interstitial tissue, resulting in contraction and obliteration of the enlarged blood-vessels.

April 14th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Blackmailing Physicians in Toronto.

A MAN who recently tried to work a scheme on two well-known physicians of Toronto, charging them with improper conduct towards his wife, was brought for trial in the police-court. After putting up a lame defence for a few days he finally pleaded guilty to the charge. The court has sentenced him to one year and 164 days' imprisonment.

Canadian Medical Association.

The next annual meeting of the above association will be held this year in Montreal on Sept. 16th, 17th, and 18th, under the presidency of Dr. Francis J. Shepherd of that city. Professor Osler will deliver the address in medicine and Dr. John Stewart of Halifax, Nova Scotia, the address in surgery. Arrangements are already well in hand for a very successful meeting. Dr. George Elliott of Toronto is the general secretary.

Death of a Prominent Nova Scotian Physician.

By the death from appendicitis after but three days' illness of Dr. W. S. Muir of Truro, Nova Scotia, Canada has lost one of her ablest and most respected general practitioners. Dr. Muir was particularly prominent in the work of medical societies. He was the secretary of the Nova Scotia Medical Society from 1887 to the time of his death; in 1901 he was president of the Maritime Medical Association; and he has frequently been in office in the Canadian Medical Association. In fact, for years Dr. Muir did much of the executive committee work at the annual meetings of the last-named organisation. He was 49 years of age and graduated from the Halifax Medical School and Dalhousie University in 1874. He also took the L.R.C.P. & S. Edin. in 1877.

McGill University.

Two years ago the corporation of McGill University established a six-years' course for students in arts who desired to continue on in the study of medicine, certain of the primary medical studies being taken up by the arts students in the third and fourth years. Lately, the corporation has extended these privileges to students in the faculty of applied science. By this new arrangement students in that faculty may, if they so elect, obtain the degree of B.Sc. after four years and then continue on and secure the degree of M.D., C.M. at the end of the sixth year. In their third year they will attend lectures, in addition to the regular studies, in anatomy, physics, and histology; in the fourth year in anatomy, physiology, histology, pharmacology, and medical chemistry, and the two last years will be devoted to medical studies alone. The university has lately appointed a representative in London, England, Mr J Stuart Horner, and it is understood that an entrance examination in the faculty of applied science will be held in the metropolis on June 6th next.

Dr Roddick's Bill for a Dominion Medical Council

The Special Parliamentary Committee appointed by the House of Commons has reported favourably upon the passage of this measure, and if the Premier, Sir Wilfrid Laurier, does not, as intimated at the second reading of the Bill, oppose it any further, it will soon become an accomplished fact. In connexion with the refusal of the British medical authorities to recognise the diplomas and degrees held by Canadian surgeons now in South Africa, Dr J A. Kennedy of Nkandhla writes to a Montreal lay paper protesting against the non acceptance of these degrees in that country The letter is opportune and is of especial interest at the present time to Canadian university graduates, as Dr Roddick's Bill will seek to remedy this state of affairs. It certainly seems anomalous that while Canadians are accepted for service in South Africa their surgeons cannot attend to other than Canadian soldiers.

A Six Years Arts and Medical Course at Toronto University

Recently the Senate of Toronto University passed a statute by the terms of which it will be possible for any student, if he so desire, to secure the degree of B.A. at the end of the fourth year and then to proceed with the study of medicine and to secure the degree of M B at the end of the sixth year Anatomy and physiology with histology will be introduced into the arts course in the third and fourth years and medical studies proper will constitute the full curriculum in the fifth and six years It is a good sign when the two leading universities thus raise the standard in medical education

Immigrants Menacing the Health of Montreal

In September last the United States Immigration Department at Washington commissioned a court of special inquiry for the purpose of a medical inspection of immigrants arriving at Montreal and other Canadian ports of entry who were destined for points in the United States. The chief immigration inspector has recently made the statement that fully 98 per cent. of these immigrants are the subjects of favus and trachoma and, therefore, being undesirable immigrants they have been refused admission into the neighbouring Republic At the rate of from 40 to 50 per week they have been dumped into the city of Montreal since September last, and now Montreal is becoming alarmed and the attention of the Dominion authorities is being called to the matter and it is altogether likely that the Government will be compelled to take similar steps to those adopted by the United States Department of Immigration in order to protect the Canadian community from the introduction and spread of these two diseases the products of dirt and filth

April 3rd

NEW YORK.

(FROM OUR OWN CORRESPONDENT)

Waste of Food in the United States

PROFESSOR W O ATWATER, who has gained a considerable amount of fame, not to say notoriety, in the United States on account of his views as to the effects of alcohol on the human system and who is an acknowledged authority on the question of nutrition has recently published for the United States Department of Agriculture a bulletin on the subject. Writing on the waste of food he says "The use of excessive quantities of food which is a common dietary error in this country among not only the well to-do but also those in moderate circumstances entails a waste of food in three ways" After explaining the three ways in which food is wasted he goes on to say 'Just where and among what classes of people the waste of food is greatest it is not possible to say, but there is certainly a great deal more of it in this country than in Europe. The worst sufferers from it are doubtless the poor but the large body of people of moderate means the intelligent and fairly well to-do wage-earners, are guilty of errors in this regard The common remark that 'the average American family wastes as much food as a French family would live upon' is greatly exaggerated, but statistics show that there is considerable truth in it. In dietary studies conducted in a students' club in an eastern college it was found that 10 to 14 per cent. of the nutritive materials purchased were thrown away as kitchen or table waste and yet the club members were trying to live as economically as was consistent with comfort. In private families the waste has been found to range from practically none to as high as 8 or 10 per cent , while in boarding houses, even where economy was sought, it has reached 10 and in individual instances 20, per cent , and in some public institutions where large numbers were fed it has been as high as 25 per cent. and even higher " England has always been regarded as a country in which waste of food was excessive. There can be no doubt, however, that the Americans are greater sinners in this respect, probably on account of the greater wage-earning capacity of the workers and the ignorance of the majority of the foreign immigrants In both countries the waste occurs principally among the lower, middle and working classes. A pamphlet dealing with the matter and embodying the facts published by Professor Atwater should prove an educating influence with these people and might be as useful in England as in America.

The Pennsylvania Society for the Prevention of Tuberculosis

This society has just completed its tenth year of existence and was the first of the kind to be organised in the United States—in fact, only one other society with the same object in view had been founded previously to the American "La Ligue contre la Tuberculose en France,' which was initiated in Bordeaux in 1896 The Pennsylvania Society has had a useful and successful career and has been able to exert a strong influence not only in the city and State in which it had it origin, but by its example and by means of its publications it has led to the establishment of similar societies elsewhere in the United States Perhaps the most valuable work done by the society has been the publication of a series of tracts for gratuitous distribution bearing on tuberculosis generally and especially intended to educate the community at large as to the most effective measures to be taken to avoid the contraction of consumption and to prevent its spread. 30 000 of these tracts were reprinted in 1891, in addition to the publication of a new one. The society in the spring of 1901 renewed its efforts to cause tuberculosis to be included among the diseases returnable to the Bureau of Health The subject was brought before the Philadelphia County Medical Society and was unanimously endorsed. The Bureau of Health was convinced by the solicitor of the society that it had the power to enforce registration of tuberculosis without a special Act of Legislature, and decided to include tuberculosis in the list of returnable diseases This action was approved by the Director of Public Safety but was disapproved by the mayor and consequently fell through. A similar fate met the efforts of the society to abate the spitting nuisance in public places.

Should a Physician be a Cultured Man?

The question as to whether a medical man needs polish and culture has on several occasions been made the subject of animated and at times somewhat acidulated discussion in the United States. Recently the matter has been brought up again and made the text for an article in the March number of the *Columbia Literary Monthly*, the principal undergraduate paper of the New York Columbia University The editorial article referred to takes the stand that only students having the Bachelor of Arts degree should be permitted to enter the Columbia College of Physicians and Surgeons on the ground that such a step would exclude the uncultured and uncouth. Harvard and Johns Hopkins make the possession of a degree in arts a *sine quâ non* of proceeding to the study of medicine. The article in the *Columbia Literary Monthly* ends as follows "Leaving aside, however the question of fitness to do work and turning to the wider sphere of the physician's effort it must be admitted, to state the case mildly, that culture and refinement are desirable in a doctor and it must further be admitted that the greater part of the students at our medical school are not only uncultured but often even uncouth thus being fundamentally unfit to become the highest type of their profession. A degree as the entrance requirement would go far to remedy this state Unfortunately, many worthy men would thus be barred out, but the good resulting from such an injustice would far outweigh the injustice itself and the benefit to the institution would be very great, although its number of students might be thereby diminished." It is said that the opinions so outspokenly expressed in the foregoing paragraph are shared by some of the University authorities and that they have recently considered the advisability of making the possession of the Bachelor of Arts degree an essential requirement for entrance to the University Medical School.

April 7th.

Obituary.

ALEXANDER MACGREGOR, M.D. ABERD., M.R.C.P. LOND.

WE regret to have to record the sudden death of Dr. Alexander Macgregor, which took place on April 12th at his residence, Queen-street, Berkeley-square. Dr. Macgregor was born in Invergordon 48 years ago, and was educated at a private academy and at Aberdeen University where he graduated as M.B., C.M. with highest honours in 1878. After a short period of study at Vienna and Berlin Dr. Macgregor returned to Aberdeen and started in practice, being at the same time demonstrator of anatomy to the late Sir John Struthers, then Professor of Anatomy in Aberdeen University. Later he became assistant to the Professor of Medical Jurisprudence and was also appointed to the medical staff of the Aberdeen Hospital for Sick Children and physician to the Aberdeen Dispensary. Then he was appointed assistant to the Professor of Medicine in the university and by the year 1895—the year when he decided to commence practice in London—he enjoyed one of the largest private practices in Aberdeen, his opinion being much sought in the north-east of Scotland. We have a special reason to regret Dr. Macgregor's early death, inasmuch as he was for many years our Special Correspondent in Aberdeen and on several occasions when a minute knowledge of Scottish affairs was required for the proper understanding of some educational or social problem we always found in him a wise counsellor. For Dr. Macgregor did not confine his interests to medical work but was well posted in all affairs connected with the development and student life of Aberdeen University; for example, he was one of the promoters of the Volunteer Medical Staff Corps of which he was a captain for a long period. When seven years ago he retired from his Aberdeen practice he took the Membership of the Royal College of Physicians of London and was elected physician to the North-West London Hospital for Diseases of the Chest. An able, kind, and genial man, his sudden death from angina pectoris while in the prime of life has caused a shock to a large circle of friends and patients. He is survived by a widow, with whom sympathy will be particularly felt as their child, a daughter, is only a few weeks old.

Medical News.

UNIVERSITY OF ABERDEEN.—The following degrees and diploma have been conferred:—

Honorary Degree of Doctor of Laws (LL.D.).—Sir Thomas Barlow, Bart., K.C.V.O., M.D., physician to His Majesty's Household

Degree of Doctor of Science (D.Sc.).—James Moir, M.A., B.Sc., Aberdeen.

Degree of Bachelor of Science (B.Sc.).—Peter Fraser, Lentran, Inverness; Henry William Malcolm, Aberdeen; and William Henry Wishart, M.A., Aberdeen.

Degree of Doctor of Medicine (M.D.).—Archibald Campbell Barron, M.B., C.M., Dailly, Ayrshire; †Robert Sinclair Black, M.A., M.B., C.M., Robben Island, Cape of Good Hope; †Henry Fraser, M.B., Ch.B., Aberdeen (under the New Regulations); *Frederick Theobald Keyt, M.B., C.M., British Honduras; Alexander Gordon Milne, M.B., C.M., Rodley, near Leeds; John William Myers, M.B., C.M., Shipley; James Farquhar Philip, M.B., C.M., West Ealing, London.

* Thesis considered worthy of "Honours."

† Thesis considered worthy of "Commendation."

Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.).—*With First-class Honours*: Lewis Davie Cruickshank, Tarves, Aberdeenshire. *With Second-class Honours*: Robert Donald Keith, M.A., Kinnermit, Turriff, and Alexander Christie Reid, M.A., Ellon. *Ordinary Degrees*: Louis Coetzee, Kafferskraal, Steynsburg, Cape Colony; James Bremner Elder, Keith, Banffshire; Harry Willmott Elwell, Combe St. Nicholas, Chard, Somerset; George Bruce Killoh, Ardmurdo, Inverurie; Jeannie Charlotte Macleod, Aberdeen; Archibald Mahomed, London; James Burnett Rae, Aberdeen; Alexander Robertson, Elgin; Robert Boyd Robson, Edinburgh; John Stuart Rose, Culfoichmore, Grantown-on-Spey; Thomas Stewart Slessor, M.A., Aberdeen; James Souter, M.A., Aberdeen; and Alexander Watt, Ardwell, Cabrach, Aberdeenshire.

Diploma in Public Health.—William Fraser Bisset, M.B., Ch.B. (Aberd.), Aberdeen; Frederick Theobald Keyt, M.B., C.M. (Aberd.), British Honduras; and Ernest Hunt Nash, M.B., Ch.B. (Aberd.), Stafford (with credit).

UNIVERSITY OF BIRMINGHAM.—At the recent second examination for the degree of M.B., Ch.B., the following candidates were successful:—

Fred Thomas Hollway Davies, Fred Newton Walsh, and Herbert Henry Warren.

THE *Journal of Gas Lighting, Water-supply, and Sanitary Improvement* of April 8th says: "Among the forthcoming 'events' announced by the Crystal Palace Company is a Lighting, Heating, and Smoke Abatement Exhibition. The date fixed for the opening is Dec. 13th."

CENTRAL LONDON SICK ASYLUM DISTRICT.—The managers of the Central Sick Asylums, Cleveland-street and Hendon, at their meeting on April 7th decided to establish a department for the x-ray treatment of lupus. With the permission of the Local Government Board 25 cases can be sent to Hendon at a certain charge.

NEW PUBLIC BATHS AT FULHAM.—On April 10th the public baths and washhouses which have been erected at Walham-green by the Fulham Borough Council at a cost of over £62,000 were declared open by Mr. John McDougall. The building contains three swimming-baths, 84 private baths, and washhouse stalls for 66 washers.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—The members of the ladies' class of the Exmouth branch of the St. John Ambulance Association on April 5th presented Mr. J. Willoughby Hodgson, M.D., C.M. Aberd., M.R.C.S. Eng., with a revolving chair in appreciation of his services as honorary lecturer.—On April 8th the members of the ladies' class of the St. John Ambulance Association at St. Colomb, Cornwall, presented Mr. J. C. Mackay, M.D. St. And., L.R.C.P. & S. Edin., with a gold-mounted umbrella, engraved with a suitable inscription, and a fountain pen, as a mark of appreciation for his services as honorary instructor.—Mr. Duncan MacDonald, M.B., M.S. Glasg., late medical officer of Torosay, Mull, at a recent meeting at Salen received a purse of 102 sovereigns and an illuminated address in token of high esteem and as an expression of goodwill on the occasion of his leaving the district.

THE ROYAL INSTITUTION.—Problems of the Atmosphere formed the subject of the Friday evening discourse delivered at the Royal Institution by Professor James Dewar on April 11th. In reference to the question of atmospheric hydrogen, which was discussed at some length, he said that the atmosphere probably contained free hydrogen emitted from volcanoes or disengaged from water by the action of metals, but the proportion of it could hardly exceed 1 part in 40,000 or 50,000. Gautier, however, had found one part of hydrogen in 5000 parts of air, the true explanation of which probably was that as he used a long metallic tube for bringing air from outside into his laboratory metallic particles from this tube were carried into the chemicals used for drying the air. In his experiments Professor Dewar had used a liquefying apparatus which liquefied all the recognised atmospheric gases except helion. It was also not it capable of liquefying hydrogen and in this way it served to detect minute known quantities of hydrogen purposely added to the air under examination. The incondensable residue separated by this apparatus never exceeded 1 part in 35,000 or 40,000 parts of normal air. For the study of the constitution of the atmosphere it would be very helpful if samples of air could be taken at a height of about 20 miles, for theoretical considerations pointed to important differences in the proportions of its constituents at great elevations—namely, that there would be no carbonic acid above 18 miles, no oxygen above 37 miles, and no nitrogen above 62 miles. With regard to the inter-planetary space, one school held that it had no temperature (i.e., that it was at − 273°C.) and consequently contained no gas, while another school held that it had a temperature of – 140°C In conclusion the experiment of the distillation of ice at a very low temperature was shown.

BOLINGBROKE HOSPITAL.—The report of this institution for the year 1901 states that the amount of the annual subscriptions is smaller than that received in 1900 and, although the donations are larger, increased subscriptions are greatly needed. Through the opening of the new out-patient department, which is now fully equipped, a great boon has been given to the patients who attend for treatment. The cost of the new building was £5545 and of this amount the sum of £4200 has been paid, leaving a debt of £1345 Towards the debt the governors have in hand £728. This institution offers to such persons as are able to pay, wholly or partially, the advantages of hospital treatment and nursing with, as far as possible, the comfort and privacy of a home. Patients may be attended by their own medical advisers Out patients are referred to medical practitioners in the neighbourhood before hospital treatment is given. The report contains an address reprinted from THE LANCET of Dec 14th, 1901, p 1654, on a Model Hospital, which was delivered at the opening of the new Victoria wing for out patients on Dec. 11th, 1901, by Mr Thomas Bryant.

DONATIONS AND BEQUESTS TO HOSPITALS—Mrs Disney Thorp of Cheltenham has bequeathed £5000 to Cheltenham General Hospital and £1000 to the Leeds Infirmary —Mr Frederick Sigismund Schwann of Wimbledon has by his will bequeathed £100 to University College Hospital.—Mr Frederick Flood of Denfield, Dorking, has by his will bequeathed £3000 on deposit with Messrs. Thomas Wood and Co., of the Old Bank, Dorking, in trust for the Dorking Cottage Hospital and other charities.—By the will of Mrs Sarah Leetham, of South Kensington, the sum of £100 is left to the East Sussex Hospital Hastings, and to the Hospital for Sick Children, Hull.—The Royal Free Hospital has received a donation of £100 from the Clothworkers' Company, which has also voted a donation of £50 to the City Orthopædic Hospital.—Lord Eldon has given £50 and Mrs. Elizabeth Campbell £50 to the funds of the City Orthopædic Hospital.—Under the will of Miss Margaret Ann Lachlan of Kensington gardens the Royal Home for Incurables, Streatham, receives £500, the Surgical Aid Society £200, and the Royal London Ophthalmic Hospital £100

CHILDHOOD SOCIETY—At the annual meeting of the Childhood Society for the Scientific Study of the Mental and Physical Condition of Children, held on March 19th, Earl Egerton of Tatton was re-elected president and Mr R. B Martin, M.P, was re-elected treasurer The council's report for 1901 gives the full text of a memorial submitted by the president to the Duke of Devonshire, President of the Committee of the Privy Council on Education This memorial embodies several 'conclusions," of which the principal are as follows (1) of the school-children observed about 1 per cent. are either physically or mentally deficient to a marked extent, (2) special separate classes for such defective children should be formed in the area of every educational authority in the interest of the children themselves, of others, and of the country at large, (3) instruction in the peculiarities of, and special training for, such children should be given to all the teachers, and (4) the method of education should be such as would lead to the elimination of a tendency to mental defects, especially those of a nervous origin, as otherwise the school life may tend rather to the accentuation of such defects. The memorial goes on to recommend (1) that a scientific commission of inquiry should be appointed by the Government for the purpose of determining the conditions of portions of the school population as to their mental and their physical power and of ascertaining the numbers of such as are of imperfect development together with the possible causes of such defects, (2) that the Act of 1899 Elementary Education (Defective and Epileptic Children) should be made compulsory, and (3) that scientific experts should be appointed to assist the Board of Education with regard to the means to be adopted for the education of children requiring special care. The first volume of the Transactions of the society is being issued this year, it contains a portrait and memoir of the late Sir Douglas Galton together with a variety of papers on subjects connected with the work of the society It may be obtained at the Parkes Museum, Margaret street, London, W

Parliamentary Intelligence.

HOUSE OF COMMONS

THURSDAY, APRIL 10TH

The Small-pox Hospital Ships in the Thames

Colonel TUFNELL asked the President of the Local Government Board if his attention had been drawn to the resolution unanimously passed by the Essex County Council against the use of the hospital ships for small pox cases and urging (if they must be retained) that they should be used only for convalescent cases, and what steps he proposed to take in the matter —Mr GRANT LAWSON on behalf of Mr LONG replied: I understand that the Essex County Council has passed a resolution on this subject. The number of small pox cases under treatment is still very large, and as I stated in reply to a question by my hon and gallant friend in January last, I do not propose to interfere with the discretion of the managers of the Metropolitan Asylums District as to the use of the hospital ships. The managers are endeavouring to provide adequate hospital accommodation on the land but I cannot at present say that it will be found practicable to restrict the use of the ships to convalescent cases only

FRIDAY, APRIL 11TH.

Medical Examination of Yeomanry Recruits

Sir ELLIOTT LEES asked the Secretary of State for War whether his attention had been directed to a new attestation form (Army Form E. 695) for yeomanry recruits issued to home yeomanry regiments in which a certificate of medical examination was required in the form set out; whether the only persons allowed by the War Office medically to examine recruits for the home yeomanry were all medical officers and civil practitioners authorised to examine recruits and medical officers of regiments of Imperial Yeomanry in Great Britain; whether it had been brought to his notice that in agricultural counties this regulation either entailed on recruits living remote from an authorised medical examiner loss of time and expense in travelling or similar loss to medical officers of yeomanry regiments who were civil practitioners and whether with the view of preventing detriment to recruiting he would sanction the medical examination of recruits for the Imperial Yeomanry in Great Britain by any resident civil practitioner at places where an officer qualified under the regulation mentioned was not available or would he consider the advisability of compensating the recruits and yeomanry medical officers for their losses and expenses.—Lord STANLEY, for Mr BRODRICK replied: It rests with the general officer commanding and the principal medical officer in each command to make the necessary arrangements for the examination of yeomanry recruits To meet the special circumstances of the yeomanry extra civil medical practitioners can be appointed when necessary the expenses being recovered under the conditions of paragraph 483 of the Militia Regulations

MONDAY, APRIL 14TH.

Typhoid Inoculation Among the Troops

Captain NORTON asked the Secretary of State for War if he could state whether the report on the results of anti typhoid inoculation had been received, and if so would he say whether it showed a diminution in mortality in inoculated persons attacked by the disease as compared with those uninoculated, whether it showed a diminished evidence of the disease in inoculated persons and whether the full report would now be laid upon the table.—Lord STANLEY for Mr BRODRICK, replied: The report has been received It deals with only 4138 cases and the aggregate results show a mortality of 8·2 per cent. in inoculated persons as against 15·1 per cent. in uninoculated persons The report however does not appear sufficiently conclusive in itself and it seems expedient to obtain further statistics from the admission and discharge books before publishing it.

Medical Certificates for the Post Office Service.

Mr JAMES O'CONNOR asked the Secretary to the Treasury, as representing the Postmaster-General if he would explain why suboffice rural postmen who were not allowed free medical attendance were compelled to furnish the department with a weekly medical certificate when they were on the sick list at their own cost and whether the department would dispense with weekly certificates in cases where the men's illness was known to be of several weeks duration; also whether the department would see its way to refund to the men the cost of these certificates.—Mr AUSTEN CHAMBERLAIN replied: All servants of the department are required to furnish weekly certificates when absent through illness and at places where there is no medical officer attached to the Post Office the certificate must be obtained from the patient's own medical adviser The Postmaster-General is not prepared to alter the rule which requires medical certificates to be furnished nor can he undertake to refund the cost of them to those officers who are obliged to obtain them at their own expense.

Deaths from Plague in the Punjab

Mr CAINE asked the Secretary of State for India whether he could state how many deaths from plague had occurred daily in the Punjab; and whether the recommendations of the Plague Commission with regard to securing the coöperation of the people in administering plague measures which were followed in the Bombay Presidency were being adopted in the Punjab.—Lord GEORGE HAMILTON replied: I receive no daily returns of plague deaths. The telegraphic reports are for periods of four weeks and these are subsequently supplemented by certain weekly returns and details The number of deaths from plague in the Punjab since the autumn of 1901 have I regret to say greatly increased and are as follows—viz.: for the four weeks ending Jan 18th 1902 9438; for the four weeks ending Feb 15th 1902, 16 784; and for the four weeks ending March 15th, 1902, 42,788. No later reports have yet been received Regulations enjoining measures based on the recommendations of the Plague Commission and designed to avoid coercion and to attract the cooperation of the people as much as possible have been adopted and a specially qualified medical officer has been deputed to supervise the preventive arrangements

The Budget.

The CHANCELLOR of the EXCHEQUER presented his annual Budget at this sitting. On the basis of existing taxation it showed a deficit of £45,500,000. To meet this deficit the Chancellor of the Exchequer proposed to suspend the sinking fund, thus accounting for £4,500,000; to add one penny to the income tax, estimated to produce £2,000,000; to increase the stamp for cheques and dividend warrants from one penny to twopence, estimated to produce £500,000; to revive the old registration duty on all imported corn and grain and flour and meal, estimated to produce £2,650,000; to borrow by special loan £32,000,000; and to draw on exchequer balances to the extent of £3,500,000. The registration duty was repealed by Mr. Lowe in 1869. The proposal now is to revive it in the form of an impost of threepence per cwt. on corn and grain, and fivepence per cwt. on flour and meal. According to the statement of the Chancellor of the Exchequer this tax will represent a small fraction of a farthing on each two-pound loaf.

TUESDAY, APRIL 15TH.

The Sale of Patent Medicines.

Mr. LAYLAND-BARRATT asked the Chancellor of the Exchequer whether, in cases where penalties under 42 George 3, c. 59, for selling medicines without affixing the stamps in payment of duty required under that Act were not recovered by process of law, but were claimed by, and paid direct to, the Inland Revenue authorities, the informer was entitled to any portion of such penalties; and, if so, to what portion; and whether, if the informer was a Government official, he was entitled to a similar or any portion of the penalties.—The CHANCELLOR of the EXCHEQUER replied: The Board of Inland Revenue is empowered to grant rewards to informers, whether Government officials or otherwise, in cases of the kind referred to. The amount awarded depends upon the circumstances of each individual case.

The Ventilation of the House.

The following Members were nominated as a Select Committee t inquire into the ventilation of the House—viz., Mr. Akers-Douglas, Mr. John Dillon, Dr. Farquharson, Sir Michael Foster, Mr. Goddard, Mr. John Penn, and Sir John Batty Tuke.

Cremation Bill.

This Bill, which has passed through all its stages in the House of Lords, was read a second time and on the motion of Sir WALTER FOSTER was referred to the Grand Committee on Law.

ROYAL COMMISSION ON ARSENICAL POISONING.

THE Royal Commission on Arsenical Poisoning held a meeting for the examination of witnesses on April 11th in the Westminster Palace Hotel, Victoria-street, S.W. The Commissioners present were Lord Kelvin (chairman), who presided, Sir William Church, Sir William Hart-Dyke, M.P., Professor Thorpe, and Dr. B. A. Whitelegge, with Dr. G. S. Buchanan (secretary to the Commission). Four witnesses were examined, all of them from Halifax, and their evidence had reference, more or less direct, to the recent outbreak of arsenical poisoning in that town.

Mr. G. S. THOMSON representing Whittaker's Brewery, Halifax, was the first witness and in the course of his examination he took exception to certain statements made in the report with reference to the outbreak by Mr Hammond Smith, assistant commissioner. He denied that a particular patient had been a regular customer at a certain inn owned by the brewery; the man had only called at the inn a few times. He also disputed the accuracy of a statement with regard to the source of certain invert sugar. Witness explained to the Commission the system of malting adopted by the brewery. Their kiln, he said, had three floors for the accommodation of grain and below the first of these floors was a hot chamber into which, in the first instance the fumes of the fuel entered. When the malt was finished—that was to say, after it had been on the bottom floor—it was screened and brushed as a precaution against the presence of arsenic It was tested periodically for arsenic and once or twice before it had been screened and brushed slight traces had been found. The hot chamber, or "dust chamber," as it was usually called, was cleared out twice a year. The dust collected had been analysed and traces of arsenic had been found in it. Since the Halifax scare they had been using better fuel for malting—oven coke and anthracite coal Prior to the Manchester scare they did not have the beer analysed, but subsequently to that time and prior to the Halifax scare they had samples analysed practically every week. The reports which they received had always been good. In one or two cases there had been found faint traces of arsenic in the malt and in the beer but not in the materials. Since the Halifax scare they had had the beer analysed by more than one analyst. The analyses varied a great deal; in fact, there were scarcely two which agreed. They had a sample of finished beer analysed by three analysts who brought out three distinct results. Brewers were very much dissatisfied with this state of things and, indeed, their faith in analysis had been greatly shaken. They would like to see one standard or method of analysis applied in every case. Up to January, 1902, about 85 per cent. of the fuel they used was Halifax gas coke. The anthracite coal which they now used had been analysed and had showed no trace of arsenic. After brushing and screening the malt it had been found free from contamination. No doubt arsenic might be carried up the flue for it had been found adhering to the girders at the top. They wished to keep in line with other brewers and would not think of reverting to gas coke and in the light of present information it would be wrong to omit brushing and screening of the malt.

Dr. J. T. NEECH, medical officer of health of the Borough of Halifax, gave the Commission an account of 13 cases of arsenical poisoning which had come to his knowledge, all of which he attributed to the presence of arsenic in beer. In his opinion, one-fiftieth of a grain per gallon would be dangerous and as a matter of fact he did not think that more than one-hundredth of a grain ought to be allowed In the case of persons who were susceptible to poisoning by arsenic anything between one-fiftieth and one-hundredth of a grain per gallon would affect health materially. He was not an analytical chemist but he had one or two ideas about the varying results of analyses of the same beer. For instance, yeast took up a considerable amount of arsenic and if a sample were taken from near the bottom of a cask there might be more yeast cells in it than in the beer at the top of the cask and consequently there would be more risk of arsenic. Another point was that analysts had been using different tests. Speaking as a medical man he had no doubt that the symptoms in these Halifax cases were the symptoms of arsenical poisoning and his view was that greater care should be taken in regard to the fuel used in the preparation of the malt. During the period of the Manchester scare he saw one or two cases of arsenical poisoning in the workhouse and he also heard that there were one or two cases in private practice but the doctors at that time refused to give him the names and consequently he was unable to see the cases. Prior to the Manchester scare he had no reason to believe that there were cases of arsenical poisoning in Halifax. At the brewery of the Messrs. Webster in Halifax he had had an experimental kiln erected. In the first experiment ordinary gas coke was used and the malt was placed upon the kiln in a very wet condition. The unbrushed malt was found to contain $\frac{1}{11}$th of a grain of arsenic per pound and the brushed malt $\frac{1}{12}$th of a grain per pound. In the second experiment the malt was hand dried and put on the kiln practically dry, and as in the first experiment ordinary gas coke was used. The unbrushed malt was found to contain $\frac{1}{60}$th of a grain of arsenic per pound and the brushed malt $\frac{1}{30}$th of a grain per pound. The next two experiments were made with gas coke which had been arsenicated. With wet malt unbrushed the analysis gave one-ninth of a grain of arsenic per pound, and with the same malt brushed one-eighth of a grain per pound. With dry malt unbrushed it gave $\frac{1}{17}$th of a grain per pound and with the same malt brushed it gave $\frac{1}{11}$th of a grain per pound. The fumes of the coke passed from an empty chamber direct to the malt. In the cases of the brushed malt of No. 2 experiment and of the brushed malt of No. 4 experiment he removed the husk of a small quantity of each malt and submitted it for analysis. In the one case the husk gave $\frac{1}{60}$th of a grain of arsenic per pound, and in the other $\frac{1}{10}$th of a grain, these figures showing that the arsenic was chiefly deposited on the husk. He had expected the wet malt to take up more arsenic than the dry but in the first two experiments made with ordinary coke the dry malt took up rather more arsenic than the wet, but of course there might be more arsenic in one lot of coke than in another though both were taken from the same bulk. In the second pair of experiments he thought the coke was practically the same and the dry malt took up only one-half the amount of arsenic taken up by the wet. The wet malt when brushed seemed to show more arsenic than when unbrushed but the dry malt rather less. Analyses were taken of the tongues in the third and fourth experiments and gave $\frac{7}{10}$ths of a grain per pound and $\frac{1}{4}$th of a grain per pound respectively. In the one case the malt was very wet when put on the kiln and in the other it was dry.

By Professor THORPE No steps were taken to see whether the barley was free from arsenic but the same barley was used in all the experiments.

By Sir WILLIAM CHURCH: The experiments were few in number and he did not want to dogmatise upon them, but they seemed to indicate that brushing was not so great a safeguard as some brewers imagined.

By Dr. WHITELEGGE: Prior to the Manchester scare he had never taken samples of beer for analysis, but in the light of what had occurred since then he thought they should be taken as a matter of routine. As soon as he became aware of the cases in Halifax, he caused samples of beer to be taken for analysis. The first lot of six samples were submitted to the public analyst of Halifax who reported them to be absolutely free from arsenic. Other samples were submitted to Mr. Richardson of Bradford who reported the presence of arsenic in them. He doubted whether he had power under the Sale of Food and Drugs Act to enter a brewery and to take samples of the malt, but no question of this kind had arisen as he had received every facility from the local brewers.

Mr. F. BUCKLEY, managing director of Messrs. Webster's brewery, Halifax, said that since November, 1901, they had had all their materials analysed before being used in the brewery and all the beers before being sent out to customers. He assured the Commission that the brewers of Halifax had done everything in their power to prevent contamination. In the case of his own firm they had put up a new kiln with all the latest improvements. Brewers would like to see some standard of analysis set up because in the present state of things they found very considerable variations in the results reported. In one case the Inland Revenue authorities sent a sample of beer to Somerset House and it was reported to contain $\frac{1}{40}$th of a grain of arsenic per gallon and when a sample of the identical beer was sent to Mr. Richardson of Bradford he reported it as containing $\frac{1}{140}$th of a grain. Some brewers were using lime as a protection against arsenic and he felt sure that all of them would be happy to fall in with any suggestion which might be made by the Commission. There could be no doubt that the great bulk of the beer sent out in the Halifax district in 1901 was made with malt in the preparation of which gas coke had been used. He considered screening and brushing to be a great safeguard and it was much resorted to now that the risk of arsenic was known. His firm used to employ gas coke, then they tried oven coke, and now they only used anthracite coal.

Mr. WORSICK, maltster, Alland, near Halifax, was the last witness examined. He said that when the Manchester scare occurred it was thought that all the danger arose from the use of glucose, but since then it had been discovered that the malt was liable to contain arsenic and greater care had been taken in the preparation of malt. In his own case he had improved his methods and machinery and for fuel used anthracite coal. There was now a general opinion in the trade that gas coke was unsuitable for malting.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BJORNSON, O., M.D., C.M. Manitoba, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

BRANDSON, B. J., M.D., C.M. Manitoba, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

BUTLER, Hon. G. H., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Medical Officer to Hobart Hospital, Tasmania.

COLLINS, J. C., M.B. T.C.D., has been appointed Senior Medical Officer at the Auckland Hospital, New Zealand.

DASHWOOD, HOWARD A., B.A. Cantab., M.D. Brux., M.R.C.S., L.R.C.P. Lond., has been appointed Public Vaccinator for the Parish of Hampton Hill by the Kingston Board of Guardians.

DODS, JOSEPH E., M.B., B.S. Edin., has been appointed Acting Medical Officer, Brisbane, Queensland, in connexion with the Diamantina State Children during the absence on leave of Mr. K. I. O'Doherty, F.R.C.S. Irel.

DUNLOP, JAMES CRAUFURD, M.D. Edin., has been appointed Inspector of Certified Inebriate Reformatories in Scotland under the provisions of the Inebriates Acts, 1879 to 1900; and also Inspector of Retreats licensed under these Acts in Scotland.

HARVEY, FRANK, M.R.C.S., L.S.A., has been appointed Medical Officer of the Padstow (Cornwall) Port Sanitary Authority.

HORNE, MAYNARD, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Anæsthetist to the National Orthopædic Hospital, Great Portland-street, W.

HUNTER, JESSIE S. B., M.B. Glasg., has been appointed Assistant Medical Officer to the Lawn Hospital for the Insane, Lincoln, vice Mr. K. D. Cooper, resigned.

JARDINE, ROBERT, M.D. Edin., M.R.C.S., F.F.P.S. Glasg., F.R.S.E., has been re-appointed Obstetric Physician to the Glasgow Maternity Hospital.

KELLY, T. W. G., M.D. T.C.D., has been re-appointed Medical Officer to the Market Bosworth Rural District Council.

LARWILL, JOHN, L.R.C.P. & S. Edin., has been appointed Medical Officer at Boonal, Queensland, vice Jas. H. Finemore, L.R.C.P. Edin.

LOGAN, R. R. W., M.R.C.S., L.S.A., has been appointed Certifying Surgeon under the Factory Acts for the Ashby-de-la-Zouch District of Leicestershire.

LOVE, WILTON WOOD RUSSELL, M.B. Edin., has been appointed Deputy Commissioner of Public Health for Queensland during the absence of the Commissioner of Public Health.

MATSON, J. A., B.A., M.D. Dub., L.R.C.P. Irel., has been appointed Assistant Physician to the Richmond, Whitworth, and Harwicke Hospital.

PURNELL, RICHARD, M.D. St. And., M.R.C.S., L.S.A., has been appointed Medical Officer of Health of Wells (Somerset) for three years.

SODHI, BABA M. SINGH, M.B., Ch.B. Edin., has been appointed Assistant Medical Officer at the Borough Asylum, Portsmouth.

STEVENSON, ROBERT, M.B., M.S. Glasg., has been appointed District Surgeon of Prince Albert, Cape Colony, South Africa.

TAYLOR, F. H., M.B., Ch.B. Vict., M.A., M.Sc., M.R.C.S., L.R.C.P. Lond., has been appointed Pathologist to the Chelsea Hospital for Women.

TUKE, G. M., M.R.C.S., has been re-appointed Medical Officer of Health to the Hollingbourne Rural District Council.

TURNER, H. R., M.B., M.S. Aberd., has been appointed Medical Officer and Vaccination Officer for Kinnellar.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIGGLESWADE RURAL DISTRICT COUNCIL.—Medical Officer of Isolation Hospital and Small-pox Hospital. Salary £60 a year, additional fee of £5 5s. a week if and when patients are treated in the small-pox hospital.

BRENTFORD UNION WORKHOUSE AND SCHOOLS, Isleworth.—Assistant Medical Superintendent, unmarried. Salary £120 per annum, with apartments, rations, washing, &c.

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 a year, with board and residence.

BUCKINGHAMSHIRE ROYAL HOSPITAL, Aylesbury.—Resident Surgeon, unmarried. Salary £80, increasing to £100, with board and apartments.

CAMBRIDGESHIRE, ETC., LUNATIC ASYLUM, Fulbourn, near Cambridge.—Assistant Medical Officer (unmarried). Salary £150 per annum, with board, lodging, and attendance.

CANCER HOSPITAL, Fulham-road, S.W.—Junior House Surgeon. Salary at rate of £70 per annum, with board and residence.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, all found.

CENTRAL LONDON SICK ASYLUMS at Cleveland-street or Hendon.—First Assistant Medical Officer. Salary £120 per annum, with board and residence.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Registrar. Honorarium of 20 guineas per annum.

CITY OF NOTTINGHAM PARISH INFIRMARY.—Assistant Medical Officer. Salary £100 per annum and rooms.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary £120, rising to £150, with board, apartments, &c.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £130, rising to £150 per annum, with board, lodging, &c.

DUDLEY, THE GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

DURBAN, NATAL, SOUTH AFRICA.—Medical Officer of Health. Salary at rate of £750 per annum.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer wanted. Salary £150, rising to £180 a year, with apartments, board, laundry, and attendance.

DURHAM COUNTY HOSPITAL.—House Surgeon. Also Assistant House Surgeon. Salary of Senior £120, of Junior £65, with board and lodging in each case.

FISHERTON ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

GREENWICH UNION INFIRMARY.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, washing, and attendance. Also Second Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, washing, and attendance.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Senior Clinical Assistant.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, washing allowance £2 10s., with board and residence. Also Medical Registrar. Honorarium 50 guineas a year.

INDIAN MEDICAL SERVICE, India Office.—Not fewer than Twelve Commissions.

KENT AND CANTERBURY HOSPITAL.—Surgeon.

LEEDS GENERAL INFIRMARY.—House Physician for six months. Board, lodging, and washing provided.

LONDON TEMPERANCE HOSPITAL, N.W.—Assistant Resident Medical Officer for six months. Honorarium at rate of 50 guineas per annum, with board and residence.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL.—Resident House Surgeon. Honorarium £50 per annum and board.

MEDICAL DEPARTMENT OF THE NAVY, Admiralty, Northumberland-avenue, W.C.—Not less than Thirty Commissions as Surgeons.

METROPOLITAN ASYLUMS BOARD ASYLUM, Caterham, Surrey.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £170, with rations, lodging, attendance, and washing.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician, also House Surgeon, both for six months. Salary at rate of 50 guineas a year, with board and residence.

PORTSMOUTH ROYAL HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with board and residence.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Casualty House Surgeon for six months. Board, &c., are provided.

ROYAL NATIONAL MISSION TO DEEP SEA FISHERMEN, 181, Queen Victoria-street, E.C.—Surgeon on Mission Hospital Vessel. Salary £4 a week.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £80 per annum, with residence, board, and laundry.

TAUNTON AND SOMERSET HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, lodging, and laundry.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL, Liscard.—House Surgeon, unmarried. Salary £100, with board and residence.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Second House Surgeon, unmarried. Salary £80 a year, with board, residence, and laundry.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Surgical Registrar. Salary £50 per annum.

WEST NORFOLK AND LYNN HOSPITAL, King's Lynn.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

Births, Marriages, and Deaths.

BIRTHS.

SELLORS.—On April 7th, at 14 Emmanuel-road, Balham, the wife of T. B. Sellors, L.R.C.S., L.S.A., *of a son.*

SMELT.—On April 10th, at Holloway-road, Islington, N., the wife of C. A. Casterton Smelt, M.B., C.M. Edin., of a son.

THOMSON.—On April 14th, at 14, Coates-crescent, Edinburgh, the wife of John Thomson, M.D., F.R.C.P. Edin., of a daughter.

MARRIAGES.

DAY—COCHRANE.—At St. Peter's Church, Dublin, by the Rev. S. Robinson, M.A., Lieutenant-Colonel J. D. Day, late R.A.M.C., son of the late A. M. Day, Dublin, to Margaret Louisa, daughter of Sir Henry Cochrane, D.L., Woodbrook, co. Dublin.

HARDY—BALL.—On April 5th, at Isipingo, Natal, Leonard Ernest Hardy, M.B. Edin., to Sarah Elizabeth Ball.

DEATHS.

FELL.—On April 2nd, at Bibianaha, Ashantee, in his thirty-first year, William George Fell, M.B., B.S. Durham, eldest son of John Fell, 5, Eslington-road, Newcastle-on-Tyne.

MACGREGOR.—Suddenly, on April 12th, at 2, Queen-street, Berkeley-square, London, Alexander Macgregor, M.D. Aberd., M.R.C.P. Lond.

MAYO.—On April 7th, at Spittlegate House, Grantham, Eleanor, wife of A. C. Mayo, St. George's-park House, Great Yarmouth, aged 58 years.

WILLIAMS.—On April 10th, at Hill House, Clay Cross, in his thirty-ninth year, Evan James Williams, L.R.C.P., M.R.C.S., youngest son of the late James Williams, Esq., J.P., Cardigan.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MEDICINE IN ANTIQUITY.

ONCE more we have to announce the discovery of a Roman oculist's seal, and again the relic hails from ancient Gaul, it having been found at Sanites. A description of it may be read in the *Revue des Etudes Grecques*, but as the summary there is very short and as that journal may not be easily available we give the text in full and a few words of explanation for those interested in such subjects. The inscription upon the signet reads, "Val Philerotis Italic. ad Diathes(is). Val Philerotis Cycnivm Lene." The owner's name, Valerius Philerotis is new, but the remedies which this record shows that he specially approved and had therefore engraved upon his seal are similar to those previously found upon such objects. What were the ingredients of italicum is a mystery. It has only once been read upon a seal and is untraceable in any extant classical medical author. The seal upon which it has previously been found was preserved at Contines and belonged to one Marcus Julius Sabinus, who used it "ad cicatrices," that is for disease of the pupils and transparent cornea. It may have been for the same complaint that Philerotis applied it, because "diathesis" really was merely a broad term for any morbid ailment, particularly, however, of the eyes, and is a word frequently used by Galen in this sense and once or twice by both Marcellus and Scribonius. It occurs about twenty times upon oculist's seals. "Cycnium," "Cycni"(on), "Cy"(cnarium), or "Cyknaria," has been deciphered upon five seals. Three of these omit the malady for which it was applied; the other two state that it was a cure "ad impetum," that is to say, incipient ophthalmia. Cycnium may mean simply white, the colour of a swan. Further information may be found in Galen, Paulus Aegineta, or Oribasius. One seal gives a collyrium "Cynon," which may be an error of the engraver for cycnion. The seal states that this cynon was applied "ad claritatem," which indicates its supposed effect. "Lene" simply means sweet or pleasant and does not present any addition to the Pharmacopœia. Aetius speaks of it several times.

DIFFICULTIES UNDER THE NOTIFICATION ACT.

ON April 3rd Mr. A. A. Rostant of Tottenham was summoned at the instance of the Edmonton Urban District Council for wilfully aiding and abetting a man named Wood in exposing himself while suffering from small-pox. The evidence showed the following facts. Mr. Rostant said that he first made up his mind that Wood was suffering from small-pox on Jan. 16th. He wrote out a notification and told Wood to drop it into the letter-box of the medical officer of health, Dr. C. H. Adamson. He could not remember whether he told Wood that he had small-pox. Wood said that he went to Dr. Adamson's surgery and sat down to wait. Dr. Adamson said that he found Wood sitting in the surgery and saw that he was suffering from small-pox. He wrote to Mr. Rostant. He called Wood out of the surgery and told him to go straight home. Wood further said that when he got home he remained there for a fortnight seeing no medical man. He was then removed to the hospital. The sanitary inspectors called. His wife and children were living in the house and the wife looked after him. Eventually the magistrates, though agreeing that it was quite right to bring the case into court, did not convict. Mr. Rostant informs us that he never received the letter from Dr. Adamson, and altogether it seems to us that there was great carelessness. That a patient suffering from small-pox can be sent home and left without medical attendance for a fortnight is most unsatisfactory.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—Can any of your readers kindly inform me if there is an institute where a female deaf mute, aged 16 years, could be educated in lip reading and also in some trade or occupation, and the probable cost and the length of time this would entail?

I am, Sirs, yours faithfully,

F. W. GUNN, M.D.Durh.

Widdrington, Northumberland, April 16th, 1902.

THE HABIT OF TIPPLING.

A CORRESPONDENT who writes above the frank signature "Dipsomaniac" tells a neat story in reference to the rapid growth of the habit of tippling which may develop in unsuspecting subjects. Two elderly ladies, he says, were surprised by a visitor in the act of drinking neat brandy. Upon his expressing some surprise they said that brandy had been recommended to them as a capital preventive against cholera and that first they took it with water and then they took it without water, and now they took it like water.

A MEDDLING CLERGYMAN.

Fairplay writes: "A is treating a man who is suffering from acute bronchitis. His condition becomes serious and a consultation is offered by A to the relations who refuse it, saying that they are satisfied that all possible has been done and that they want no other advice than they have had. A day after this the parish clergyman, who is calling daily, suggests the calling in of his intimate friend, Dr. B, another practitioner in the town, and states that he will pay the fee. (This to people who can well afford a fee.) This offer is refused and he is plainly told that the patient's friends desire no interference in that direction. The next day he again tries to persuade them to call in Dr. B without result. Has A a grievance?"

*** We speak on the facts as "Fairplay" presents them. He has a right to consider the clergyman officious. We recommend him to tell B that the instant his patient requires B's help, it will be asked for—and not before.—ED. L.

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W. NASH, A.M.S.

THE following subscriptions have been received since the last notification:—

	£	*s.*	*d.*
Lieutenant-Colonel U. A. Jenings	0	10	0
Lieutenant-Colonel E. F. Boult	0	10	6
Major A. Wright, R.A.M.C.	0	10	0
Lieutenant-Colonel W. F. Ruttledge, A.M.S. (retired)	0	10	0
Major Jérome, R.A.M.C.	0	5	0
Major A. Dodd, R.A.M.C.	0	5	0
Major M. T. Yarr, R.A.M.C.	0	5	0
Lieut. Fletcher, R.A.M.C.	0	2	6
Lieutenant P. S. Leléan, R.A.M.C ...	0	2	6
Major G. F. Alexander, R.A.M.C.	0	5	0
Brigade-Surgeon J. McKinnon	1	1	0
Colonel A. T. Sloggett, C.M.G., R.A.M.C. ...	1	0	0
Brig.-Surg.-Lieut.-Col. C. E. Harrison	1	1	0
Lieutenant-Colonel B. M. Blennerhassett ...	2	2	0
Lieutenant-Colonel T. B. A. Tuckey, R.A.M.C.	0	10	0
An old Friend...	1	1	0
Lieutenant-Colonel Andrew Duncan... ...	2	2	0
Lieutenant-Colonel E. J. Fairland, A.M.S. (retired)	1	1	0
Colonel W. L. Gubbins, R.A.M.C.	1	1	0
Surgeon-General T. O'Farrell, A.M.S. ...	1	1	0
Lieutenant-Colonel L. W. Swabey, R.A.M.C.	0	10	0
Major D. V. O'Connell, R.A.M.C.	0	5	0
Major A. de C. Scanlan, R.A.M.C.	0	5	0
Lieutenant J. S. Bostock, R.A.M.C.	0	2	6
Lieutenant-Colonel W. W. Kenny R.A.M.C.	0	10	0
Lieutenant-Colonel J. D. Brodie, A.M.S.	0	10	0
Captain H. W. 'OReilly, R.A.M.C.	0	5	0
Previously acknowledged in THE LANCET	36	16	6
Total	£54	9	6

THE CRAYON ANTI-BUÈE.

MESSRS. HAWKSLEY, of 357, Oxford-street, W., have forwarded to us a specimen of the crayon anti-buée which was described in our issue of March 1st, p. 589, by Dr. Walker Downie. Messrs. Hawksley inform us that the article is patented and sells for 2*s.* The use of the crayon undoubtedly does prevent the deposition of moisture upon laryngeal mirrors and the like. But soap does just as well when not made up into a crayon, as a correspondent pointed out in our issue of March 8th, p. 699, and a whole cake of soap can be bought for 6*d.*

◆

Dubitans.—1. The propriety of paying such visits depends upon the custom of the neighbourhood rather than upon the seniority of th medical man. It would be well if our correspondent consulted a prominent local practitioner as to the course he should adopt. 2. I is, in our opinion, incorrect for the holder of the diplomas in ques tion to prefix the title of "Dr." to his name on his door-plate an visiting-cards.

E.D.—In ordinary circumstances the medical officer of health, is no responsible for the actions of the sanitary inspector. The sanitar inspector is responsible to the sanitary authority who also appoin the medical officer of health.

Spes.—We have no knowledge of the treatment or remedy in question If our correspondent will send, or cause to have sent, to us a sufficien quantity of the remedy we will analyse it.

M. A. R. should apply to the Director-General of the Army Medica Service, 18, Victoria-street, S.W. The examinations are usually hel in February and August.

X. Y. Z.—The administrator of the anæsthetics should be paid by th medical man who has employed him.

ERRATUM.—In THE LANCET dated March 22nd, 1902, p. 835, a annotation appeared entitled "Light and Malaria." It was therei stated, in reference to the question how the parasite can b influenced by extreme temperatures, that "in the *American Journa of the Medical Sciences* for February Dr. A. F. A. King of New York puts forward an ingenious suggestion that the actual factor i question is the light, not the heat, of the sun," &c. Dr. A. F. A King should have been described as of Washington, D.C., and not o New York.

During the week marked copies of the following newspaper have been received:—*Yorkshire Post, Cardiff Mail, Sussex Dail News, Colchester Gazette, Lincolnshire Chronicle, Lincolnshire Echo, Belfast News Letter, Birmingham Post, Aberdeen Press, Folkeston Telegraph, Brighton Gazette, Surrey Advertiser, Bristol Mercury Dublin Express, Wiltshire Mirror, Bradford Observer, Morning Post, Essex Herald, Hereford Mercury, Daily Graphic, Sanitar Record, Local Government Chronicle, Mining Journal, Hertfordshir Mercury, Burton Chronicle, Lincolnshire Advertiser, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 17th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb	Remarks at 8.30 a.m.
April 11	29·84	N.	...	80	60	37	40	43	Cloudy
" 12	29·72	S.	0·06	83	52	41	42	43	Overcast
" 13	29·85	S.W.	0·01	96	60	40	39	40	Cloudy
" 14	29·97	S.E.	...	104	68	39	42	45	Hazy
" 15	29·60	E.	0·02	82	60	45	49	50	Raining
" 16	29·85	N.W.	...	80	61	46	47	49	Overcast
" 17	29·80	S.W.	...	75	59	46	47	49	Foggy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.). West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (26th).—Royal Free (9 A.M. and 2 P.M.), London (2 P.M.) Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (21st).—SOCIETY OF ARTS.—8 P.M. Mr. R. T. Glazebrook: Glass for Optical Instruments. (Cantor Lecture.)

TUESDAY (22nd).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Dr. W. Ewart and Mr A. S. Morley: The Possibility of Recovery from the Active Stage of Malignant Endocarditis (illustrated by cases and specimens). Adjourned Discussion on the paper by Dr. F. J. Poynton and Dr A. Paine on a Contribution to the Study of Malignant Endocarditis.

WEDNESDAY (23rd).—SOCIETY OF ARTS.—8 P.M. Prof. S. P. Thompson: Opto-technics.

THURSDAY (24th).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—5 P.M. Meeting.

HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Papers:—Mr. R. Johnson: Some Points in the Treatment of Tuberculous Disease of the Knee.—Dr. L. Guthrie: Congenital Hereditary Hæmaturia. Clinical Cases

FRIDAY (25th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Exhibition of Clinical Cases followed by Discussion. Patients will be in attendance from 8 P.M. to 9 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr A. Whitfield: Clinique. (Skin.)

TUESDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. H. Campbell: Clinique. (Medical.)

WEDNESDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Clarke: Clinique. (Surgical.)

THURSDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

FRIDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. StClair Thomson: Clinique. (Throat.)

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

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An Address

ON

THE DIAGNOSIS AND TREATMENT OF THE VARIOUS FORMS OF GOITRE.

Delivered before the Medical Society of Plymouth on March 8th, 1902,

By JAMES BERRY B.S. Lond., F.R.C.S. Eng.,

SURGEON TO AND LECTURER ON SURGERY AT, THE ROYAL FREE HOSPITAL, GRAY'S INN ROAD; SURGEON TO THE ALEXANDRA HOSPITAL FOR CHILDREN WITH HIP DISEASE.

Mr. President and Gentlemen,—All of us are brought at times into contact with cases of goitre and although in most instances the disease presents little or no difficulty as regards either diagnosis or treatment, yet occasionally we meet with cases that present the greatest difficulties in both respects. An accurate diagnosis of the exact nature of a goitre is essential before a correct opinion can be expressed as to prognosis and to the treatment that should be recommended No one who has seen a very early case of malignant disease of the thyroid can doubt that diagnosis may occasionally present great difficulties. No one who is suddenly brought face to face in the middle of the night with the patient suffering from acute suffocating goitre can doubt that efficient treatment is not always so easy as we should like it to be. No one who has had to remove a deeply seated goitre from behind the sternum of a patient who is in imminent danger of suffocation can doubt that the operative difficulties of thyroid surgery may be very considerable. All these have happened to myself and, I doubt not, to many of you, and any or all of them may happen to any of us

For purposes of discussion I propose to divide all thyroid swellings into four groups—(1) parenchymatous (bilateral) goitre, (2) encapsuled tumours (solid and cystic), (3) exophthalmic goitre, and (4) malignant disease—and to discuss each of them separately as regards both diagnosis and treatment.

I.—Parenchymatous (Bilateral) Goitre.

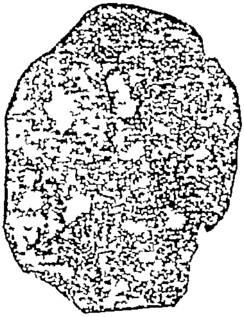
The parenchymatous goitre, the common goitre of young people, is a disease of the whole gland and therefore it affects all parts equally It causes a bilateral uniform swelling, the thyroid nature of which rarely admits of any doubt Its situation, its shape—preserving as it does the horseshoe shape of the normal gland—and the fact that it moves with the larynx on deglutition, prevent it from being mistaken for any non thyroidal swelling The only other thyroid swelling that presents all these characters is the goitre of Graves's disease (of which I shall speak presently) and certain very rare forms of inflammation and of malignant disease. Both of the latter usually have very distinct characters of their own. If the parenchymatous enlargement, however, be extremely slight it may be a little difficult to detect, especially if the patient be at all fat The best method of detecting very slight enlargements of the gland is to place the finger and thumb on either side of the lower part of the larynx and to direct the patient to swallow As the larynx rises it draws the thyroid gland upwards between the finger and thumb, which are thus enabled to judge of its exact size. Occasionally a thyroid gland is pushed forwards by some swelling behind it and may thus appear to be enlarged when it is not really so Thus a few months ago a middle-aged woman was sent to me on account of a slight swelling at the lower part of the front of the neck, it had been noticed for several months and was supposed to be a small goitre. There was also a history of dysphagia. On examination the thyroid gland was found to form a well marked visible, and easily palpable swelling which moved on swallowing but further investigation showed that behind the thyroid was a much deeper swelling which did not move on deglutition and which had displaced forwards the thyroid gland itself It was a carcinomatous tumour of the pharynx and œsophagus easily recognised by its extreme hardness and by examination of the interior of the throat.

A parenchymatous goitre is usually soft, but it is well to remember that it may also be exceedingly hard, so hard as to lead to mistakes in diagnosis. This hardness may be due in young adults to mere excess of thyroid secretion which fills up all the vesicles so tensely as to cause the whole gland to feel like a piece of wood. This kind of goitre is often associated with very severe dyspnœa and therefore it is well to remember that energetic treatment with iodine or thyroid extract will usually cause absorption of some of the secretion, softening of the gland and relief from the dyspnœa.

Parenchymatous goitres tend as they become old to undergo various secondary changes, one of the most important of which is fibrosis. The connective tissue between the vesicles develops at the expense of the latter This process may extend so far that eventually the whole gland presents little more than a mass of fibrous tissue. This extreme degree of fibrosis is, however, rare and is, I believe, never met with except in elderly people. Goitres in young people, however hard, are never composed to any large extent of fibrous tissue. I have often seen hard bilateral goitres in young people which had been diagnosed as "fibrous" but they have invariably proved to be parenchymatous goitres tensely filled with secretion.

The most extreme degree of hardness is met with in those goitres which have actually become calcified. Fig 1 shows a goitre from a woman, 87 years of age. It is composed mainly of fibrous tissue and in it are large areas of calcification.

Fig 1.



An old goitre from a woman, aged 87 years who died from sarcoma of the skull. It is composed chiefly of fibrous tissue with considerable areas of calcification. Reduced two-thirds. (Royal Free Hospital Museum. From a photograph by Miss M D French)

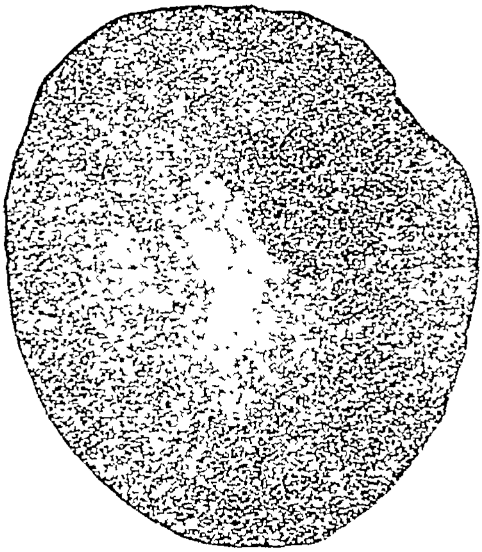
II.—Encapsuled Tumours (Solid and Cystic).

I come now to the second class of thyroid swellings—that of encapsuled tumours, solid or cystic. This is an extremely common form of goitre and certainly one of the most important from the surgical point of view since it is that which is most amenable to surgical treatment A very large proportion of the common goitres that we see in Switzerland, in Derbyshire, in Devonshire, and elsewhere consist wholly or partly of encapsuled tumours adenomata which have developed in the substance of the gland. They may be compared to the common adenomata of the breast or to the encapsuled fibroids of the uterus. These thyroid adenomata, composed at first of tissue closely resembling that of the thyroid gland in which they lie, have a remarkable tendency to undergo secondary changes They tend, on the other hand, to soften and to break down in the centre. The solid portions gradually melt away and disappear until the original solid adenoma has become converted into a cyst. On the inner wall of such a cyst traces of the original solid adenoma may often be seen adhering Such is the origin of the vast majority of thyroid cysts although it must be admitted that a small minority of them probably originate in another way and are not derived from pre-existing adenomata.

Another very common secondary change that is found in thyroid adenomata is fibrosis, the tumour being gradually converted into a mass of fibrous tissue, in the meshes of which are buried the remains of the glandular elements. If an old adenoma from a middle-aged or elderly person be examined it will often be found to contain in its centre a star shaped mass of dense fibrous tissue (see

Fig. 2). This fibrosis, beginning in the centre, gradually extends until more or less of the whole tumour has been converted into a dense, hard mass.

FIG. 2.



A solid adenoma of the thyroid, showing fibrosis commencing in the centre. From a woman, aged 42 years. Reduced five-sevenths. (Royal Free Hospital Museum. From a photograph by Miss M. D. French.)

It is well to remember that these hard fibrous adenomata containing small collections of epithelial cells present under the microscope some superficial resemblance to a carcinoma and I have more than once known perfectly innocent tumours of this kind described erroneously as malignant tumours and even published as such.

The diagnosis of a thyroid adenoma is usually a very simple matter, provided that the tumour is single and of sufficient size to be seen and felt. A swelling which is strictly unilateral, involving one or other lateral lobe exclusively, and which is not inflammatory or malignant, must, with certain very rare exceptions, be an encapsuled tumour, either cystic or solid—one, therefore, that is capable of removal by the operation of enucleation. The diagnosis between cystic and solid encapsuled tumours is often a matter of great difficulty, although generally not one of much practical importance, since the treatment is much the same in both. A tense cyst or a cyst with hard fibrous walls may be as hard as the very hardest solid adenoma. On the other hand, I have occasionally known surgeons of large experience to make a diagnosis of thyroid cyst from the extreme softness and apparent fluctuation, and to find at the operation that the tumour was solid throughout. He is a bold, and I venture to think a rash, surgeon who ventures to state definitely after physical examination of an encapsuled thyroid tumour that it is exclusively either solid or fluid.

Many unilateral thyroid tumours springing from the lower part of one lateral lobe, the commonest seat of thyroid tumours, tend, as they grow, to displace the trachea to the opposite side and to occupy themselves a situation in the middle line of the neck. Tumours in this situation, if small, may easily be mistaken for tumours of the isthmus itself, which are very rare. If large and occupying a considerable portion of the neck they may easily simulate bilateral parenchymatous goitres. They can be distinguished, however, by careful observation of the exact position of the trachea and larynx. The strictly parenchymatous goitre never displaces these organs from the middle line. The encapsuled tumour, springing from one or other lobe, always displaces them to a greater or less extent towards the opposite side. The rare tumour of the isthmus does not displace the trachea but as it necessarily forms a rounded prominent swelling, not involving the lateral lobes, there is little or no difficulty in its diagnosis.

A further point of distinction between large encapsuled tumours situated in the middle line of the neck and parenchymatous goitres is to be found in examining the upper border of the swelling. The encapsuled tumour has, of course, a convex upper border; the parenchymatous goitre presents a notch or depression marking the interval between the two lateral lobes.

Mixed forms.—Hitherto I have been speaking either of the purely parenchymatous goitre or of the single adenoma. The difficulties of exact diagnosis are very much increased when we come to that very common form of goitre in which one or more adenomata exist in an otherwise parenchymatous goitre, or to the equally common form in which the enlargement consists mainly of multiple adenomata, generally on both sides of the neck. It is usually a matter of great importance from the point of view of treatment to be able to say definitely how much of any given goitre consists of encapsuled tumour and how much of parenchymatous enlargement. I have already said that a strictly unilateral goitre is almost invariably an encapsuled tumour; I may go further and say that it is almost certain to consist of a single tumour, for multiple tumours affecting one lobe only of the gland, the opposite being quite healthy, are very seldom seen. Multiple tumours almost always affect both lobes of the gland, although generally to a different extent. Occasionally two tumours of the same size will occur in the two lobes, one on either side, and the resemblance then to a parenchymatous goitre may be considerable. The diagnosis must then be made chiefly by the shape of the swelling. The lobe that is enlarged by parenchymatous hypertrophy preserves its pyriform shape with the narrow end upwards. The encapsuled tumour is globular or perhaps oval, never strictly pyriform. It is frequently possible to detect at the upper and back part of the tumour a little conical process, the remainder of the lateral lobe, and this at once gives a clue to the nature of the case. But strictly symmetrical bilateral thyroid tumours are very rare. The common case is that in which one lobe is *much* larger than the other, and here there is seldom any doubt as to the existence of at least one encapsuled tumour.

Goitres are sometimes composed of a large number of adenomata or cysts, of comparatively small size, embedded in an otherwise parenchymatous goitre like plums in a plum pudding. If the parenchymatous matrix is small in amount the tumours may easily be felt; but sometimes they are deeply buried in a large mass of parenchymatous tissue. In the latter case, however, their diagnosis is not a matter of much importance, as the case will probably have to be treated as if it were one of pure parenchymatous enlargement. And here I should like to offer a word of warning and to say that a purely parenchymatous goitre occasionally presents a distinctly lobulated appearance. This may suggest that it is composed of a number of small tumours massed together when really there are no encapsuled tumours at all.

If the surgeon is in doubt as to the diagnosis between a parenchymatous and an adenomatous or cystic goitre and is proposing to operate upon it he will do well, if the case is not so urgent as to demand immediate operation, to administer iodine or thyroid extract for a few weeks. The parenchymatous goitre or portion of the goitre will probably under this treatment diminish in size, or at least become much softer. The tumours will be unaffected and, if embedded in parenchymatous tissue, will become relatively more evident as the parenchymatous tissue around them shrinks. Indeed, before undertaking the enucleation of any thyroid tumour a course of such medical treatment is often advisable, as the tumour is thereby loosened and its enucleation is facilitated.

III.—EXOPHTHALMIC GOITRE.

Of the remarkable disease known as exophthalmic goitre I need say but little on the present occasion. It is a subject that concerns the physician rather than the surgeon. Structurally this form of goitre differs widely from all others, presenting to the naked eye a firm, homogeneous appearance on section, with no visible vesicles and with little or no colloid. The absence of any vesicular or cystic structure and the absence of encapsuled adenomata serve to explain the fact that exophthalmic goitre rarely attains a large size and rarely causes serious tracheal narrowing. Microscopically it is composed almost wholly of proliferating thyroid epithelium. The diagnosis of a well-marked case presents no difficulties at all. In the very early stages, however, before the exophthalmos has become a noticeable feature, the goitre of Graves's disease may easily be mistaken for a simple parenchymatous one. It is very important not to make this mistake if any question of operation is under consideration. The removal of an exophthalmic goitre by operation is undoubtedly a far more serious matter than the removal of a parenchymatous goitre. Indeed, the circumstances which would justify such an operation are in my opinion exceptional. The diagnosis in the absence of exophthalmos should depend, I venture to think, more upon the general symptoms than upon the local characters of the goitre. The nervous fidgety manner of the patient, her restlessness and excitability, the moist skin, besides minor symptoms such as diarrhœa and local pigmentation, are of much value in the diagnosis. The nervous symptoms generally form a marked contrast to the usually rather dull and apathetic manner of a patient who is the subject of parenchymatous goitre. The persistently rapid pulse is, of course, a symptom of the greatest importance and if present with a uniform enlargement of the thyroid should always raise a strong suspicion of Graves's disease. Mere rapidity of pulse is not enough, however, for the establishment of the diagnosis in all cases, especially if the goitre be unilateral and deeply seated in the neck behind the clavicle or sternum. Goitres in this region are not infrequently accompanied by a somewhat rapid pulse. On several occasions on account of dyspnœa I have had to operate upon such cases in which an erroneous diagnosis of Graves's disease had previously been made by others mainly on the ground of rapidity of the pulse. Conversely it is well to remember that Graves's disease may become superadded to a previously simple form of goitre, and although the goitre of a *pure* case of Graves's disease presents always a symmetrical enlargement of all parts of the gland, yet a previously existing cyst or adenoma in one lobe may cause the goitre to assume a markedly asymmetrical shape and perhaps thus lead to an error in diagnosis.

IV.—MALIGNANT DISEASE.

Malignant disease in a well marked form when the growth has already penetrated the capsule of the thyroid gland does not usually present any great difficulty in diagnosis. The age of the patient, the rapid and steady growth of the tumour, its hardness, its irregular surface, its fixity, its tendency to infiltrate surrounding parts and to involve the recurrent laryngeal nerve, the carotid artery, the trachea, and the œsophagus, are common characteristics which leave but little room for doubt as to the diagnosis. At this stage, however, surgical treatment other than palliative is quite hopeless. If we are to do anything towards curing this terrible disease the diagnosis must be made early, while the disease is still confined within the gland, while there is still a possibility of complete removal of the tumour by a thorough operation. I will limit my remarks, then, to the diagnosis of the disease in this early stage.

In the first place malignant disease of the thyroid seldom occurs before the age of 40 years. The youngest patient who has come under my notice was a man, aged 25 years. But his was a very unusual case. A definite rule may be laid down that *when in the thyroid gland of a person over 40 years of age a tumour appears which is hard, which steadily and rapidly increases in size, and which is not of an inflammatory nature, the malignancy of such a tumour should be strongly suspected.* If, moreover, the surface of the tumour is irregular and bossy and if there is likewise dysphagia and pain in the neck, shooting up to the side of the head or to the shoulder, then the diagnosis is strongly confirmed. But there are several common innocent tumours of the thyroid which may simulate malignant disease. A simple cyst hitherto unnoticed may, from extravasation of blood or from inflammatory secretion into its interior, suddenly appear as a small hard lump. Not uncommonly such cysts cause at first a good deal of pain which adds to the difficulty of diagnosis. The roundness of the tumour and the smoothness of its surface are, however, the characters which will usually suffice for the diagnosis of a cyst. A cyst of this kind, moreover, does not steadily increase in size. It attains its full size in a few hours or in a day or two and afterwards either remains stationary or at most increases in size but very slowly. A very hard, intensely hard, nodular tumour may be found in the lower part of the thyroid of a person who says that he has only been aware of its existence for a few days. Such a tumour is probably an old calcified or fibroid nodule which has really existed for years but owing to its small size and deep situation has escaped notice. Many such cases have come under my observation. If there is any doubt as to its possible malignant nature a delay of a few days will show that the tumour is not increasing in size. Its free mobility will probably also point to the innocency of its nature.

There is a curious form of chronic painless inflammation of the thyroid which is not very uncommon in elderly women and which may be very difficult to distinguish from a slowly growing form of malignant disease unless an exploratory operation has been performed. Even after removal of the tumour and examination by the microscope the diagnosis is not always very clear. I have little doubt that some of the cases reported in literature as round celled sarcoma of the thyroid are really of this nature.

Malignant disease of the thyroid, as I have said, is almost always characterised by its hardness, but there is a rare form of sarcoma which is quite soft and is likely to be mistaken for a cyst, an abscess, or an extravasation of blood. The steady and rapid growth and the nodularity of the tumour are the most characteristic diagnostic features.

There are two somewhat rare forms of malignant disease of the thyroid which stand somewhat apart from the ordinary sarcoma and carcinoma and which run a much slower and less malignant course. One is the papilliferous cystic tumour, characterised microscopically by the presence of numerous delicate papillary intra-cystic growths. These tumours are analogous to the papilliferous tumours of the ovary. They have a great tendency to recur *in situ* and but little tendency to disseminate. Their clinical course often extends over many years and they are extremely suitable for operation, even when they have already attained a considerable size. Mr Arthur Barker has published a case of this kind in which the total duration of the disease was not less than 18 years. The first operation for the removal of the tumour was performed 10 years before the death of the patient. Another unusual form of malignant disease is that which is commonly known by the objectionable term of "malignant adenoma." By this term is meant a tumour which at first sight, and even after careful microscopical examination, appears to be innocent but which nevertheless is found to reproduce itself in distant parts of the body. The secondary tumours frequently present a very close resemblance in structure to that of the normal thyroid gland. I do not propose to enter now at any length into a discussion of this most interesting group of tumours. It includes several distinct forms. In some cases undoubtedly both the primary and the secondary tumours are to be regarded as malignant and it is well to remember that there is nothing unreasonable in supposing that the epithelium of a secondary growth can preserve both the characters and the functions of the epithelium of the gland whence it primarily came. Thus thyroid epithelium preserves the property of secreting colloid material whether it is in the thyroid gland or in a distant secondary tumour. Many of the primary tumours are undoubtedly cases of malignant disease in which the true structure of the tumour has been erroneously described. But there appears to be good reason for believing that some at any rate of the primary tumours have failed to disclose, even after careful microscopical examination by competent observers, any structural evidence of malignancy. The true pathology of this very interesting class of tumours has yet to be thoroughly worked out. At present it seems to me best to regard them all simply as malignant tumours of a peculiar nature.

TREATMENT

I have devoted most of the time at my disposal to the subject of diagnosis because the appropriate treatment of any given case of goitre must necessarily depend very much upon correct and accurate diagnosis. The principles which guide us in treatment are comparatively simple and their correct application is not difficult provided that our diagnosis is well founded.

In the first place we should look to the cause of the goitre and if the goitre is of the parenchymatous variety and is in an early stage, a good deal may be done for its cure by removing that cause. There is no doubt that a very large proportion of parenchymatous goitres, although not all, are due to the ingestion of a poison contained in the drinking water. We do not yet know what is the exact nature of that poison although we have abundant proof of the existence of a goitre-producing poison in certain waters. It is but reasonable then, to inquire into the quality and source of the water that the patient drinks and if possible to substitute for it a purer and better water. But these remarks must be held to apply only to early cases of parenchymatous goitre. In the case of cystic and adenomatous goitres and old parenchymatous ones in which secondary changes, such as fibrosis, have occurred it is useless to expect benefit from a mere change of water-supply. I do not propose to enter into that most interesting and fascinating subject of the essential cause of goitre, much as I should like to do so.[1]

Drugs in the treatment of goitre.—With regard to the use of drugs in the treatment of goitre it is naturally chiefly in the early stages of the parenchymatous form of the disease that we may expect most benefit from their use. In the case of cysts and of old parenchymatous goitres which have undergone much secondary change they are of little or no value. Encapsuled adenomata are seldom affected by drugs, but I have some reason for believing that very soft adenomata in young people are to a certain extent beneficially influenced by their administration.

The two drugs which stand in the first rank, far above all others, in the medical treatment of goitre are, of course, iodine and thyroid extract and I need do no more than mention them. I need likewise only mention external applications, such as tincture of iodine, which are sometimes useful, especially if applied freely; iodine is absorbed and acts just as if it had been taken internally.

Removal of goitre by operation.—I now come to what is from the surgical point of view the most important method of treatment—namely, removal by operation. I need hardly remind you that operations for the removal of goitre may be divided in the main into two, an extra-capsular operation known as extirpation, and an intra-capsular, or more properly an intra-glandular, operation known as enucleation. In the first the operator keeps outside the capsule of the gland, ties all vessels before they are cut, and, in short, makes a careful, deliberate dissection. He must see exactly what he is doing at each step of the operation and he must take special care not to wound the various important structures, such as the recurrent laryngeal nerve, the jugular vein, &c., which lie in immediate contact with the thyroid gland. In the enucleation operation the surgeon must cut into the gland itself until he comes to the surface of the encapsuled tumour, and then with blunt instruments he proceeds to enucleate the tumour from the glandular bed in which it lies.

Now enucleation is suitable only for encapsuled tumours and it is very important to bear this in mind. In the last few years this operation has become very popular and I notice a tendency in certain quarters to perform it in cases that are not really suitable for it. If properly performed upon a suitable case it is an operation attended by scarcely any risk. But if attempted in an unsuitable case it is by no means free from risk, and especially from risk of hæmorrhage. In enucleation, as ordinarily performed, the tumour is shelled out more or less rapidly, no attempt being made to stop the hæmorrhage until the tumour has been removed. In some of my earlier operations, when I had had but little practice in enucleation, it happened occasionally that a good deal of blood was lost, chiefly from delay in getting the tumour out or from attempting to perform a simple enucleation in cases of very large tumours, which are more suitable, in my opinion, for the modified operation of resection-enucleation. In the latter operation the hæmorrhage is much more under control because most of the main vessels are tied or clamped before the tumour is enucleated. Although I have never in any of my own enucleation operations known hæmorrhage to be so severe as to threaten life, yet I have seen deaths from this cause in the hands of others and have from time to time heard of other such cases. Probably in nearly all these cases the excessive hæmorrhage was due to the enucleation having been attempted in cases in which no enucleable tumour was present, or in which the tumour was so large that it ought to have been dealt with by some modification of the operation such as I have mentioned.

I observe that within the last month the senior surgeon of one of the London hospitals, in some clinical remarks upon a case of goitre, draws attention very rightly to the danger of hæmorrhage during the operation of enucleation. In the course of his remarks about his case, however, he tells us that the patient was a girl, aged 16 years, with an obvious enlargement of the whole gland, one half being larger than the other, and being composed of several nodular masses. He goes on to say that he would have no hesitation in selecting enucleation as the operation to be performed. If this is the kind of case for which enucleation is recommended without hesitation I am not at all surprised that he is impressed by the seriousness of hæmorrhage.

Multiple enucleation adds considerably to the severity of the hæmorrhage if the tumours are at all large. The older the adenoma or cyst the more likely is it to have a tough thick wall, and the more easy will it be therefore to enucleate. I remember on one occasion being able to enucleate an old cyst as large as a goose's egg in a man, aged 64 years, without having to tie a single vessel. But this is very unusual. Solid adenomata in young people, especially if embedded in a considerable amount of parenchymatous goitre, are often difficult to enucleate, as hæmorrhage is apt to be profuse and as the wall of the tumour is frequently very thin and not always easy to recognise. It is often better under these circumstances to do a simple extirpation of one lobe rather than run the risks of an enucleation.

It will be gathered from what has been said that I consider extirpation, or its modifications, resection, or resection-extirpation, to be the proper operation for cases of parenchymatous goitre demanding any operation; for those cases also in which there are many cysts or adenomata distributed throughout the gland it is generally to be preferred to enucleation.

In the great majority of cases of parenchymatous goitre no operation at all is desirable. Either the goitre is amenable to medical treatment or it does not cause sufficient trouble to warrant the performance of so severe an operation as extirpation. For mere deformity I hold that extirpation of a parenchymatous goitre is unjustifiable, except possibly in certain very exceptional cases. It is dyspnœa, and especially increasing dyspnœa, which does not yield to medical treatment, that calls for this operation. The more severe the dyspnœa the more urgently is the operation demanded. In young people serious dyspnœa occasionally supervenes very rapidly. A remarkable case of this kind occurred to me last summer. A girl, aged 14 years, was sent to me by Dr. Herbert Tilley on account of a parenchymatous goitre which had been noticed only three weeks. In spite of energetic medical treatment the dyspnœa had steadily and rapidly increased. A few hours after I first saw her I received an urgent telephone message to say that she was suffocating. On my arrival she was deeply cyanosed and already unconscious. Fortunately, everything had been prepared for operation, so I immediately took up a knife and cut right down upon the goitre as she lay there in bed. Inserting a forefinger behind the left lobe I drew this forcibly forwards so that in less than two minutes from the beginning of the operation the pressure upon the trachea had been relieved. I was then able quietly and deliberately to remove the whole of that lobe and about one half of the opposite one. It was seen that the lateral walls of the trachea were actually in contact, so that the only space available for breathing was a very small chink at the anterior part. The goitre was purely parenchymatous, was about as large as an orange, and was largely substernal. The patient did not regain consciousness until an hour after the operation had been finished. She never moved during the operation and afterwards she told me that she had not the slightest recollection of my arrival or of any operation having been performed. She made a rapid and excellent recovery and when I last saw her, two days ago, she was found to be in perfect health in every respect.

There are two classes of goitre in which dyspnœa is apt to supervene very quickly and to be a very serious danger to life. One is the rapidly-growing goitre of girls and boys at the age of puberty, such as that which I have just described. The other is that in which there is a small deeply-seated swelling, generally an encapsulated tumour, lying behind the clavicle or the sternum. Patients with the latter kind of goitre are almost invariably adults. A swelling in this situation is likely to become suddenly displaced into the upper opening of the thorax and to cause most dangerous dyspnœa. Or such a tumour may suddenly become enlarged from inflammation or more commonly from hæmorrhage into its interior. Several instances of both these occurrences have come under my notice. These tumours are generally easily and most satisfactorily treated by enucleation, however deeply they may be situated.

In enucleation, as in extirpation, it is almost always dyspnœa that calls for the operation; occasionally it is dysphagia, especially in the case of small tumours projecting from the back of the gland and pressing upon the œsophagus and pharynx. For mere deformity it is quite justifiable to perform an enucleation, if the patient desires it, provided that the operator is certain that the operation can be easily performed with little or no risk to life.

Time prevents me from entering at any length into the subject of the surgical treatment of exophthalmic goitre and of malignant disease. With regard to the former I would only say that the cases in which removal of any part of the goitre is advisable must be very exceptional. Occasionally benefit can be obtained from ligature of two or three of the thyroid arteries, but it must be remembered that even this operation is by no means devoid of danger. With regard to the practice of cutting or excising the cervical sympathetic nerve for Graves's disease I look upon it as wholly unjustifiable. Founded upon an entirely erroneous view of the pathology of the disease, uncertain and often most dangerous in its results, it has in my opinion nothing whatever to recommend it.

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[1] I have elsewhere discussed this subject at some length. See "Diseases of the Thyroid Gland and their Surgical Treatment," J. and A. Churchill, 1901, Chapter V.

Malignant disease of the thyroid is seldom seen early enough to permit of any operation for its removal. It must be treated on the general principles that guide us in the treatment of malignant disease elsewhere. If there is a reasonable prospect that the whole of the disease can be removed by an operation that will not kill the patient or leave him after recovery worse than he was before the operation, then it should be undertaken If it is impossible to remove the disease—and this is generally the case—then something may be done to relieve urgent symptoms, such as dyspnœa, dysphagia, and pain The surgeon who undertakes to remove a malignant goitre the diagnosis of which is no longer doubtful must be prepared to meet with considerable difficulties. If the removal is to be satisfactorily accomplished he must be prepared to perform, if necessary, some very large operation, including perhaps such a severe proceeding as resection of a portion of the internal jugular vein or carotid artery, or even parts of the trachea or œsophagus Whether these very extensive operations are really worth doing seems to me very doubtful. On the other hand, the removal of a malignant goitre in its *early* stage while the tumour is still confined within the capsule presents little difficulty and is often a much less serious proceeding than the extirpation of many an innocent goitre.

CONCLUSION.

And now, gentlemen, I must conclude what has been, I fear, a somewhat lengthy address. I trust that I have not seemed to be too dogmatic in what I have ventured to say. I have expressed to you freely my own opinions which I have formed on this subject after an experience which I think I may fairly claim to have been tolerably extensive. You will probably wish to know what the results of my operations have been. Without going into details, I may say, briefly, that the total number of all my operations for the removal of goitre of all kinds is 155 Among the earlier operations, or, to be strictly correct, among the first 46, there were four cases of death The only death in the last 109 cases was that of a woman who was admitted to the Royal Free Hospital with much cyanosis, a large and partly substernal goitre, and signs of an intrathoracic tumour of uncertain nature. After a consultation with my medical colleagues I performed an exploratory operation and removed the substernal portion of the goitre. The wound ran a normal aseptic course but the dyspnœa and cyanosis were not relieved. When the patient died, rather more than three weeks after the operation, it was found that the dyspnœa was due to a sarcomatous tumour of the root of the lung and mediastinum secondary to a small primary growth of the abdomen This death is also the only one that has occurred to me after any enucleation operation. the total number of which amounts at the present time to exactly 100.

HEALTH OF HEAVITREE, EXETER.—Dr. J F. Wolfe, the medical officer of health, in his annual report to the Heavitree Urban District Council states that during 1901, on an estimated population of 7527, there were 130 births registered, equal to a rate of 17 19 per 1000 The total number of deaths was 114, equal to a rate of 15·08 per 1000

VACCINATION REGULATIONS —At the meeting of the Helston Board of Guardians held on March 29th a letter was read in which the Local Government Board replying to a communication from the guardians stated that the Board of Guardians had no power to appoint public vaccinators for primary vaccinations only or to pay its public vaccinators lower fees than those fixed by the Vaccination Order of 1898, but if revaccinations were likely to be numerous in the Helston Union the Board had no objection to the appointment of suitable stations for the performance of revaccination and to the payment of half-a-crown to the public vaccinator for each case performed there.

The Milroy Lectures

ON

THE ETIOLOGY OF TYPHOID FEVER AND ITS PREVENTION.

Delivered at the Royal College of Physicians of London on Feb 20th, 25th, and 27th, 1902,

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LECTURE III.[1] (*concluded*)

Delivered on Feb 27th, 1902

I HAVE already stated the opinions of some of the most eminent writers on the subject with regard to the question of the communication of typhoid fever directly from one person to another—that is, through the medium of the air—but I will now proceed to cite some instances in which the disease is evidently spread to a considerable extent by means of direct contagion Dr W Budd in his admirable treatise already referred to gives a long account of an outbreak of the disease which he investigated in the village of North Tawton in Devonshire, where he lived and was in almost exclusive possession of the field as a medical practitioner. In the first place he points out that in this village "privies, pig-sties, and dungheaps continued hour after hour to exhale ill odours without any subsequent effect on the public health" and states that he "ascertained by an inquiry conducted with the most scrupulous care that for 15 years there had been no severe outbreak of the disorder and that for nearly 10 there had been but a single case. For the development of this fever a more specific element was needed than either the swine, the dungheap, or the privies were in the common course of things able to furnish In the course of time, as was indeed pretty sure to happen, this element was added and it was then found that the conditions which had been without power to *generate* fever had but too great power in promoting its spread when once the germ of fever had been introduced. On July 11th, 1839, the first case of typhoid fever occurred in a poor and crowded dwelling. Before the beginning of November in the same year more than 80 of the inhabitants had suffered from it under my care." He then describes the course of the outbreak, showing quite clearly over and over again that one person contracted the disease from another. Later in his book, after having mentioned some other outbreaks and quoted various authors to prove that the disease is contagious, he refers to North Tawton again as follows. "About two years ago—i e., in 1873—after an interval of 30 years' almost entire immunity this town was again visited by typhoid fever. Meanwhile a water company had been established by means of which drinking-water, brought from a considerable distance in iron pipes, is delivered under high pressure to every inhabitant. Contamination of this water by human excreta is an absolute impossibility, and yet in these two outbreaks of typhoid the population suffered even more severely than before In the course of a few months out of a population of 1500 persons 120 were known to have had typhoid fever and 11 of their number died." He considers that in this and in some other epidemics which he describes "the air was the great medium through which the infection passed." His final opinion as to the relative importance of water and air as media for communication of the poison of the disease is stated as follows. "The exact proportion which the cases caused by infected water bear to those caused by infected air is not easy to determine and probably varies much under different conditions of soil, climate, season, water-supply, social habits, and sanitary arrangements. As far as my own experience goes I can state that the worst and most widespread outbreaks which I have ever witnessed occurred in communities where the drinking-water was absolutely blameless."

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[1] Lectures I and II., and the first portion of Lecture III. were published in THE LANCET of March 22nd (p. 793), April 5th (p. 912), 12th (p. 1013), and 26th (p. 1155), 1902, respectively

Dr. J. Niven, medical officer of health of Manchester, says: "It is also necessary to remember that, given certain conditions, such as crowding in a household, typhoid fever is terribly infectious," and he gives three remarkable instances, one being that of a number of nurses in a public institution among whom it was introduced by one of their number and who took it from one another, as he was able "at once to dismiss the water and milk and also any condition affecting the drainage of the wards." None of the patients in the institution took it. (*Public Health*, vol. iv., p. 202.)

In the twenty-fourth annual report of the State Board of Health of Massachusetts for 1882 Dr. William T. Sedgwick, after attributing the epidemics at Lowell and Lawrence to polluted water, reports on three epidemics in Bondsville, Provincetown, and Milleville, each of which he attributes to "secondary infection," having excluded infection by means of water and milk. He gives a graphic account of the way in which the poison of the disease gets handed about, and says, "It is easy for me to understood how dirt, diarrhœa, and dinner too often get sadly confused. Personal filth is apparently the principal agent of secondary infection." Of the epidemic at Milleville he says, "The high mortality was probably due not so much to the severity of the disease as to utter neglect and dire poverty. The local conditions were very bad, and the people were mostly very poor. The circumstances favoured the spread of the disease by secondary infection, and to that, in my opinion, the epidemic was almost wholly, if not entirely, due."

As an instance of direct contagion I may mention that Dr. H. F. Parsons reported on an outbreak of typhoid fever at Bedlingtonshire (Northumberland) when there was endemic prevalence of the disease in a colliery district in 1889. He found that most of it was referable to "a case which occurred in a close, confined, and filthy part of Bedlington town. The disease first spread to other families living in tenements under the same roofs and then in the neighbouring streets, where want of air-space, privy and drain nuisances, and general want of cleanliness prevailed. Dr. Parsons reported in 1892–93 on a severe but circumscribed outbreak of typhoid fever which occurred at Newfield Moira (Leicestershire) extended over two months and was limited to two rows of houses. The first cases were possibly contracted in Burton-on-Trent. The spread of the fever was not due to polluted water or milk nor to defects of drainage or common use of privies but was "probably due to direct contact with specific infection favoured by common use of wash-houses, foul state of unpaved yard, and careless habits of mining population."

In the same year Dr. R. D. Sweeting reported on an outbreak at Temple Cloud, Cameley parish (Somerset). In this district the early cases were "associated with grossly unwholesome circumstances of water-supply and excrement disposal," but the later cases were "probably directly infected from the earlier owing to non-disinfection of stools."

Dr. Sweeting reported in 1893 on a localised outbreak of typhoid fever occurring during the first four months of the year on the outskirts of the town at Amlwch (Anglesea). He found that there was no common water-, milk-, or food-supply, and no drainage, but that the "disease spread from an imported case amongst tenants and visitors in the absence of proper nursing, isolation, and disinfection."

In 1895 Dr. S. W. Wheaton reported on a remarkable outbreak of typhoid fever at Quarry Bank (Staffordshire). This outbreak was almost entirely confined to a small portion of the district and especially to one particular street. "This marked localisation of the fever and the fact that it had in some instances affected nearly all the members of certain families, suggested the presence of some fever (e.g., typhus fever) more directly contagious from person to person than enteric fever. The fever in question was found to be undoubtedly typhoid fever. The water-supply was in most instances from draw-wells subject to pollution by leaking privies, defective drains, and by surface washings." The spread of the disease was "probably in part due to polluted water, partly to privies which had become infected, and to *personal contagion*." (The italics are mine.)

In 1895 Dr. H. T. Bulstrode reported on an outbreak occurring at Pottersbury (Northamptonshire) which commenced in July and was still continuing at the date of the report in November. The evidence pointed to "polluted well water as a very important factor in causation, *though personal infection had probably considerable influence in the spread of the disease*."

In 1895 Dr. G. S. Buchanan reported on the continue prevalence of typhoid fever at West Bromwich (Staffordshire for several years. In 1895 there was a heavy incidence of the disease on three small areas widely separated one from another. The prevalence of the fever was "referred to the many opportunities of local spread from patients or invaded premises afforded by sanitary defects and by want of isolation hospital accommodation."

In 1899 Dr. S. M. Copeman reported on an outbreak at Shirebrook village (Derbyshire) that the disease was "*mainly spread by personal contact*, though in addition there appeared reason for suspecting that the milk-supply was concerned in causing extension of epidemic."

In August, 1900, Dr. Copeman reported on an inquiry into the continued prevalence of typhoid fever at Shirebrook, in the Blackwall Rural District, on the borders of Nottinghamshire and Derbyshire. He found "that the annual recurring outbreaks of typhoid fever in Shirebrook have been in large measure dependent upon the polluted condition of the subsoil in the lower portions of the village arising from the impossibility of securing efficient isolation in the cottages. In the newer colliery village, situated as it is on considerably higher ground, typhoid fever had not made its appearance before 1899. In this portion of Shirebrook also the disease was undoubtedly spread by personal infection, although in addition question arose as to whether the consumption of infected milk may not have played a part in the extension of the disease."

Dr. J. Priestley, the medical officer of health of Lambeth, in 1898 reported that in that parish in three instances typhoid fever was conveyed from person to person during nursing.

In his annual report for 1900 as medical officer of health of the London County Council Mr. Shirley Murphy gives the following cases of infection from one person to another in different districts in London: "Dr. Reginald Dudfield observed this in four instances; Dr. Parkes shows the extension of the disease in Chelsea from one person of a family to seven others; Dr. Sykes gives account of two households in St. Pancras, in one of which the first case of the disease was followed by six others, and in the second by nine others; Dr. Newman connects directly or indirectly nine cases in Clerkenwell with one or other of three cases occurring among children attending the same Sunday school; Dr. Bryett gives particulars of six series of such cases occurring in Shoreditch; Dr. Kempster attributes a group of cases occurring in a street in Battersea to the same cause; and Dr. Bond mentions two nurses who were infected while in attendance upon cases of the disease."

An important paper was read before the Epidemiological Society in 1900 as an introduction to a discussion on the Infectivity of Enteric Fever by Dr. E. W. Goodall, medical superintendent of the Eastern Hospital of the Metropolitan Asylums Board. Dr. Goodall, who has had exceptional opportunities of studying the disease, has come to the conclusion that, contrary to the opinion of many high authorities, the view held by Bretonneau, Trousseau, Gendro Piedvache, Budd, Sir Thomas Watson, and Dr. Alexand Collie, the former medical superintendent of the Homerto Hospital, the disease is directly infectious from one person to another is the correct one. He insists on the frequency with which those in attendance on the sick catch the disease, produces a number of instances of this having taken place among the nurses of the Metropolitan Asylums Board Hospitals, states that "enteric fever has attacked the staff in the three newest hospitals of the Asylums Board—the Brook, the Park, and the Grove," and adds: "Concerning the 10 cases at the Brook Hospital Dr. J. MacCombie has kindly informed me that five of them occurred in the persons of nurses working in the enteric fever wards, including an assistant nurse who came straight from the Broughton Sanatorium where she had been nursing enteric fever patients and who joined the Brook Hospital during the incubation stage of the disease, while of the other five, two were men whose duty it was to keep the floors of the enteric fever wards polished. With respect to the three cases at the Grove, the most recently erected hospital, I am indebted to Dr. J. E. Beggs for the information that they were two assistant nurses and a wardmaid, all of whom for nearly two months had worked in enteric fever wards. It was the duty of the wardmaid to carry the soiled linen to the tank." He agrees with Dr. Collie's opinion, "that if enteric fever amongst the staff of a hospital is to be attributed to faulty sanitary arrangements, especially in connexion with the drainage, we should find the disease occurring more frequently amongst the patients who are not suffering from the fever than appears to be the case." With regard to the fact that other patients do not, as a rule, catch typhoid fever from patients suffering from that disease (although I am satisfied that they occasionally do so), he points out that it is rare, even for typhus fever, which everybody deems to be highly infectious, to be caught by one patient from another in a fever ward, and he concludes. "Personally I am strongly inclined to side with those who hold that enteric fever is much more readily and directly communicable than is commonly supposed."

In the discussion which followed Dr F Foord Caiger, medical superintendent of the South-Western Hospital, stated that the contagiousness of typhoid fever to those "who are in the daily administration of a fever hospital into which enteric fever is admitted has become a matter of conviction" and he stated that in the South-Western Hospital, "in the course of nine years during which enteric fever has been admitted there, 23 members of the staff have contracted it and three of them have died Of these 23 members every one was a nurse and, with one exception, every one of these nurses was nursing in the enteric fever wards. When you consider that the proportion of enteric fever nurses to the whole of the nursing staff is only like one in 15 this fact is very striking."

Dr. Bulstrode is of opinion that "the view is certainly gaining ground that enteric fever is more directly communicable from the patients to the nurses and attendants than was formerly supposed"

Dr Alfred Hill of Birmingham and Dr Niven of Manchester are of the same opinion. The latter traced 53 cases out of 484 to direct infection.

Dr P Manby quoted an interesting instance of communication of typhoid fever from one person to another in an hotel, and Dr Franklin Parsons, the President of the Society, one of the medical inspectors of the Local Government Board, gave several instances in his own experience in which, after careful investigation, "personal communication seemed the only agency" to which the disease could be attributed, and as the result of his great experience Dr Goodall says: "I am quite sure that those are wrong who teach as is evidently taught by the leading text-books that there is no risk in nursing typhoid fever patients and that there is no necessity for removing an enteric fever patient from his home to hospital." In fact, the result of this discussion showed that there was great unanimity of opinion, not only among the inspectors of the Local Government Board, but among medical officers of health throughout the country, that communication by direct contagion is a much more common cause of the spread of typhoid fever than is commonly supposed

We now come to the consideration of the actual poison of the disease. I will first give you Mr (afterwards Sir John) Simon's views in his own words. He said in his supple*mentary report for 1873*, "While, however, *thus far there* is only the familiar case of the so-called *common chemical poison*, which hurts by instant action and in direct proportion to its palpable and ponderable dose, the other and far wider possibilities of mischief which we recognise in filth are such as apparently must be attributed to *morbific ferments* or *contagia*, matters which not only are not gaseous, but on the contrary, so far as we know them, seem to have their essence, or an inseparable part of it, in certain solid elements which the microscope *discovers in them—in living organisms, namely, which in* their largest sizes are but very minute microscopical objects, and at their least sizes are probably unseen even with the microscope, organisms which in virtue of their vitality are indefinitely self-multiplying within their respective spheres of operation, and which, therefore, as in contrast with common poisons, can develop indefinitely large ulterior effects from first doses which are indefinitely small.

"As, apparently, it is by these various agencies (essential and incidental) that filth produces 'zymotic' disease, it is important not to confound them with the fœtid gases of organic decomposition, and the question what infecting powers are prevalent in given atmospheres should never be regarded as a mere question of stink It is of the utmost practical importance to recognise in regard of filth that agents which destroy its stink may yet leave all its main powers of disease *production undiminished Whether the* ferments of disease if they could be isolated in sufficient quantity would prove themselves in any degree odorous is a point on which no guess need be hazarded, but it is certain that in doses in which they can fatally infect the human body they are infinitely out of reach of even the most cultivated sense of smell, and that this sense (though its positive warnings are of indispensable sanitary service) is not able, except by indirect and quite insufficient perceptions, to warn us against risks of morbid infection."

And further, in the same report "It must be remembered that gases on the one hand and the particulate ferments on the other stand in widely different relations to air and water as their respective media of diffusion. The ferments, so far as we know them, show no power of active diffusion in dry air, diffusing in it only as they are passively wafted and then probably, if the air be freely open, not carrying their vitality far, but as moisture is their normal medium currents of humid air (as from sewers and drains) can doubtless lift them in their full effectiveness, and if into houses or confined exterior spaces then with their chief chances of remaining effective, and ill-ventilated low-lying localities, if unclean as regards the removal of their refuse, may especially be expected to have these ferments present in their common atmosphere as well as, of course, teeming in their soil and ground water Considerations like some which I have stated in regard of infective air apply equally to infective water In the latter, just as in the former, the zymotic *malignity is but indirectly and most imperfectly suggested* to us by qualities which strike the common sense, or by matters which chemical analysis can specify As any unbrutalised sense of smell will turn with disgust from certain airs, so will it, and common taste and sight, be repelled by certain waters, and as the chemist can show certain foulnesses in the one, so he can show certain foulnesses in the other, but these tests, it must always be remembered, are tests only of the most general kind Confessedly they do not touch the *corpus delicti*, but only certain conditions to which it is or may be collateral, and their negative findings are consequently not entitled to the same sort of confidence as their positive Chemical demonstration of unstable nitrogenous compounds in water is a warning which of course should never be disregarded; but till chemistry shall have learnt to identify the morbific ferments themselves, its competence to declare them absent in any given case must evidently be judged incomplete, and waters which chemical analysis would probably not condemn may certainly be carrying in them very fatal seeds of infection."

Mr Simon continues "Since the year 1849, when Dr. (now Sir William) Jenner made known his conclusive and masterly discrimination of this specific form of fever, successive studies have tended with singular uniformity to connect it in regard of its origin with nuisances of an excremental sort [3] In illustration of that fact in the natural history of enteric fever I may refer to an abstract which I append of the experience of the Medical Department during the four years 1870–73 in this particular branch of disease-production, and such illustrations might be multiplied to any desired extent The experience is, not only that privies and privy-drainage, with their respective stinkings and soakings, and the pollutions of air and water which are thus produced, have in innumerable instances been the apparent causes of outbreaks of enteric fever, but, further, that they have seemed capable of doing this mischief in a doubly distinctive way, first, as though by some aptitude which other nuisances of organic decomposition, though perhaps equally offensive, have not seemed equally or nearly equally to possess; and secondly, as though this specific property, so often attaching to them in addition to their common septic unwholesomeness, were not, even in them, a fixed property The explanation of this experience, the explanation of the frequent but not invariable tendency of privy nuisances to infect with enteric fever, has seemed to consist in the liability of such nuisances to carry with them, not invariably, but as frequent accidental adjuncts, the 'specific' contagium of any prevailing bowel-infection, for presumably the privies of a population receive (*inter alia*) the diarrhœal discharges of the sick; and it has long been matter of fair pathological presumption that in any 'specific' diarrhœa (such as eminently is enteric fever) every discharge from the bowels must teem with the contagium of the disease. Medical knowledge in support of this presumption has of late been rapidly growing more positive and precise, and at the moment of my present writing I have the gratification of believing that under my lords of the Council it has received an increase which may be of critical importance in a discovery which seems to give us for the first time an ocular test of the contagium of enteric fever; in the discovery, namely, of microscopical forms, apparently of the lowest vegetable life, multiplying to innumerable swarms in the intestinal tissues of the sick, penetrating on the one hand from the mucous surface into the general system of the patient, and contributory on the other hand, with whatever infective power they represent, to the bowel contents which have presently to pass forth from him" (Report of the Medical Officer of the Privy Council and Local Government Board, New Series, No. II., 1874)

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[3] The very able writings of Dr Murchison, dating from a paper by him in the Medico-Chirurgical Transactions of [illegible], have been of particular influence in that contention.

The investigations referred to by Mr. Simon were those made by Dr. Klein in his report on the Intimate Anatomical Changes in Enteric, or Typhoid, Fever in the report of the medical officer of the Privy Council and Local Government Board for 1874 (New Series, No. VI.). In this report Dr. Klein described the changes in various organs in typhoid fever, giving a number of plates in illustration of these changes and also described certain organisms found in the intestinal mucous membrane and some other organs in the early stages of the disease. After this other observers described various organisms found in the organs in fatal cases of typhoid fever, especially Klebs who announced the discovery of a long thread-like bacillus which he considered to be the cause of the disease, and in 1880 Eberth discovered the rod-shaped organism now known by his name as Eberth's bacillus, or the bacillus typhosus. It appears, however, that before Eberth's paper appeared Koch had found in about half the number of cases examined by him typical colonies of short bacilli precisely similar to those afterwards described by Eberth. It would appear, therefore, that Koch first discovered the true bacillus typhosus, although his name has not become associated with it. This bacillus was subsequently investigated by Dr. Gaffky, whose paper was published in the *Mittheilungen aus dem Gesundheitsamte*, vol. ii., 1884, and a translation of it by Dr. Pringle was published by the New Sydenham Society in its volume for 1886. Dr. Gaffky examined the organs of 28 fatal cases of typhoid fever and found the typical bacillar masses in 26 of them. He says: "My results agree entirely with the descriptions given by Eberth, Koch, and Meyer in regard to the shape and appearance of the bacilli. On the average they are about thrice as long as they are broad; their length corresponds to about the third part of the diameter of a red blood corpuscle. In isolated spots one may see somewhat longer threads which on more thorough examination can, however, be seen to be made up of several members. Trifling differences in breadth occur even in different cases in the same epidemic, but this appearance is to be referred only to the greater or less intensity of the staining of the sections; at least, I have never been able to observe it in preparations on cover-glasses in which the staining is always deep; the extremities of the bacilli are distinctly rounded off. In several of the cases I examined the bacilli found in the internal organs contained unmistakable spores which appeared as round portions, remaining unstained, and occupying the whole breadth of the bacilli."

In discussing the questions as to whether these typhoid bacilli are specific pathogenic organisms he says: "If I range myself on the side of those who consider the typhoid bacilli as specific organisms and their origin from putrefactive bacilli as at least very improbable it is upon the following grounds. In almost all the cases of typhoid fever which I have examined, whether they came from Berlin hospitals, from St. Petersburg, or from Wittenberg, there was always present a definite form of rod-shaped organism in the internal organs, arranged in quite a characteristic manner, and undoubtedly the same as had previously been observed at various times and in various places by Eberth, Koch, Meyer, and O. Friedländer. Anatomical examination gives us not the slightest ground for thinking that these bacilli had anything whatever to do with putrefaction. To all appearance they did not proliferate after death, as one does not find that the masses are at all more numerous or larger in cases in which putrefaction has already set in than in those examined as soon after death as possible. Further, in an organ removed as early as possible from the body, although it may contain ever so numerous masses of bacilli, all coarse signs of commencing putrefaction perceptible to the senses are wanting. In the same way the microscopic appearance of the tissue presents nothing suggestive of that process. The nuclei in the vicinity of the masses stain rather exceptionally deeply with aniline stains, whilst the bacilli themselves (apart from the conditions found in the intestine) always form limited masses and never permeate the organ in all directions, as we are accustomed to see in the case of putrefactive bacilli. I would also adduce as a very weighty argument against the view that typhoid bacilli have any connexion with putrefaction the fact that when cultivated outside the body they never become causes of putrefaction, as far as my researches permit of a judgment. I have carried out a great number of cultivations in succession with those derived from 13 different cases and the bacilli never produced putrefaction in substances extremely liable to putrefaction in spite of their luxuriant growth. Even when cultivated outside the body for more than a year nothing of the sort has occurred. As the bacilli always form the same masses in the internal organs, whether one examines fatal cases of typhoid fever in Russia, Germany, Switzerland, or England, so in the same way, cultivated outside the body on the same nutrient matter, they have hitherto always displayed the same manner of growth and the same mode of spore development, whether I obtained the cultivations from typhoid organs in Berlin or from the Wittenberg epidemic."

M. A. Rodet and M. G. Roux (of Lyons) consider that there are intimate relations between the bacillus coli and Eberth's bacillus; that the latter is, in fact, the former "in a state of attenuation or degeneration"; they "think that the bacillus coli becomes virulent, *typhigenic*, without notably changing botanical characters; and that it is within the organism notably in the spleen that it takes the type of the bacillus of Eberth, degenerating no doubt under the destructive acts of the organism." And they add: "It is not necessary to insist on the consequences which these facts entail relative to prophylaxis, it is not only typhoid fever dejections, but fæcal pollution of any kind which may engender typhoid fever."[3] This would have delighted Murchison's heart but it is a view which has not been generally accepted.

For a detailed description of the characters and methods of isolating and cultivating the typhoid bacillus I only need refer you to Dr. P. Horton-Smith's excellent Goulstonian Lectures,[4] delivered in this College in 1900, but I wish to refer more particularly to a specially interesting account given in those lectures of the persistence of the typhoid bacillus in the body, especially in the bile or the bone-marrow, where it has been now shown it may remain for years. Dr. Horton Smith quotes some cases from a paper by Hunner in the *Johns Hopkins Hospital Bulletin* for August and September, 1899, as follows: "In one case the bacilli were found in pure culture in the inflamed gall-bladder three months after the fever, in another eight months, and in a third after an interval of seven years." The most remarkable case of all, however, and one very carefully tested, is that recorded by von Dungern (*Münchener Medicinische Wochenschrift*, 1897, p. 699) in which 14½ years after the attack of typhoid fever the bacilli were still present in pure culture in the pus, and Dr. Horton-Smith very well adds: "Truly no longer can we say with Dr. Budd, that 'by destroying the infectious power of the intestinal discharges the disease may be in time finally extinguished.' So far, indeed, from the stools being the only agents by means of which the disease is spread they are but one of a series of agents. So far, too, from the patient ceasing to be a source of danger after his restoration to seeming health, he may carry about in himself the seeds of infection for months and even years."

A useful account of the tests used for discriminating between bacillus coli and bacillus typhosus was given by Dr. A. C. Houston in introducing a discussion on Typhoid Fever in its Public Health Aspects at the Cheltenham meeting of the British Medical Association and will be found in the *British Medical Journal* of August 17th, 1901.

Dr. Klein made an investigation on the Eberth-Gaffky bacillus which is described in the report of the Local Government Board for 1892–93. He could not find the bacillus in the blood of the living typhoid fever patient but in certain tissues of the bodies of those who had died from the disease he never failed to find it, especially in the mesenteric glands and in the spleen, and he describes its differences from the bacillus coli. The next year he reported that he had made experiments with this bacillus on monkeys. Two monkeys to whose food had been added a culture of the typhoid bacillus did not suffer in any way; no pathological lesions were found in them after they were killed, neither could the typhoid bacillus be detected in their blood or spleen. On the other hand, eight monkeys having been inoculated with cultures of the bacillus the true typhoid bacillus was found in abundance in the spleen of one of them, the bacillus coli in that of another, and "a nondescript bacillus exhibiting characters pertaining some of them to bacillus coli, others to the typhoid bacillus" was found in a third. In inoculated calves the juice of the enlarged inguinal glands was always found to contain the typhoid bacillus in abundance. The next year Dr. Klein demonstrated that under certain conditions the typhoid bacillus readily multiplies in sewage, "while as regards drinking-water he shows not only that in many different waters this bacillus may persist longer than has hitherto been demonstrated, but also that in certain of them which are to be thought of as affording pabulum for the microbe the typhoid bacillus is able on occasion to proliferate in abundant fashion."

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[3] Public Health, vol. ii., 1889-90 (from Comptes Rendus de la Société de Biologie, tome ii., No. 7, February, 1890).

[4] THE LANCET, March 24th (p. 821), and 31st (p. 910), and April 14th (p. 1050), 1900.

Dr. Edmund Cautley made a research on the behaviour of the typhoid bacillus in milk and his account of it will be found in the report of the medical officer of the Local Government Board for 1896–97. He found that in unsterilised milk to which the typhoid bacillus was added it was recovered in considerable numbers from the milk which had been kept for six or seven days and had turned completely sour; and in sterilised milk to which the typhoid bacillus and some other microbes were added he found that the typhoid bacillus will live in the presence of the bacillus lactis for a week but will not actually multiply under these conditions. He says "that the presence of the oidium lactis in sterilised milk does not interfere with the growth and multiplication of the typhoid bacillus" and that yeast did not interfere with the growth of the typhoid bacillus, as "both micro-organisms increased in number and neither appeared to be modified in its growth by the presence of the other." He considers that "the typhoid bacillus will live in milk under conditions which ordinarily prevail in a household. When this bacillus has been artificially added in large amount to milk in the condition in which it commonly reaches the consumer the presence of the microbes *in the living state* may be demonstrated after the milk thus treated has been kept for several days." There is no indication from the above investigations that this microbe is capable of multiplication *under the conditions in question*. Judging from the results obtained it is very probable that the number present rapidly diminishes in milk which is kept. The observations with regard to the bacillus lactis and to sour milk "indicate that it is quite possible for the typhoid bacillus to exist in curd-cheeses."

In a report by Dr. Klein on the behaviour of certain pathogenic microbes in milk, cream, and cheese he says: "It is well known that the typhoid bacillus grows luxuriantly in milk both at 20° C. and at 37° C. It does not alter the fluid character of the milk, although it produces acid, as is well known by the reddening produced when litmus milk is used as the culture medium." His experiments on cream showed "that cream kept at as high a temperature as 37° C. is not a suitable medium for the growth and multiplication of the typhoid bacillus, but that it is a suitable medium when kept at 20° C. He further found that the typhoid bacillus does not grow and multiply when planted on Cheddar cheese either at 37° C or at 20° C. (Twenty-ninth report of the medical officer of the Local Government Board for 1899–1900).

In the *Archives de Médecine Expérimentale et d'Anatomie Pathologique*, No. 1, Jan. 7th, 1889, is an account of a research made by M. J. Grancher and M. E. Deschamps on the behaviour of the typhoid bacillus in the soil. Their conclusions are as follows: "1. It does not pass through soil with irrigation water. 2. It is stopped by from 20–40 centimetres of thickness of soil. 3 It retains its life in the midst of all the organisms soil contains, five and a half months after it has been sown. 4 It does not penetrate into healthy vegetables." (*Public Health*, vol. ii., 1889-90)

A most interesting series of investigations has been made by Dr. Sidney H. C. Martin on the Growth of the Typhoid *Bacillus in Soil* and his accounts of them will be found in the reports of the medical officer of the Local Government Board for 1896–97 and onwards. He first found that the bacillus when planted in organically polluted soil, "as, for instance, the samples of earth from Chichester," speedily increased and spread abroad, whereas in an unpolluted soil from an uninhabited and cultivated area "it languished and quickly died out" under like conditions of temperature and moisture. It was then determined to test in unsterilised soil of both classes the ability of the typhoid bacillus to contend with the other microbes already present in such soil and Dr Houston was associated with Dr. Martin in this investigation. 21 samples of various soils were examined. In eight of these no bacillus coli was found. In the remaining 13 bacilli with more or less resemblance to the true bacillus coli were found and in four of these the typical bacillus coli itself was present; these four soils, however, were shown to have been polluted with excrement; while the spores of bacillus enteritidis were found in five of the soils and in exceptionally large quantity in two of them which were shown to have been polluted with excrement. Dr. Martin then showed that when the typhoid bacillus was inoculated on a soil containing bacteria belonging to the bacillus coli group it was recoverable after 50 days from this soil at the point at which it had been inoculated. "It had survived in competition with the bacillus coli-like micro-organisms but had not multiplied."

One of Dr. Martin's most important conclusions is "that the soils which are favourable to the growth of the typhoid bacillus are those which have been cultivated, more particularly soils of gardens and the *entourage* of houses. In these soils the bacillus was found to be alive and to have retained its vegetative properties for as long as 456 days; this being found true for sterilised soil which was moistened throughout with water. On drying this soil, even when it had become so dry that it could be made into a fine powder, the typhoid bacillus could still be obtained from it and had retained its vegetative properties, although it grew more slowly than when obtained from the same soil in its moist condition." Again, "In favourable soils in a moist condition the bacillus not only grew at a temperature of 37° C., but it flourished when the soil was exposed to much lower temperatures; for example, the temperature of the laboratory, which varied between 9° and 24° C. and the temperature of an outside shed between 3° and 16° C." On the other hand, virgin soils, sandy or peaty, "are absolutely inimical to the growth of the typhoid bacillus."

Dr. Martin's further investigations were made on natural "unsterilised soils which in the sterilised condition were found favourable to the growth of the bacillus. In not a single instance, however, was the typhoid bacillus regained, *although laborious and prolonged experiments were made* with this object. The obvious conclusion, therefore, was that under the conditions of the experiments the presence of the bacteria of the soil had either prevented the *detection of* the bacillus or had inhibited its growth and so led to its ultimate death and disappearance. It must be remembered that the typhoid bacillus does not form spores, so that its continued vitality depends on its power of multiplication and division. There is no resting-stage of this micro-organism as far as is known, and although in sterilised soil the bacillus will retain its viability for a while if the soil be dried at a low temperature to a powder, yet soon afterwards it dies and can never be re-vivified. Placed, therefore, amidst other bacteria under certain conditions of moisture and temperature the bacillus may in unsterilised soils be beaten out of the field by the other bacteria present." Dr. Martin's further experiments brought him to the conclusion that "there is some evidence to show that under the conditions of experiments the disappearance of the bacillus has taken place *pari passu* with an increase in the number of the putrefactive bacteria." In these experiments Dr. Martin has adopted a method of isolating the typhoid bacillus from the other bacilli present in the soil which appears to give more satisfactory results than the methods which have been previously adopted.

In a long and elaborate paper by Dr. Justyn Karlinski, published in the *Archiv für Hygiene*, Band xiii., Heft iii., the author details a number of careful experiments on the behaviour of the typhoid bacillus in earth and he draws the following conclusions.—"1. The longest life-duration of the typhoid bacillus in earth did not exceed in his experiments three months. 2. The life duration of the bacillus buried with typhoid excreta and hence under natural conditions is essentially shorter than bacilli in the blood buried in earth at the same time. 3. In the deeper layers of the earth the typhoid bacilli bid defiance to moisture, to alternations of temperature, and to the activity of other micro-organisms. 4. Exposed to moisture and sunshine on the surface of the ground the bacilli quickly die. 5. Alternating and copious moisture, whether the moisture rises into or falls on to infected earth, essentially shortens the life duration. 6. In layers of earth in which there are the active roots of plants the life duration is very short. 7. The typhoid bacilli may be recognised three months after death in certain conditions of delayed putrefaction and when the specific micro-organisms of putrefaction are denied access." (*Journal of Public Health*, vol. iv., 1891-92.)

Dr. Klein made some experiments, the results of which will be found in the report of the medical officer of the Local Government Board for 1898-99, on the Fate of Pathogenic and other Infective Microbes in the Dead Animal Body. He was unable to find the bacillus typhosus, or the bacillus coli, or the proteus vulgaris or any other aerobic microbe in the bodies of guinea-pigs which had been previously inoculated with those bacilli, buried, and exhumed 30 days or more later. His experiments showed "that the typhoid bacillus is even less resistant than the cholera vibrio. In 20 days after burial, no matter in what form this had taken place, typhoid bacilli could not be recovered from any of the bodies; from a guinea-pig buried in sand they could not be recovered after 14 days." "The German Commission exhumed the animals not earlier than one month after burial, and their examinations of the dead bodies for typhoid bacilli were in all cases negative."

In the *Journal of the Pasteur Institute* for February, 1897, is a paper by M. P. Remlinger and M. G. Schneider of the Val-de-Grâce laboratory on the Ubiquity of the Typhoid Bacillus. The authors attempt to answer the question, "Does the bacillus of typhoid exist in nature outside the sick man and the products which emanate from him?" A series of experiments extending over many months was carried out on various materials, such as the public water-supplies and wells of several towns having epidemics of typhoid, the soil and dust from different localities, the discharges from the digestive tract of persons not affected with typhoid, &c., and a bacillus giving all the principal laboratory reactions of that of typhoid was obtained from all these sources. The following illustrations are of special interest. In 13 samples of soil and dust the bacillus typhosus was found seven times, (*a*) in the refuse from barracks where there were some cases of typhoid; (*b*) in dust from the laboratory floor; (*c*) in the space between the joists of a room in other barracks; (*d*) in four specimens of soil, both superficial and a metre in depth, from the courts and gardens of Val-de-Grâce. These in three instances were pathogenic for animals. In the examination of the fæces of 10 persons treated at the hospital for affections which had nothing in common with typhoid, five reacted like the bacillus typhosus. Thus (*a*) in a case of leukæmia specimens examined at intervals of 15 days gave each time a positive result, (*b*) in one case of acute tuberculosis without intestinal lesions; (*c*) in a case of premonitory dysentery; (*d*) in two cases of chronic malaria. None of these patients had ever had typhoid fever. Of the bacilli from these five cases four were pathogenic for guinea-pigs. In many additional cultures from water, soil, and the intestines, bacilli with every characteristic of bacillus typhosus were found, except that they were not pathogenic for animals and were not agglutinated by the serum from a typhoid patient. In other words they seemed the same species but attenuated as to virulence. After some remarks illustrated by comparisons with the variations of the cholera vibrio, these investigators state: "It is allowable to suppose that facts of a similar kind reproduce themselves in connexion with the bacillus typhosus. The species of the bacillus of Eberth comprehends, perhaps, varieties more or less numerous which do not probably react similarly under the influence of the serum of an animal immunised against a determined variety. The belief in the invariability of type in pathogenic microbes is to-day much weakened by many facts. The question of race, descendants from a common stock but altered by unknown vicissitudes, acquires an importance which must not be underrated. Why should not this theory apply to the bacillus typhosus? We incline to think that bacilli not pathogenic and indifferent to the serum test which are encountered in water, soil, &c., are only varieties of the bacillus typhosus; at least, the parentage is evident even if the identity is not absolute. This diversity of fundamental type will perhaps serve to explain the variable forms of typhoid infection which are becoming recognised. If this interpretation of facts is exact the following conclusion will result. The bacillus typhosus is distributed in nature outside the human body; it is found in potable waters, in soil, in the intestines of persons not attacked with typhoid, and without doubt forms a part of the microbic flora of the media which surrounds us. This idea is not subversive of recognised facts as to the general etiology of typhoid, but rather enables us to conceive and comprehend facts otherwise inexplicable. Daily observations, especially noted in rural places, have set in relief the part played by contagion in the formation and extension of certain epidemic centres; their value remains. Modern researches have demonstrated the prime importance of impure waters in its development and spread; the character of the proof defies all question. But all the cases must originate from contagion or water polluted with the dejections of typhoid patients. Many times it breaks out in patients or groups worn out with fatigue, overwork, or privations, or after eating various foods, without its being possible to trace the origin of the contagion or the use of a badly polluted water. The facts conform more easily with the idea of the widespread presence of the bacillus typhosus, which accounts for its dispersion in surrounding media and its presence eventually in our natural cavities. A water reputed pure may carry it. Thus introduced into the organism it will live there unoffensive till some depressing circumstance, a fortuitous assistance, perhaps the result of some associated microbe, will open to it a career of action."

Dr. John Robertson, the medical officer of health of Sheffield, made a number of experiments with soil "out-of-doors." The results of these experiments "prove that the typhoid organism is capable of growing very rapidly in certain soils and that apparently under certain conditions the organisms can survive from one summer to another. The rains of spring and autumn or the frost and snows of winter do not kill them off. Sunlight has a most powerful bactericidal influence on the typhoid organism." But this action is limited strictly to the organisms actually on the surface, a layer of soil one-sixteenth of an inch in thickness protecting them. "Cultures of the typhoid organism planted at a depth of 18 inches grew to the surface; so also patches inoculated on the surface showed that at least the organism could grow downwards to a depth of three inches." (*British Medical Journal*, Jan. 8th, 1898.)

According to Liebermeister "the curves representing the frequency of typhoid correspond to the curves of average temperature, only with this difference—the different points of the typhoid curve follow those of the temperature curve by an interval of some months," and he suggests that it takes two or three months for the changes of temperature to penetrate to the breeding places of the typhoid germs. (*Ziemssen's Cyclopædia*, vol. i., p. 65.)

The present war in South Africa has lent additional interest to the question of typhoid fever in armies and the ways in which it spreads under the circumstances of camp life. In an article on Typhoid Fever in Armies in the Field, by Surgeon-Major Vincent, professor agrégé at Val-de-Grace, Paris, he states that "the predisposing causes were the average age of the soldier; the time of year chosen for military operations, summer or autumn; imperfect feeding and the digestive troubles which resulted therefrom; the inevitable deficiencies as to hygienic conditions as regards both the soldier's body and his clothes; a hot climate, as is the case in colonial wars; the shutting up of troops in camps or besieged towns; a very prolonged war and the demoralisation of an army when conquered. The immediate cause was the ubiquitous bacillus typhosus. This bacillus was able to live in a latent condition in the digestive tract and thence under favourable conditions to multiply itself and give rise to the appearance of a spontaneous epidemic." (THE LANCET, August 11th, 1900, p. 437.)

Some information on the matter is to be derived from the report of Dr. G. Pratt Yule on the camps in the Orange River Colony, published in the *Times* of Dec. 16th, 1900, the most important sentence in which from our point of view is the following. After referring to the fouling of the ground round the tent doors by urine and slops, he says: "Practices such as these have undoubtedly proved the source of a large proportion of the typhoid cases, and these will certainly greatly increase during the coming summer and autumn. In this particular it is important to remember that urine of convalescent typhoid fever patients often contains a pure culture of the typhoid germ which by methods of disposal like the above becomes blown about in the dust of the camps. I am of opinion that the typhoid infection of the camps is principally air-borne."

In the *British Medical Journal* of Nov. 10th, 1900, is an article on an outbreak of typhoid fever at Quetta, India. At this place the water-supply is derived from the hills and is above suspicion. There was, as usual, freedom from typhoid fever up to May but from May 2nd to 13th there were dust-*storms with sore throat and tonsillitis, followed by an outbreak* of typhoid fever, some of the cases commencing with *sore-throats. The night-soil was placed in pits to the north-*west, from which the prevailing wind blew, and in the dry air the deposited matters were dried and blown about as dust. Those companies suffered most who were nearest to the filth-pits; the air from the quarter where the filth-pits were contained "large numbers of germs that are invariably present in fæcal matter and not in pure air, although the enteric bacillus itself was not isolated." It appears from a subsequent article on Sept. 14th, 1901, that "the outbreak ceased on removal of this source of infection." It is also stated that in Jhansi, Nasirabad, Mhow, and Rawal Pindi typhoid fever prevails during the dry season and the dust-storms, and that, on the other hand, Roorkee has very little typhoid fever and is comparatively free from dust.

Dr. H. E. Leigh Canney has published an interesting paper on Typhoid, the Destroyer of Armies, and its Abolition. He holds the view that nearly all the cases of the disease on service are water-borne and in order to prevent it he propounds a scheme for boiling the whole of the water used and suggests the formation of a Royal Water Corps to be devoted to the work of supplying sterilised water, boiling the milk, and "the disinfection of all salads after they have been washed in ordinary water," the watchword of the water corps on a campaign to be "boiled water or nothing" These suggestions met with considerable support at the meeting of the Royal United Service Institution, where the paper was read. Sir William Broadbent, the chairman, pointed out that "whatever importance might attach to dust and flies they were subsidiary to the infection by water. With regard to the efficiency of the method proposed by Dr Canney, Sir William Broadbent thought that if it could be secured that no soldier drank anything but boiled water they would get the upper hand entirely of typhoid The whole question turned upon the practicability of the scheme which had been well thought out and was not brought forward in a nebulous condition. Although, of course, they must bear in mind that after a long march or after the excitement and exertions of a fight a soldier could not be prevented from drinking the first water he came across, yet if he started with his bottle full of pure water and the water-carts contained nothing but pure water, whilst only pure water was drunk in the camps, an enormous gain would have been secured." Major R H Firth, the professor of military hygiene at Netley, expressed great sympathy with the proposed scheme. He considered that sanitary officers should undergo a special training and they must be supplied with properly instructed men to carry out the work. Dr. J. W. Washbourn insisted that the disease was also conveyed by flies and dust and thought that it was not difficult to provide for a proper disposal of excreta and so to prevent much of the distribution of the poison of the disease by the agencies just mentioned

A discussion on the Recent Epidemic of Typhoid Fever in South Africa was opened at the Clinical Society of London by Dr. Howard H. Tooth and reported in THE LANCET of March 16th, 1901, pp. 771, 786. He is of opinion that the disease is spread in South Africa not merely by polluted water but also by dust and flies, and he says of the flies that "they naturally infest persons who are ill but seem to be peculiarly attracted to enteric fever patients, hanging in loathsome groups around their mouths and feeding-vessels. They were all over our food, and the roofs of our tents were at times black with them. It is not unreasonable to look upon flies as a very possible agency in spreading the disease not only abroad but at home." He also points out "that with the first appearance of the frost enteric fever almost entirely disappears .. . it seems *hardly credible that the almost* sudden cessation of an epidemic can be due to the effect of cold upon the enteric fever bacilli only. But there can be no doubt in the mind of anybody who has been living on the open veldt as we have for three or four months that the flies are extremely sensitive to the change of temperature and *that the cold nights kill them off* rapidly. On consideration of these points it is surely justifiable to assign an important share to flies in the spreading of infection."

In the *British Medical Journal* of Feb. 15th, 1902, is a paper by Lieutenant-Colonel R. H. Quill, R.A.M.C., senior medical officer, Ceylon, on Air-borne Typhoid Fever. He maintains that the disease is frequently air-borne and gives *his experience of it at the camp of Diyatalawa* in the hills of Ceylon, which was formed in August, 1900, for the Boer prisoners of war There occurred at this camp an outbreak of typhoid fever which was certainly not due to the water *or milk*, the water-supply and filtration arrangements having been changed in no way since the cessation of the epidemic *among* the prisoners, and there have been no cases of typhoid fever since 1900 No uncooked food or vegetables were used in the camp. All men leaving the camp for purposes of duty or pleasure were obliged to take with them a water-bottle filled with filtered water. The aerated waters used in the camp were identical with those used at the sanatorium where there was no typhoid fever Lieutenant-Colonel Quill was driven to the conclusion that the affection was air-borne, being derived from the adjoining camp for prisoners of war, where at the time an epidemic of typhoid fever was raging. After giving his reasons for that opinion he submits that he has shown (1) that all water avenues through which typhoid fever could have been conveyed to the military camp at Diyatalawa were efficiently guarded and that therefore a water-borne origin must be abandoned; and (2) that the affection was air-borne, resulting from emanations from specifically infected latrines, infected dust, or bacilli-laden flies.

Dr. A. Elliot and Dr. Washbourn contributed a paper on Typhoid Fever in South Africa to THE LANCET of Jan. 18th, 1902, p. 139. They conclude "that the type of typhoid fever met with in South Africa does not differ in any essential respects from that met with in England and America. The mortality and the incidence of complications are much the same as in the variations which are met with elsewhere; the only complication which appears to be especially prominent is phlebitis which occurred in 5 6 per cent. of our cases. .... We do not feel that inoculation has any marked influence either in preventing or in modifying the disease."

Since then Dr. George Turner, the medical officer of health of the Transvaal, has contributed a paper to the *British Medical Journal* of Feb. 15th, 1902, on Typhoid Fever in South Africa, its Cause and Prevention. In it he states that he should not advance his opinion on the matter if he "did not feel that the growing tendency to attribute enteric to wind and flies was not becoming a source of danger." He maintains from six years' experience "that the causation of epidemics in South Africa is practically similar to that which gives rise to the majority of cases in England—viz., a polluted water supply" He states that only on one occasion has he "had any grounds for supposing that dust was concerned in the production of typhoid and on that occasion the dust appeared to have acted through the agency of the water used for drinking" He does not deny absolutely the possibility of typhoid infection by means of wind-borne dust but he says that it is rare. "As a matter of fact, typhoid cases are less frequently met with just at the period at which *dust-storms* prevail and are more numerous when, on account of heavy rain, dust is less troublesome. This, to my mind, is conclusive proof that dust does not exert much *injurious* influence as regards typhoid. As regards flies I can only say that I hold a similar opinion. The possibility of the conveyance of enteric through these pests is undeniable, but in this instance *also* the *supposed cause, the* flies, begin to be troublesome long before typhoid prevails and continue to annoy us long after it has subsided. If the flies were really important agents in the spread of typhoid fever one would expect that even if the disease did not commence to prevail soon after these nuisances commenced to be numerous, .. . *because it is conceivable that* at the time typhoid-infected stools would be rare, yet when once typhoid became common the flies should carry on the infection which should continue as long as, or longer than, the flies continue." Finally, he strongly maintains that "typhoid in South Africa is almost entirely due to polluted water" He *admits that filters were* sent out with the troops but states that they were not generally used; while, on the other hand, "where the commanding officer had a 'fad about water' the case incidence of typhoid was insignificant." To show that he does not underrate the difficulty of supplying an army with water when on the march he adds: "My private opinion is that if the army had been supplied with the best sanitary expert advice on the march from Paardeberg to Bloemfontein one of two things would have resulted, either the army would never have reached Bloemfontein or it would, as it did, have suffered from fever; one or other of these results was inevitable." The report of the Commission sent to South Africa, consisting of Professor J. Lane Notter, Professor W. J. R. Simpson, and Lieutenant-Colonel Bruce, has not yet been published, so that unfortunately I cannot avail myself of the information contained in it for the purpose of this lecture. I have, however, Professor J. Notter's permission to state as his own personal opinion that he considers "that while water was a very frequent cause of typhoid fever among the troops it could not, I think, be said to be the *only* cause of it. Others were the aggregation of men on limited areas—density of population—without any of the usual methods of drainage and the disposal of excreta and refuse which exist where numbers are usually congregated together in towns and villages in civil life; this state of things is always present in standing camps; the transference, too, of the contagion by flies, which constitute a real danger unless food is properly stored and kept from them, especially where trench latrines are used. The soil, too, is an important factor; the ground seems wanting in nitrifying organisms, the result being that animal refuse remains long without undergoing that process of disintegration and oxidation that is usual in this country. Perhaps this is due to the absence of lime or like base, for lime is seldom found in large tracts of the Orange River Colony and Transvaal."

I originally intended the subject of these lectures to be merely the "Etiology of Typhoid Fever" and this would have been quite sufficient, but I afterwards thought that it would add to their interest if I showed how the mortality from this disease has been diminished in this and in some other countries by suitable methods of prevention. The methods of prevention themselves are those which apply to any infectious disease and have been described so frequently that there is no need for any further account of them, the only peculiarity in the case of typhoid fever being that less attention need, as a rule, be paid to the methods of preventing direct infection, whilst the greatest attention should be given to the prevention of indirect infection by the channels which have been already described in these lectures. As the disease is no doubt chiefly conveyed by drinking-water it is of the highest importance that this water should not be contaminated with the typhoid poison, or, as Sir John Simon puts it, "It ought to be an absolute condition for a public water-supply that it should be uncontaminable by drainage." Suitable precautions, too, must be taken to prevent other foods, such as milk, oysters, &c., from becoming contaminated. The soil under houses and the air in and around them must be kept pure by the adoption of methods for the removal of excreta from the vicinity of habitations speedily and continuously. The late Sir George Buchanan showed us that the death-rate from typhoid fever was especially lowered in towns where refuse matters were removed most quickly. Among these methods for the prevention of the contamination of the soil and the air are the provision of water-tight house drains, their disconnexion from the public sewers or cesspools, their proper ventilation, and the provision of sanitary appliances and pipes which insure the speedy removal of the foul matters from the houses and prevent the escape into them of any foul air from the drains or sewers. All these matters have been so thoroughly discussed by me in other public lectures that it is quite unnecessary for me further to enlarge on them here.

There appear to be differences of opinion with regard to the disinfection of typhoid excreta; some advocate mixing them with sawdust or other absorbent material and burning them, whilst others are in favour of boiling them. On this subject I may quote Lieutenant-Colonel G. H. Younge, R.A.M.C., who wrote in the *British Medical Journal* of Jan. 18th, 1902: "When in India I tried the process of incineration of enteric excretions mixed with sawdust, but the attempt had to be discontinued as it was found impossible completely to burn the wet sawdust in any incinerator that could be extemporised. On the whole, therefore, I have a decided preference for sterilisation by boiling, as it is quite as effective, less expensive, and more rapid and convenient than incineration." This seems to me to be unanswerable and it is, in fact, obvious that the simplest and quickest way to disinfect liquid excreta must be to boil them.

In a remarkable report on the Results which have hitherto been gained in Various Parts of England by Works and Regulations designed to promote the Public Health Sir George Buchanan said: "Many of the public improvements have coincided with reduction of typhoid. Though not with absolute constancy, drying of the soil of a town and reduction in the crowding of houses have been followed by reduction of fever. Much more important appears to be the substitution of an ample supply of good water for a scanty and impure supply; other things being equal the towns in which this substitution has been completed have made most improvement. Merthyr is a conspicuous instance of a town where before any other important change had been made typhoid fell to a notable extent as soon as inspection and cleansing were adopted. It is, however, the purification of atmosphere from decomposing organic matters that has been most uniformly followed by a fall in the prevalence of typhoid. And this has occurred equally whether the purification has been brought about by the abolition of cesspools or by draining and drying 'middens.' Apparent exceptions, indeed, are found in certain towns (viz., Rugby, Carlisle, Chelmsford, and Worthing). But in these four towns and in no others sewage is received into pumping works at the outfall in such a way that sewer gases are necessarily much confined in the pipes. In the case of Worthing the defect of the outfall arrangement was most serious and in the absence of other exits sewer gases had demonstrably been forced into houses and outbreaks of typhoid had occurred as the demonstrable result thereof. In the other towns, though to an inferior degree, there were facilities for the same accident occurring. So that it appears that the four towns where fever has not been greatly reduced are so far from constituting an exception to the rule—that removal of organic impurity from the air has been followed by reduction of typhoid—that they even add strongly to the presumption that the rule is absolute and universal." (Ninth report of the medical officer of the Privy Council, 1866.)

In May, 1899, Dr. Saltet, professor of hygiene in the University of Amsterdam, read an important paper before the Epidemiological Society on a Study of Enteric Fever in the Netherlands during the period 1875 to 1894. He stated that "during the last decade the number of deaths from typhoid fever has been, generally speaking, on the decrease" and this to a greater extent than the decline in the general death-rate, for while he shows that the general death-rate in the Netherlands declined in the period under review from 23·3 per 1000 living during the quinquennium 1875 to 1879 to 20·0 during the quinquennium 1890–94, or an improvement of 14 per cent., that from continued fevers has declined from 60 per 100,000 to 22, or an improvement of 63 per cent., thus showing "that typhoid fever as a preventable disease *par excellence* has yielded more favourably to the improved condition of the times than other diseases." He then discusses the influence of density of population and comes to the conclusion that "the favourable factors of town life appear thus to outweigh the unfavourable conditions due to density of population." With regard to drinking-water he arrives at the interesting and unexpected conclusion that the death-rate from continued fevers is higher in communes supplied with water from the sandhills than in those with a river-supply, although it has decreased considerably in both; thus in those with the water-supply from the sandhills the death-rate from continued fevers was 60 per 100,000 in the first quinquennium and fell to 19 in the fourth quinquennium, whereas that in communes with the river-supply was 32 in the first quinquennium and fell to 15 in the fourth. Professor Saltet's explanation of this anomalous state of affairs is that "in communes on rivers a sufficient quantity of fresh water is always to be obtained independent of water systems. A number of communes with the ground-water system were, however, frequently suffering from a want of water. Now want of water means want of cleanliness, and it is not at all unlikely that *and* a better quality *and* a more adequate quantity of the drinking-water supply as well as the more liberal use of it have greatly assisted in bringing down the death-rate from fevers. The striking fact remains, however, that in communes with the ground-water system the death-rate from general causes is lower, whilst the mortality due from continued fevers is higher than in the river-water communes. This phenomenon impresses us even more forcibly if we consider that Asiatic cholera, a disease especially propagated by drinking-water, has in the Netherlands played the greatest havoc along the course of the rivers." This would make it seem probable that the increased amount of typhoid fever in communes with a water-supply from the sandhills was due to some other cause than the water, or else that the sources of water-supply are liable to surface contamination.

The hitherto published results of anti-typhoid inoculation are so contradictory and, moreover, are based on such small numbers of cases that I do not think any good end would be attained by further alluding to them

In preparing Tables III. to VI. I have been able to include the statistics for 1900 and so to make the tables complete to the end of the last century, owing to the courtesy of my friend Dr J F W Tatham, chief of the Statistical Department of the General Register Office. Table III shows the remarkable diminution in the general death rate of London during the last half of the last century It will be seen from it that the average general death rate from 1851 to 1870 was 24 1 per 1000 per annum and that it had gone down to 18 8 in the quinquennium 1896 to 1900, the dates at which the important Acts relating to the public health were passed are shown in the table.

TABLE III —*London*

Years	Average death rates per 1000 per annum.
1851-1870	24 1
Nuisance Removal Act 1855, Sanitary Act, 1866.	
1871-1890	22 5
Public Health Act London 1891	
1891-1895	20·2
1896-1900	18·8

In Table IV the corresponding figures are shown with regard to the general death rate in England and Wales. The average from 1849 to 1875 was 22·4 per 1000 per annum. The Public Health Act was passed in 1875 and after that the table shows a steady diminution of the death rate until in the quinquennium 1896 to 1900 it was only 17·6.

TABLE IV —*England and Wales*

Years	Average death rates per 1000 per annum
1849-1875	22·4
Public Health Act 1875	
1876-1880 ..	20·8
1881-1885	19·4
1886-1890 ..	18·9
1891-1895	18·7
1896-1900	17·6

Dr Bulstrode prepared a most interesting chart and maps showing the annual death rate from typhoid and continued fevers per 100 000 living in the counties of England and in North and South Wales during each of the decades 1871–80 and 1881–90 They show "that whilst enteric fever has been undergoing enormous diminution in this country, the areas of both its maximum and minimum incidence have remained practically the same during the 20 years 1871 to 1890, which have witnessed such great improvements in the sanitary circumstances of our towns and villages. The chart shows, amongst other things, that whereas this (typhoid and continued) fever death rate in England and Wales was 43 per 100,000 living during the decennium 1871 to 1880 it had fallen to nearly half—viz., 22 per 100,000—during the decennium 1881 to 1890 ' (Sir R. Thorne, twenty-sixth report of the medical officer of the Local Government Board, 1896–97)

TABLE V —*Average Annual Death rates from continued Fevers and Diarrhœa per 1 000,000 Persons living in England and Wales*

Years	Continued fevers (chiefly typhoid).	Diarrhœa.
1861-70	885	1076
1871-80	482	936
1881-90	235	674
1891 95	185	630
1896-1900	180	788

TABLE VI —*Average Annual Rates of Mortality from Typhoid Fever per 1,000 000 Persons living in each Quinquennium from 1871 to 1900*

—	1871-75	1876-80	1881-85.	1886-90.	1891 95.	1896-1900.
In England and Wales	354	278	218	180	178	178
London	256	234	226	150	136	148

Table V shows that the rate of mortality in England and Wales for continued fevers (chiefly typhoid) has been reduced from 885 per 1 000,000 persons in 1861–70 to 180 in 1896–1900 and for diarrhœa from 1076 in 1861–70 to 630 in 1891–95, but that the latter rose again to 788 in 1896–1900, and Table VI. shows the steady diminution of the death rate from typhoid fever alone during each quinquennium from 1871 to 1895 both in England and Wales and in London. It will be noticed that during the last quinquennium (1896–1900) the death rate from this disease was the same in England and Wales as in the previous quinquennium (1891–95) thus showing no diminution while in London there was actually an increase in 1896–1900, when the average rate was 148 per *1,000,000 persons over that in 1891–95, when it was 136.* This, as well as the increase in the diarrhœa rate, was due to an unusual prevalence of both these diseases in the years 1899 and 1900

I have already referred to the remarkable diminution of the death rate from typhoid fever at Munich owing to the improvements carried out under the advice of the late Professor Pettenkofer, a diminution which is even far more remarkable than the diminution in London and in this country generally

From a paper on the Diminution of Typhoid Fever in Paris published in the *Revue Municipale* of Dec. 29th, 1900 I find that the death rate from that disease per 1,000 000 persons living has diminished in a very notable manner, as shown by the following figures. In 1882 it was 1430, from 1883 to 1888 it was 581, from 1889 to 1894 it was 293, and from 1895 to 1900 it was 172. And this in spite of a recrudescence in 1899 and 1900, which was brought into prominent notice on account of the great Exhibition held in Paris in 1900 but which was shared by London and England generally and would not have been specially noticed had it not been for the Exhibition.

NOTE ON THE RELIEF OF A DISTENDED JOINT BY THE ESTABLISHMENT OF SUBCUTANEOUS LEAKAGE[1]

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THIS communication is called a 'note' because I have to speak from memory and not from recorded data. The cases which I recall occurred chiefly in my early days as surgeon to the Leeds General Infirmary, at a time when we had no very *satisfactory system of preserving for ready reference the* records of surgical cases.

CASE 1.—The first instance in which I deliberately employed this treatment was as follows. A young woman about 25 years of age was under my care on account of an acute distension of one knee attended with intense pain The conditions suggested to my mind suppuration and the question whether I ought not to open and to drain the joint. As such a proceeding was at that time more or less on its trial I held a consultation with my colleague who agreed with me that pus was almost certainly present and that I should be justified in opening and draining the joint. As a commencement I punctured the joint carefully with the narrow curved bistoury of the period and by turning it sideways I allowed some of the fluid to escape. To my dismay the fluid was not pus but slightly turbid synovial fluid. After hesitating for a minute what to do and with the fear before me which we had at that time of opening a joint that was not suppurating, I decided so to manœuvre the knife as to make an opening in the capsule about half an inch in length in order that the fluid might leak into the surrounding extra-articular tissues where it was likely to be absorbed. In order to render this process as thorough and rapid as possible I made three or four other punctures into separate regions of the synovial cavity, taking care that the openings in the skin were not larger than the width of the narrow blade, whilst the capsular openings were about half an inch in length. The result proved to be even better than I dared to hope. The pain ceased, the effusion disappeared, and the joint rapidly recovered. The idea occurred to me, no doubt, from having seen the effect of acupuncture of hydrocele in children, in which several leakage punctures allow the fluid to disappear into the cellular tissue and become absorbed. Also, I have some recollection that the older surgeons occasionally treated pleuritic effusion by acupuncture with a view to allowing the pleural fluid to leak into tissues outside the thorax and to become absorbed.

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[1] A paper read before the Leeds and West Riding Medico-Chirurgical Society on Feb 28th, 1902.

The case I shall next refer to occurred in private practice and of this I have notes.

CASE 2.—A boy, aged nine years, who was always delicate but who suffered from no known injury, began to walk with a slight limp which increased without much pain. There was arching of the back when the right limb was straight upon the bed. On March 6th, 1891, under ether, I made a subcutaneous incision through the capsule of the right hip-joint so as to establish a leakage, and at the same time I divided the tensor vaginæ femoris and the abductor longus tendon which were tense. On the 24th the immediate result seemed to be satisfactory. The patient was out-of-doors a good deal walking about and he slept and ate well. The report on April 15th was, "Going on well," but on May 10th it was, "Not so well, more pain." On Sept. 1st the note states, "Going on favourably, able to go about but walking lame." On Jan. 15th, 1892, the patient had relapsed and an abscess was forming in the front of the hip-joint. The head and neck of the bone were therefore excised, the head being eroded. In this case there was a temporary arrest of the synovial distress but the treatment eventually failed, probably because the focus of the disease was beneath the articular surface of the femur.

My colleague and former house surgeon, Mr. W. H. Brown, tells me that he well recollects one case of mine of distended elbow-joint in which subcutaneous leakage arrested the distension of the synovial membrane. My colleague, Mr. Harry Littlewood, remembers my conversations on this subject, and says that from them he deduced his practice in reference to operations on joints. When he opens a joint with a healthy, or comparatively healthy, synovial membrane, he is careful not to close entirely by suture the synovial cavity, but he leaves a sufficient opening to allow synovial effusion to leak into surrounding tissue where it is absorbed and does not become a source of injurious distension.

Remembering that some 20 years ago Dr. James Hardie, surgeon to the Manchester Infirmary, had proposed to read a paper at the meeting in Manchester of the British Medical Association on this or a kindred subject I wrote to ask him about it. He has kindly sent me a reply which he allows me to use:—

> MY DEAR SIR,—You are quite right in thinking that I had at one time something to say about subcutaneous incision of joint capsule. I never read the paper, however, nor did I publish it. It had reference entirely, I think, to the hip. I had in several cases opened the distended capsule with a tenotome with great relief to suffering and, as I believed, with advantage as regards the progress of the case. My views as to the pathology of hip disease underwent a change about that time, however, as I came to the conclusion that in the great majority of cases it begins in the subchondral layer of bone and then affects the synovial membrane, instead of beginning in the latter. For that reason I came to regard early excision as the treatment.
>
> JAMES HARDIE.

Perhaps some apology may be due from me for bringing forward a method of treatment which is probably only applicable to a case now and then under exceptional circumstances and in support of which I have such scanty data to produce. As, however, I am convinced that there is a possible sphere in which it may prove of value I think that it is right to place my views before the profession, hoping that the suggestion may sometimes and in other hands prove fruitful.

Leeds.

A CASE OF FAT-EMBOLISM AFTER FRACTURE, WHERE FAT WAS PRESENT IN THE SPUTUM AND URINE.[1]

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THE following account of a case of fat-embolism after fracture may prove of interest, for of recent years little attention has been directed to this subject and few cases have been recorded in this country.

A male, aged 43 years, was admitted into the Manchester Royal Infirmary on Nov. 8th, 1901, suffering from a compound fracture of the right tibia, about its middle, which was caused by direct violence, a bale of cotton having fallen across his leg a few hours previously. There was a small punctured wound at the seat of fracture, but very slight bruising, and no apparent displacement or comminution of the ends of the bone. The fracture was treated in the ordinary way, the wound being syringed with a solution of perchloride of mercury, a dry dressing being applied and the limb being put up on a back splint with a footpiece. On the following morning the patient was unusually drowsy and his friends who visited him noticed that there was a distinct impairment of his usual mental condition. In the evening he rambled slightly in his talk and made several attempts to get out of bed. His temperature was 100·4° F. On the 11th the drowsiness was more marked, so that he was with difficulty aroused. When awakened and raised in bed for the purpose of feeding he would quickly lapse into a state of somnolence, even while supported in the arms of a nurse. On several occasions he coughed up some blood-stained sputum. The temperature was 100°. On the 12th a number of minute globules were noticed by my house surgeon, Mr. H. S. Lister, floating on the surface of the urine. These were examined microscopically by Dr. W. E. Fothergill, director of the clinical laboratory, and were found to consist of fat, for when treated with osmic acid they became stained of a blackish colour; no blood-cells were noticed in the urine. The temperature was normal and afterwards remained so. On the 14th an examination of the blood-stained expectoration showed numerous fat-globules mixed with red blood-cells. Evidences of consolidation were found at the base of the right lung, an area of dulness about three inches in diameter being present. There was no dyspnœa or other signs of pulmonary obstruction. After this date the patient rapidly improved, the lung clearing and the expectoration becoming free from blood. No further evidence of fat was noticed either in the sputum or urine. The drowsiness and other mental symptoms gradually disappeared. He left the hospital at the end of a month wearing a plaster-of-Paris bandage, good union having taken place and the wound having healed without any suppuration.

Remarks.—The case is a good illustration of the condition described as fat-embolism, a complication occasionally observed in fractures, simple as well as compound, owing to absorption of broken-up fat-globules by the blood-vessels. It is believed that in consequence of the crushing or splintering of the bone the fat-globules of the medulla gain access to the venous circulation through openings in the vessels in the neighbourhood of the fracture, and these acting as emboli are carried on by the blood-stream until they become arrested in the capillaries of various tissues and organs, the organs most commonly affected being the brain, the lungs, and the kidneys.

It is probable that fat-embolism takes place more frequently than is generally supposed, the symptoms being overlooked in slight cases, and if it had not been for the careful observations of my house surgeon its presence might have not been recognised in this instance. The drowsiness and other mental symptoms which were noted for several days after the injury were undoubtedly due to interference with the cerebral circulation, owing to blocking of the capillaries of the brain by particles of fatty matter.

The presence of fat in the sputum and urine showed that the lungs and kidneys were also affected, these being the organs by means of which the fat becomes eliminated from the system when recovery takes place. In severe cases the cerebral and pulmonary circulation may become so seriously interfered with, owing to blocking of the vessels, that death results, the patient in the former case becoming comatose and in the latter suffering from dyspnœa and other signs of pulmonary obstruction. Some years ago I published in THE LANCET[2] a fatal case of compound fracture of both lower extremities where this complication was met with. A microscopical examination of the lungs after death showed extensive plugging with fatty emboli, their presence in the pulmonary capillaries being rendered evident by staining sections of the lung with osmic acid, and a figure was given showing the condition which was found.

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[1] A paper read at a meeting of the Manchester Pathological Society on April 16th, 1902.

This case and the one above recorded are the only two instances of fat-embolism which have come under my notice where its presence has been actually verified, and it would be interesting to ascertain what is the experience of surgeons generally with reference to the frequency of this condition as a complication of fractures.

Manchester.

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[2] THE LANCET, July 10th, 1880, p. 47.

SOME STATISTICS REGARDING THE EFFECT OF INOCULATION AGAINST TYPHOID FEVER IN SOUTH AFRICA.

BY ALEXANDER CROMBIE, M.D. EDIN.,
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OF 250 officers who recently came before the Medical Board at 18, Victoria-street, London, S.W. (of which I am a member), invalided from South Africa on account of wounds and disease, I found that *112*, or *44·8* per cent., had been inoculated against enteric fever; that 29, or 11·6 per cent., had had a previous attack of typhoid fever; and that 109, or 43·6 per cent., had not been inoculated or had a previous attack. Of the total number (250) 59, or 23·6 per cent., suffered from enteric fever in South Africa, but of these a considerable number were actually invalided on account of debility following enteric fever, so that this latter percentage cannot be put forward as representing the real proportion of officers so infected. It is, of course, considerably higher than the actual ratio. Of the 112 who were inoculated 32, or 28·5 per cent., suffered from typhoid fever; of the 29 who had had a previous attack only 3, or 10·3 per cent., had a second attack in South Africa; and of the 109 not inoculated 24, or 22 per cent., had attacks in South Africa. Of the 112 who were inoculated 102 had been inoculated once, with 30 cases, or 29·4 per cent.; and 10 with two cases, or 20·0 per cent., had been inoculated twice. In tabular form these figures appear as follows:—

TABLE I.

—	Number	Cases	Per cent.
Inoculated once	102	30	29·4
„ twice	10	2	20·0
Total inoculated	112	32	28·5
Previous attacks	29	3	10·3
Not inoculated	109	24	22·0
Totals	250	59	23·6

I wish to offer as few comments on my figures as possible, but it is only fair to state that there is a very general consensus of opinion among medical officers in South Africa that inoculated cases run a milder and more favourable course than the non-inoculated do. According to the statistics of Dr. H. H. Tooth this leads to a higher percentage (2·5 per cent.) of recoveries among men, and for obvious reasons it would probably be higher among officers. If this is so a group of invalided officers would contain a higher percentage of cases among the inoculated in the proportion of the higher percentage of recoveries.

Assuming that inoculation affords a certain amount of protection against infection, as Professor Wright's statistics would seem to indicate, I have endeavoured to arrive at a conclusion as to how long that protection lasts. For that purpose I ascertained from each officer the dates of his inoculation and of his arrival in South Africa, when it is presumed that he became liable to infection, and the date of his attack of enteric fever. In all but one case the inoculation was performed on board ship on the way out—that is to say, 10 or 14 days before arrival in South Africa, and in the following tables the date of inoculation is ignored as complicating them unnecessarily, and it can be calculated from these data. The one exception was in the person of an officer who was inoculated twice before leaving England.

In the following table the first column gives the months after arrival in South Africa and the other columns the number of officers affected in each month after arrival, among the non-inoculated as well as among the inoculated, so as to obtain a basis for comparing their relative susceptibility at increasing periods after disembarkation. This table also shows the average time which elapsed between disembarkation and the attack. It shows that the average date of attack among the inoculated was 9·4 months (9·8 for those inoculated once and 6·5 for those inoculated twice) and 10·3 months among the not-inoculated. I made the calculation at several periods of the inquiry and found that it always maintained the same relation, showing obedience to some law affecting the figures.

TABLE II.—*Showing the Actuals attacked in each Month after Disembarkation in South Africa among Inoculated and Not-inoculated as well as the Average Time of Infection.*

Months.	Inoculated.			Not inoculated.
	Once	Twice.	Total	
1	—	1	1	—
2	—	—	—	2
3	7	—	7	7
4	1	1	2	2
5	3	2	5	1
6	4	—	4	2
7	3	—	3	2
8	1	—	1	—
9	5	—	5	3
10	2	—	2	1
11	2	1	3	3
12	4	—	4	2
More than a year.	14	1	15	16
Totals*	46	6	52	41
Aggregate of months ..	457	39	496	399
Average time in months ...	9·8	6·5	9·4	10·3

* These totals do not agree with those given in Table I. because this inquiry was begun before the other.

In order to see the force of these figures it is necessary to reduce them to percentages. This I have done in Table III., in which the figures given represent "progressive percentages." Thus among the 46 inoculated once there were seven cases in the third month after disembarkation, giving a percentage of 15·2. By the fifth month there had been 11 cases (including seven in the third month, one in the fourth and three in the fifth) giving a progressive percentage of 23·9. In the last column is shown the difference between the incidence of the disease among the not-inoculated and the inoculated. This column shows that the not-inoculated suffered more during the second, third, fourth, and fifth months than the inoculated did; and if those inoculated twice were excluded from the table the advantage would remain with the once inoculated up to and including the sixth month. Subsequently to that time the advantage lies with the not-inoculated, an advantage which at the end of the first year and subsequently amounts to 10 per cent.

TABLE III.—*Showing in Progressive Percentages the Numbers of Inoculated and Not-inoculated attacked by Typhoid Fever at Increasing Periods after Disembarkation.*

Months.	Inoculated.			Not inoculated.	Differences.
	Once.	Twice.	Total.		
1	—	16·6	1·9	—	− 1·9
2	—	16·6	1·9	4·9	+ 3·0
3	15·2	16·6	15·4	21·9	+ 6·5
4	17·4	33 3	19·2	26·8	+ 7·6
5	23·9	66 6	28·8	29·3	+ 0·5
6	32 5	66 6	36·5	34·1	− 2·4
7	39·1	66 6	42 3	39·0	− 3·3
8	41·3	66 6	44·2	39·0	− 5·2
9	52 2	66·6	53·8	46·3	− 7·5
10	56·5	66·6	67 6	48 8	− 8 8
11	60·9	83 3	63·5	56·1	− 7·4
12	69 5	83·3	71·1	60·9	− 10 2
More than a year.	30·5	16 6	28·9	39 1	+ 10 2
—	100	100	100	100	—

The figures regarding a second inoculation are too small to form ground for any decisive opinion as to its advisability. Table I. would seem to indicate a smaller liability to attack in the long run, while Tables II. and III. point to a greater liability on exposure to infection soon after the operation.

The following are facts of general interest. A medical officer found six months after inoculation that his blood gave a well-marked agglutinative reaction. A fortnight afterwards he was in bed suffering from enteric fever, showing, as is well known, that the presence of agglutinins is no guarantee of that of alexins. Dr. B—— was inoculated twice in February and twice in June, 1897; he was again inoculated twice in February, 1900 In October, 1900, he had an attack of enteric fever in South Africa followed by a relapse and thrombosis. In May, 1901, he had a second attack of enteric fever again followed by thrombosis. When his blood was examined in London at the end of 1901 it gave no agglutinative reaction nor had it any effect on the motility of the bacillus typhosus in six hours. In three out of four cases returned in South Africa as simple continued fever a positive Widal reaction was found.

I offer these figures as a contribution to our knowledge of the prophylactic effect of inoculation against typhoid fever pending the compilation of official statistics on a large scale which, it is hoped, will be possible after the conclusion of the war.

Bickenhall Mansions, W.

AN UNDESCRIBED URINARY DEPOSIT: MONOHYDRIC MAGNESIUM PHOSPHATE.

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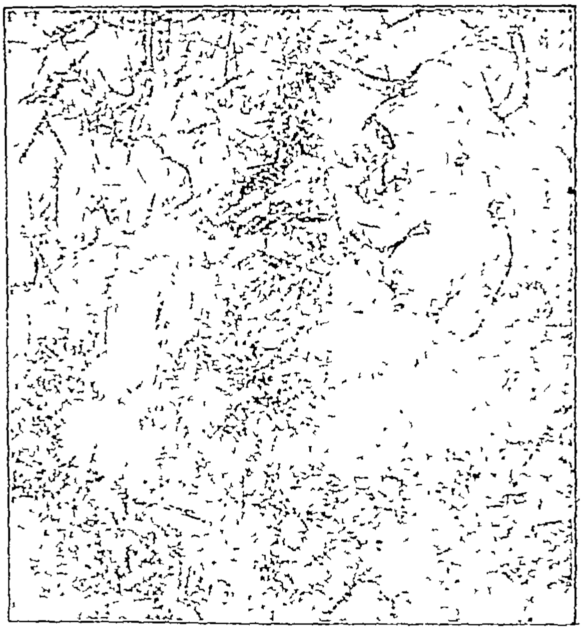
SOME time ago my colleague Mr. F. T. Paul submitted to me for examination some of the urine of a patient whom he had seen in consultation with Mr. Owen Bowen of Liverpool. The circumstances of the case were briefly as follows.

The patient was a man who suffered from dilatation of the stomach and he felt great relief from his distress by taking magnesia. Carbonate of magnesium with bicarbonate of sodium was prescribed for him in moderate doses but he also took "powdered magnesia" on his own account, so that it is impossible to say how much he was taking altogether. Mr. Paul proposed to perform an operation, but the patient died quite suddenly, presumably from perforation of the stomach, a few days after his admission to the Royal Infirmary and no post-mortem examination was allowed.

The urine which was given to me was alkaline and it effervesced with acids, but it was quite free from any odour of decomposition. It deposited an abundant sediment consisting of sparkling crystals which under the microscope were seen to be elongated needles so extremely narrow that even under objective No. 7 Hartnach many of them seemed to fulfil Euclid's definition of a mathematical line. A considerable quantity of the deposit was collected, washed on a filter, and submitted to various tests. It dissolved completely in acetic acid without effervescence but was insoluble in alkalies. It yielded the reactions of a salt of magnesium, and after solution in dilute acid it gave a yellow precipitate with ammonium molybdate and with ammonio-nitrate of silver,—reactions which showed it to be an ortho-phosphate.



Crystals of monohydric magnesium phosphate in urine. From a micro-photograph by the author.

I may be permitted to recall the fact that ortho-phosphoric acid is capable of forming three orders of salts, according as one, two, or three of its hydrogen atoms are replaced by a metallic atom. Appended are the formulæ of the acid and of the three orders of salts which it can form by combination with sodium and magnesium respectively:—

H_3PO_4	Ortho-phosphoric acid.	Na_2HPO_4 $MgHPO_4$	Monohydric phosphate.
NaH_2PO_4 $Mg(H_2PO_4)_2$	Dihydric phosphate.	Na_3PO_4 $Mg_3(PO_4)_2$	Normal phosphate.

The monohydric and the normal magnesium phosphates are scarcely, if at all, soluble in water. They are readily distinguished from each other by heating them to 400° C. on platinum foil, when the monohydric phosphate is converted into pyrophosphate by the elimination of the elements of water, according to the following equation: $2MgHPO_4 = Mg_2P_2O_7 + H_2O$. The pyrophosphate, $Mg_2P_2O_7$, is recognised by its solution in dilute nitric acid giving a white precipitate with ammonio-nitrate of silver. Normal phosphate when heated undergoes no change.

The deposit which forms the subject of the present communication was shown to be a monohydric phosphate, by its undergoing the change into pyrophosphate when heated on platinum foil.

The occurrence of monohydric magnesium phosphate as a deposit in the urine is not alluded to in any of the ordinary text-books, neither is it mentioned in Huppert's last edition of Neubauer and Vogel's great work on the urine, nor in Rieder and Delépine's more recent "Atlas of Urinary Deposits." Both these works, however, admit the occasional appearance of crystals of trimagnesium (normal) phosphate as a rare occurrence.

It seems obvious that the magnesium forming the deposit in the present case was derived from that which had been swallowed for the relief of the gastric distress. Owing to the dilated condition of the stomach we must conclude that its contents were unduly retained, so that the salts were absorbed into the blood instead of passing on into the intestines and thence escaped through the kidneys

I have examined the urine in several instances in which magnesia was being taken, some being cases of moderate dilatation of the stomach, but have failed to find any deposit of the kind I have described; I have also analysed several phosphatic calculi in the museum of University College, Liverpool, but have not succeeded in finding any of the monohydric magnesium phosphate as a constituent.

Apart from the interest attaching to all abnormal states of the urine I think that the present communication is not without its bearings on practical medicine. In the first place, unless the nature and mode of origin of these crystals[1] were understood their discovery in the urine might give rise to misapprehension and perhaps to groundless alarm in the mind of the physician, and, secondly, their presence seems to indicate that the stomach meets with difficulty in emptying itself and so might suggest the existence of serious organic disease.

Finally, we have to ask ourselves, in the light of the present case, whether these crystals may not sometimes coalesce so as to form massive concretions, whether, in fact, the free administration of magnesia may not be an occasional factor in the production of phosphatic urinary calculi.

Liverpool.

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[1] These crystals were demonstrated and described before the Royal Medical and Chirurgical Society of London on Nov 27th 1900.

A CASE OF OVARIAN TUMOUR WITH SPONTANEOUS RUPTURE AND ŒDEMA OF THE LEGS SIMULATING MALIGNANCY

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A PATIENT, single, aged 61 years, was sent to me in January, 1902, by Mr F. J. Hart of Much Wenlock complaining of an abdominal swelling and œdema of the legs. She stated that she had had the change of life eight years previously when she was 53 years of age, that five months previously she had noticed a stiffness and for two months a swelling in the abdomen which had latterly increased very considerably in size. During this same period both legs had become very œdematous which had rendered locomotion difficult and in consequence had confined her to bed. There was no history of any injury or fall but in November pain was complained of in the region of the umbilicus with difficulty in the opening of the bowels. For many years weakness of the bladder had given trouble, producing at times retention of urine with incontinence. On examination the patient, who was naturally spare, was seen to have a large abdominal tumour rising from out of the pelvis and on palpation it was felt to reach to one inch above the umbilicus, it was hard, tense, and fluctuating in places. Above the tumour and in the right hypochondrium and loin fluctuation was obtained as of free fluid in the peritoneal cavity. By vaginal examination the tumour was felt in front and was found to be displacing the uterus backwards. Both legs were markedly œdematous, especially the right. There were no enlarged glands to be felt or prominent veins on the abdomen to be seen, nor was the abdominal wall œdematous. The urine was pale, neutral, and contained no albumin or sugar. The diagnosis made was one of malignant ovarian tumour with free fluid in the peritoneal cavity and pressure on the iliac veins. At the operation on Jan. 17th, on opening the abdomen, colloid material of gelatinous consistency and amounting to about one pint was found free in the peritoneal cavity. A large trocar was inserted into the tumour but owing to the fluid being too viscid it would not run, so that it had to be removed by ladling it out with the hand. The tumour was a left-sided multilocular ovarian cyst and its pedicle was ligatured in the usual way, the pedicle was not in any way twisted. The peritoneal cavity had to be flushed in order to bring up to the surface the remnants of the sticky lumps of colloid. The peritoneum was everywhere injected, covered with lymph, and showing the results of slight peritonitis. The right ovary was small and atrophic and was not removed. The patient made a satisfactory recovery from the operation, only during convalescence catheterism had to be resorted to on account of the weak and atrophic condition of the bladder. Pathologically the tumour was a glandular multilocular cyst of the left ovary; the contents consisted of a thick tenacious colloid and amounted to about half a bucketful, on most careful examination no point of rupture of the cyst wall could be detected.

The case is interesting and worthy of record on account of (1) the spontaneous rupture of the cyst, allowing of the escape of some of its contents into the peritoneal cavity; (2) œdema of both legs as a pressure symptom, and (3) the difficulty in diagnosis.

1. Rupture of an ovarian cyst is not often met with in a simple tumour, owing to the fact that all such cases are recognised and are dealt with early and before the tension of the fluid within the cysts has reached the point of rupture. In this case the cyst wall was found to have been distended and thinned out in several places. In the absence of any history of injury or fall, this complication must be called "spontaneous" as opposed to "traumatic," and may be accounted for by the rapidity of growth of the tumour with increased tension of its contents. It seems probable that the colloid had been free in the peritoneal cavity for two months, for at this time complaint was made of pain in the umbilical region together with great difficulty in obtaining an action of the bowels, and this was further borne out at the time of the operation when a peritonitis of some weeks' duration was observed, the presence of simple colloid in the abdomen in the absence of any bacterial infection having produced a simple inflammation of the peritoneum with no constitutional poisoning effects. This fact is of particular interest to the abdominal surgeon and it demonstrates that cyst contents and the like of a simple nature are perfectly harmless provided that germs have not been introduced from without.

2. Œdema of both legs as a pressure symptom is not often seen nowadays for the same reason as that before mentioned. The cause of the œdema was on account of the heavy weight of the tumours pressing on the iliac veins, the contents being large in amount and thick, if not semi solid, in consistency, and this explanation seemed satisfactory when on removal of the tumour the œdema soon disappeared.

3. With regard to the third point the diagnosis made of this case was one of malignant disease of the ovary which rested on (*a*) the rapidity of growth, for according to the history a swelling of the abdomen had been noticed for two months only although a "stiffness" had been felt somewhat longer, (*b*) the hard firm character of parts of the tumour suggestive of solidity of growth, (*c*) fluctuation above the tumour, as of free fluid in the peritoneal cavity, a condition which of itself is highly suggestive of malignancy although met with in some simple enlargements of the ovary; and (*d*) œdema of the legs, a symptom more often met with in malignant ovarian than in simple tumours although not pathognomonic of malignancy.

Birmingham.

"IDIOPATHIC," OR CONGENITAL, HEREDITARY AND FAMILY HÆMATURIA[1]

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IDIOPATHIC hæmaturia is not mentioned in text-books nor have I found any reference to it in medical literature. Dr W. H. W. Attlee, however, has recorded "three cases of recurrent hæmaturia occurring in one family"[2] which I believe to be of the same nature as those which form the subject of this paper. The "essential renal hæmaturia" of

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[1] A paper read before the Harveian Society of London on April 24th, 1902.

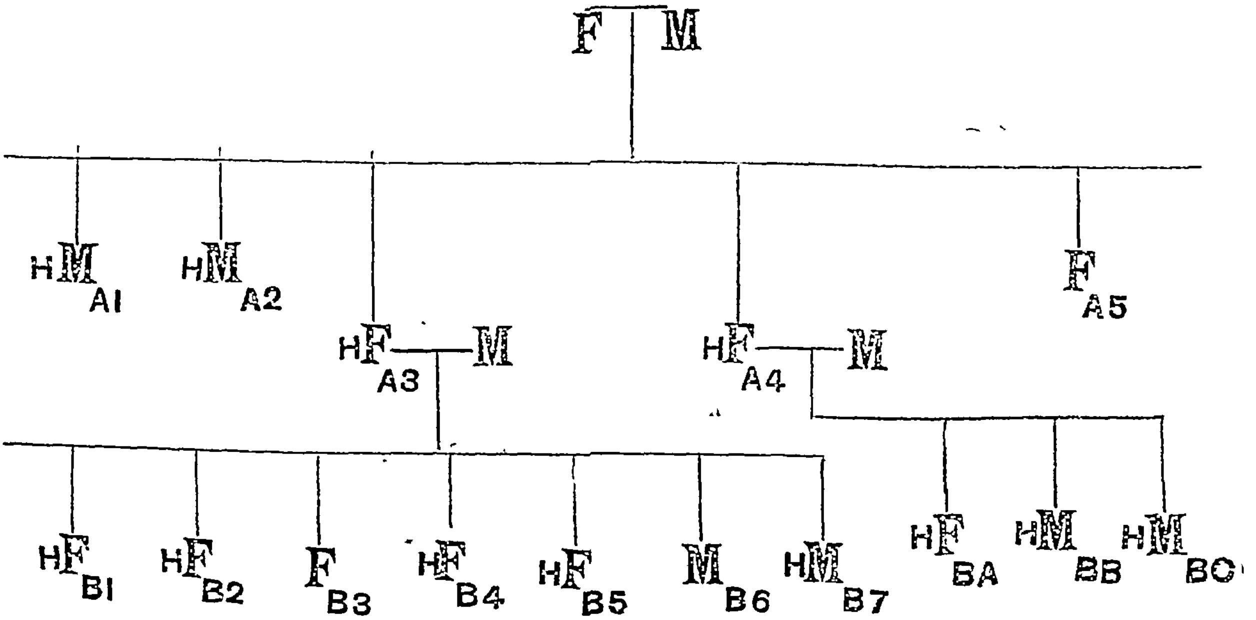
[2] St. Bartholomew's Hospital Journal, December 1901

Debairieux, in which hæmorrhage occurs from apparently healthy kidneys, is doubtless closely related to idiopathic hæmaturia, but lacks the hereditary congenital and familial characters of the latter affection.[3]

I have knowledge of the existence of idiopathic hæmaturia in 12 persons. Eight of these are brothers and sisters or first cousins. Their mothers are two sisters who are themselves subject to this complaint. These two sisters had two brothers, both of whom were similarly affected. The complaint is therefore familial and hereditary but at present has only descended to the second generation. It is impossible yet to say whether it may or may not be further transmitted. Seven of those affected have been females and five males. So far as my own cases are concerned, hæmaturia has only been inherited through the maternal side, but Dr. Attlee's cases (to which further reference will be made) suggest that it may also be inherited from the male parent. In all my cases it appears to be congenital or has been noticed shortly after birth. The first generation of the two families mentioned consisted of two brothers and three sisters, all of whom, except one sister, have been liable to hæmaturia from birth. The two brothers died between 20 and 30 years ago, aged four and a half and 11 years respectively. The exact cause of their deaths cannot be ascertained. The two sisters affected are now aged 40 years and 30 years respectively, are married, and have issue. The elder has seven children, of whom four girls, aged 18, 15, 13, and 10 years, and one boy, aged six years, are subject to hæmaturia, whilst one girl and one boy escape. The younger sister has two boys, aged eight years and three years respectively, and one girl, aged 11 years, all of whom are affected. The third sister, who is free from the complaint, is unmarried. The eldest daughter of the elder married sister suffers from eczema and spasmodic asthma as well as from hæmaturia. The third daughter has had attacks of epistaxis and hæmatemesis but no hæmaturia. Gout and rheumatism are said to exist on the maternal side of these families but no other family complaint. The relationship of the persons affected is shown in the annexed table of descent.

The characteristics of idiopathic hæmaturia may thus be summarised: 1. It is hereditary, familial, and congenital. 2. The hæmaturia may be persistent for many years but may vary in extent. In some cases it may cease for a time, but in all it is apt to recur or to increase in paroxysmal attacks or exacerbations. For instance, in one of my cases the urine examined almost weekly for upwards of two years has never failed to contain blood visible to the naked eye and to give a marked reaction with ozonic ether and guaiacum. Its colour varies from that of old gold tinged with red to the bright scarlet of oxyhæmoglobin. In another, blood is always present but can only be detected on microscopical examination except when exacerbations occur. At these times the urine may resemble almost pure arterial blood. It is not "smoky" in appearance but is "red," the colour being due to oxyhæmoglobin not methhæmoglobin. Normal red blood corpuscles and blood casts can always be found under the microscope; so the colour is not due to hæmoglobinuria. The amount of blood passed during exacerbations is always far greater than is ever seen in cases of nephritis, and resembles in profuseness the blood passed in cases of renal calculus or new growth. 3. All cases are liable to paroxysmal exacerbations of hæmaturia which are usually accompanied by slight pyrexia, malaise, headache, vomiting, and slight pains in the back or limbs. The exacerbations are often attributed to "catching cold" and are associated with slight bronchial catarrh, or with trivial ailments, such as toothache, earache, or tonsillitis. In some cases articles of diet—such as black currants, asparagus, strawberries, claret, and perhaps rhubarb—have been held to produce them. But the exacerbation may occur without complications and in the absence of special causes. The duration of these exacerbations is usually several days but seldom exceeds a week or at most a fortnight, and after the first few days the blood gradually lessens in amount. They have no law of periodicity or of frequency. They may occur at intervals of weeks, months, or years, but they appear to become less frequent after the first decade has been passed. They occur with extreme suddenness by day or by night and are not influenced by posture. Extremes of hot or cold weather seem to give rise to them. 4. Idiopathic hæmaturia is not associated with œdema nor with ascites nor with the cardio-vascular changes following ordinary nephritis. Except at times when exacerbations occur the subjects appear to be, and are, in perfect health. There may be temporary anæmia after an exacerbation, but it is not profound or lasting. 5. The hæmorrhage is not due to the presence of uric acid or of oxalates. A few crystals of these substances may

TABLE OF DESCENT.



In the above table F = female and M = male. The first pair had five children marked A_1, A_2, and so on. Of these 5 children those marked H in addition suffered from hæmaturia. Two females of the A group—namely, A_3 and A_4—both being hæmaturic, married and had children. A_3 had 7 children marked B_1 and so on. Of these 7 children 5 are hæmaturic. A_4 had 3 children marked BA, BB, and BC, all of whom are hæmaturic.

I have personal acquaintance with only three members of the families—namely, with the elder married sister and with her second daughter and youngest boy. I am informed by their medical attendant that the second married sister and her three children, whom I have not seen, are liable to attacks of hæmaturia which in all respects resemble those which affect my own patients.

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[3] Cf. also Dr. J. H. Bryant, Clinical Journal, July 25th, 1900, p. 214.

often be found on microscopical examination, but free gravel is never passed, neither is there any excess of uric acid in solution The amount of urea passed is normal. 6. The specific gravity of the urine is not unduly low. It varies from 1015 to 1030 The quantity of urine passed is not above nor below normal. The reaction is acid or neutral. The urine is nearly always albuminous, the albumin varying from one twentieth to one fourth of its bulk. Sometimes it is in accordance with the amount of blood present, at others it exceeds it. Nucleo-albumin is usually passed as well The sediment nearly always contains free normal red blood corpuscles and tubular blood casts in more or less abundance, but never hyaline casts Finally, none of the subjects of idiopathic hæmaturia is a "bleeder." One of them recently had some adenoid vegetations removed and the hæmorrhage caused was neither profuse nor prolonged None of them suffers from Raynaud's disease or from purpura. Scarlet fever can be excluded as a cause in all cases and also calculus, new growth, congenital syphilis, renal tuberculosis, and all forms of nephritis The kidneys are not moveable, palpable, nor tender, and there is no definite nor constant local pain.

CASE 1.—This patient, now aged six years, has been under observation for three years He was nursed until he was nine months old and was then fed on Savory and Moore's food and cow's milk At the age of three months he suffered from slight eczema of the scalp and face, seemed weakly, and had occasional attacks of diarrhœa and vomiting From the first his urine was noticed to be blood red in colour from time to time. But this attracted little attention as it was known to be a family affection. Advice was sought chiefly because of nocturnal and diurnal enuresis and frequency of micturition. He is a healthy-looking, ruddy and chubby child, full of life and spirits. The heart and pulse are normal, the kidneys are not palpable There is no renal tenderness nor pain and no trace of œdema at any time The urine examined at almost weekly intervals for about two years has never been free from blood. Reaction is subacid or neutral Its specific gravity is from 1015 to 1030 The colour varies from old reddish gold to bright blood red. The blood is always discernible by the naked eye. The urine is never smoky in appearance and Dr Archibald E. Garrod, who kindly examined it, found that the colour was due to oxyhæmoglobin, not methhæmoglobin. Uric acid is never passed as gravel, and quantitative analysis by Dr Garrod showed it to be diminished rather than increased in solution. He estimated the total amount passed in 24 hours as 0·150 gramme on one occasion and 0·1629 gramme on another (Hopkin's method was used) 100 cubic centimetres contained 0·0410 gramme of uric acid on one occasion and 0·038 gramme on another The deposit usually contains a few crystals of uric acid or oxalates, many red blood corpuscles and blood casts, but no hyaline casts. The total quantity passed is not above the average. Albumin is always present in quantities varying with the amount of blood present. The average content of albumin is about one-twelfth The urine almost always contains nucleo albumin as well. During the past three years the child has had periods, lasting about a week and occurring every two or three months, in which the blood is greatly increased in amount. I have never seen him at such times, but gather from his mother's description that he has usually some slight malaise, his tongue becomes furred and he may be restless and may scream in his sleep. The exacerbations of hæmaturia are often preceded and accompanied by enuresis and frequency of micturition. They are often associated with "catching cold" or some slight ailment such as toothache or earache. After vaccination the urine was said to improve in appearance as the arm got better On the other hand, during an outbreak of eczema the urine was not dark until the rash was fading Pertussis, which he had for six weeks, "did not upset him nearly as much as might be expected" Influenza increased the flow of blood. Extremes of hot or cold weather always render him more liable to attacks The hæmaturia is not more marked in diurnal than in nocturnal urine The effect on his general health does not seem to be great. His mother says that "his spirits never seem to fail; he is as bright and merry as possible even when the urine is very bad." The attacks do not seem to be induced by any particular articles of diet except by strawberries and asparagus. Black currants, which used to produce hæmaturia in his brother and in two sisters had no effect on him. Gooseberries, raspberries, and grapes agree with him; rhubarb has never been given to him. He seems to thrive on ordinary diet

Treatment—Hazeline, oil of turpentine, calcium chloride, and gallic and sulphuric acid have been used without much effect on the hæmorrhage The only drug which seems to cut short the attacks is substantia supra renalis in one and quarter grain doses three or four times a day Urotropin seemed to increase frequency of micturition and incontinence, but these discomforts are speedily relieved by a few doses of tincture of hyoscyamus with citrate of potash and infusion of buchu. Beyond keeping him indoors and lying down during the exacerbations little has been done and more seems unnecessary in the way of treatment.

CASE 2.—This patient, now aged 15 years (the sister of the patient in the preceding case), has also been under observation for three years. The urine examined on many occasions during that time has never failed to contain blood and albumin, but as a rule the blood is less in amount than it is in the previous case and there is rather more albumin. The average amount of albumin is about one-tenth, sometimes it falls to one twentieth part. Nucleo-albumin is also present. As a rule the blood can only be detected by microscopical examination, when fragments of blood casts and blood corpuscles are found, but no hyaline or true granular casts. The reaction is acid or neutral The specific gravity is from 1015 to 1025. Free gravel is never passed and Dr Garrod estimated the quantity of uric acid in solution as about the same as in the previous case—namely, at about 0·0412 gramme in 100 cubic centimetres The patient had a typical attack or exacerbation of hæmaturia two years ago but never since. The practitioner who then saw her kindly sent me the following particulars In February, 1900, she had a severe sore throat which, however, lasted only a few days and she then seemed to be well There was no rash and she had had scarlet fever four years previously About a week after the throat became well the urine was noticed to be getting darker and a night or two later she was violently sick and she passed a quantity of bright scarlet urine which was practically pure blood. The tongue was brown and dry, the temperature was 102° F., and she complained of headache, but of no other pain. The temperature gradually fell and the urine regained its normal appearance in about a fortnight. There was never any trace of œdema She is a well grown and fairly healthy looking girl, though slightly anæmic. The heart is normal in position, size, and sounds The pulse tension is not unduly high The kidneys are not palpable nor is there any renal tenderness. Quite recently she has had some adenoids removed The hæmorrhage was not excessive or prolonged, which disproves the existence of hæmophilia in this case. The hæmaturia was not affected by the operation. She prefers butcher's meat to any other article of diet and cannot take milk without a tendency to vomiting Black currants are said to induce major attacks of hæmaturia in her case as in other members of the family Of the other members of the family I can say but little. The mother of the patients (Cases 1 and 2), who is now aged about 40 years, states that as long as she can remember she has been subject to such attacks as her children have had and that as a child she was always considered delicate in consequence The attacks, she says, were always produced by black currants or by claret, but they occurred also in presence of any ordinary slight ailment. The last occasion on which severe hæmaturia occurred was six years ago, shortly after the birth of her youngest child (the patient in Case 1). She has not had any further attack of hæmaturia since then. She has not complained of being out of health, as far as I know, for the last three years, and she always appears to be well, active, and energetic.

Other cases of apparently similar nature—Dr Attlee gives in the paper to which attention has been drawn in the beginning of this article a succinct account of three cases of recurrent hæmaturia occurring in one family The patients were females, aged five and a half, four and a half, and two years and four months respectively, and were admitted to the Metropolitan Hospital under the care of Dr Arthur D Davies and Dr A Haig during the year 1901. The father died, aged 30 years, from uræmia. The mother seemed to be a perfectly healthy woman. All these children were well nourished and they appeared to be in perfect health Scarlet fever could be excluded in all of them and none exhibited any definite signs of nephritis or of cardio-vascular changes. Calculus could be excluded and also new growth and tuberculosis in all cases. One of them, aged four and a half years, had four attacks of hæmaturia in which the urine became bright-red between April and December, 1901. The child had been subject to epileptic fits since the age of 11 months but the hæmaturia was preceded by a fit on one occasion only. The attacks of hæmaturia were ushered in by malaise, sometimes by pain in the legs, or by vomiting and slight pyrexia. A typical exacerbation is thus described after a period during which the child had seemed quite well except that the urine contained a faint trace of blood: "On Dec. 29th, 1901, she suddenly complained of not feeling well. She had no pain and no fit. The temperature rose to 101·8° and about six hours afterwards the urine was again bright-red. The temperature kept up for two days, then became normal and continued so. The blood decreased to a mere trace and then remained stationary." The urine was always acid and averaged 20 ounces per diem. The specific gravity was from 1026 to 1015. Albumin and blood were always present and occasionally granular casts.

Another of these sisters, aged five and a half years, was admitted to hospital on May 20th, 1901. On May 16th she complained of headache and pain in the right side of the chest and she vomited three times. On admission she had slight bronchitis, the temperature was 100 6° F., and the urine was smoky, acid, of specific gravity 1017, and contained a cloud of albumin and a considerable amount of blood, blood corpuscles, and blood casts, but no crystals. After five days the temperature became normal and remained so; the urine contained no blood after June 6th but a trace of albumin. In the following December the urine contained a cloud of albumin and blood but nothing else was found under the microscope.

The third child, aged two years and four months, vomited twice on May 31st and again frequently on June 1st, when her temperature rose to 101·8° F. On the evening of that day the urine was found to be scanty, loaded with albumin, and to contain much blood. The pyrexia continued until June 4th when the temperature gradually fell to normal. The amount of blood rapidly decreased and on June 6th there was none to be found but a trace of albumin existed until her discharge from hospital on July 8th. The urine was always acid and the specific gravity averaged 1017. A fair quantity was always passed after June 5th. Granular and epithelial casts were passed on two occasions but no crystals.

There can be little doubt that these cases are of the same nature as my own. It is true that evidence of the congenital tendency to hæmaturia is wanting, the youngest child being of the age of two years and four months when hæmaturia was first noticed. But hæmaturia may have existed long before, though in so slight a degree as to escape detection. The amount of blood present in the urine in my second case was so small for several months after the patient first came under observation that I doubted whether she shared the family proclivity until the typical attack of profuse hæmaturia took place. The fact that the father of Dr. Attlee's patients died, aged 30 years, from uræmia is of significant interest. It is possible that he also suffered from idiopathic hæmaturia. If so the prognosis in such cases must be guarded although the affection does not seem to endanger life or even health as a general rule. It will be observed that in Dr Attlee's patients the inheritance is from the father and not from the mother as in my own cases.

The explanation of these mysterious cases remains to be discussed. The fact that the hæmaturia is congenital, or at all events, noticed shortly after birth, excludes all the ordinary or known causes of such hæmorrhage. The most reasonable supposition is that there is some inherent weakness or varicosity of the walls of the renal vessels leading to what has been called renal hæmophilia[4] or renal epistaxis. Or the vaso-motor system may be at fault (angio-neurosis), in which case the complaint might be grouped with cyclical or postural albuminuria[5] But, as already mentioned, the hæmaturia is in no sense postural. The exacerbations occur as often during the night or whilst the patient is at rest in bed as by day when he is up and about.

The diagnosis of idiopathic hæmaturia rests on the personal and family history; on the occurrence of the febrile exacerbations in which the hæmaturia far exceeds that of acute nephritis; on the absence of œdema, dropsy, and cardio-vascular changes; and, finally, on the absence of any of the well-known causes of hæmaturia.

Upper Berkeley-street, W.

SCURVY DEVELOPING IN A RICKETY BOY, AGED FIVE AND A HALF YEARS.[1]

BY GEORGE CARPENTER, M.D. LOND.,
PHYSICIAN TO THE EVELINA HOSPITAL FOR SICK CHILDREN.

THE patient, a boy, aged five and a half years, whom I saw for the first time on Feb. 24th, 1902, was breast-fed but was not weaned until 18 months of age. When at the age of 12 months he began to walk he was found to be rickety. According to his mother he was always "too heavy for his legs" which were gradually becoming more and more bent. About nine months previously he commenced to complain of pain in the arms and chest and especially in the legs and he did not like to be touched; he attended school, however, up to within six months before. He last walked six weeks previously, when he hobbled from one chair to another, but latterly he had reclined in one position, either in bed or on a chair. For the most part he was kept indoors and had been gradually getting paler. For about a week he had cried on passing urine but no blood had been detected in it. He had always been constipated; the motions were free from blood. He had always had peculiar ideas about his food. He would eat bread-and-sugar and occasionally a little butter, but he objected to milk, though he could drink tea with milk in it. He ate fried or roast meat but the meat had to be dry and he would not touch gravy or meat-juice. Vegetables always refused—they made him sick—and he had never ca fruit of any kind. He liked suet pudding and took mi puddings occasionally. Apart from what has been relat nothing worthy of note occurred as regards infantile d orders. His father and mother had both suffered fro rheumatic fever. He had four brothers and sisters, tw being older than himself, and the youngest was an infan three months old.

On examination the patient was found to be a well-nourished, placid, anæmic child who remained quiet if undisturbed but when the couch was moved or his body was approached for examination he cried out. His legs were flexed on the thighs and the thighs on the abdomen. There was very decided tenderness all over the trunk and limbs, especially the legs. The front of the left shin had lost its sharp outline and was nodulated and the bone was bowed. The right tibia was decidedly bowed and its free edge was thickened. When he was not paying attention the shin-bones could be squeezed without causing him pain. The femora were not thickened. When his attention was drawn to the fact that they were being manipulated he cried out, but not otherwise. His muscles were flabby, especially those of the legs; they were free from indurations. The tenderness and paretic condition of the lower extremities of the child, combined with his behaviour, led me to suspect scurvy and to examine his mouth, although no complain had been made of this. The mucous membrane general was pale. At the junction of the incisor, the canine, an the first temporary molar teeth with the gums there was thin broken line of purple discolouration which broadened out at the last mentioned teeth and over the second molar teeth expanded into a purple epulis-like overgrowth of the gums which almost obliterated these teeth The gums did not bleed on pressure. The body was covered with petechiæ, mostly, apparently, originating in flea-bites, and there was a small bruise over the left shin. The head was large but was not characteristic of rickets and the anterior fontanelle was closed. The ribs were beaded and displayed a prominent rosary but in spite of this the chest was of fair shape. The ends of the wrists were knobby and the ankles and knees were obviously enlarged. The long bones of the lower extremities were bent and the curves fitted into one another when the limbs were in a position of rest. The femora were bent antero-posteriorly at the junction of the lower and middle thirds and the tibiæ at the lower third So far as could be determined by a physical examination all the patient's organs were healthy An examination of the blood showed in the fresh films typical rouleaux formation and an absence of microcytes and poikilocytes; stained films appeared to be normal The red blood corpuscles numbered 4,733,000 per cubic millimetre, or 94·6 per cent. The hæmoglobin was 60 per cent. and the colour index was 0·7. The white corpuscles numbered 8300 per cubic millimetre, a ratio of 1 in 570 The boy was admitted to the hospital under my care on Feb. 24th. With the varied diet he obtained there, which he was compelled to take, coupled with orange-juice, the gums quickly recovered, and by March 16th the limbs were quite free from tenderness but he could not stand without assistance

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[4] Senator, Broca, Passet.

[5] Mr. Harry Fenwick has found varicosity of the papillary plexus in cases of painless unilateral hæmaturia in young adults and has cured them by papillectomy. (Brit. Med. Jour., vol. i., 1900, p. 248).

[1] A paper read before the Society for the Study of Disease of Children on March 21st, 1902.

This case of characteristic scurvy of infantile type is interesting by reason of the age of the patient. Such cases mostly arise between the ages of seven and 14 months, and usually about the ninth or tenth month The youngest case recorded by Dr A. Matheson of Neillsville, Wisconsin, was in an infant only three weeks old; it was breast-fed and the case ended fatally. After two years of age it is decidedly quite out of the common to meet with such an instance as that just recorded with its typical gum lesions Although this is so I do think—and I would again call attention to the fact—that some of the cases met with in older children suffering from "*simple* hæmaturia" (let me call it this for want of a better description), as also some cases of purpura, mostly unaccompanied by gum lesions and thereby passing unrecognised, are solely due to a deficient dietary, and are therefore essentially scorbutic in origin. These children are undoubtedly cured by a change to a proper mixed dietary in the hospital wards without any adjuncts. I have seen this over and over again Members of the Society for the Study of Diseases in Children may possibly remember that last year I called attention to this when Mr. D'Arcy Power showed a case of paroxysmal hæmaturia in a boy nine years of age which in the sequel was proved to be an undoubted case of scurvy by reason of a subsequent but tardy development of spongy gums. Further, so marked a case of active rickets at this period of life is unusual and it is of interest from that point of view also, although its association with scurvy must be looked upon as an accidental one merely. Children with scurvy are not necessarily rickety, though rickets is found in about half the number of cases coming under observation, nor are they necessarily anæmic, though in this respect they are more often so than not.

Regarding the etiology of infantile scurvy it is thought on all sides that the chief, if, indeed, not the only, cause is a dietetic one. In the case of this child, for instance, there can be no doubt that his dietary was a restricted and an unnatural one by reason of the absence of fresh vegetables or their equivalent. He did, however, take milk occasionally in the shape of milk-puddings and mixed with his tea, and he did, according to his mother, have meat twice a day, though it is stated that he liked his meat "dry" This child, apart from his fads as regards food, had similar food to that of the other children at home who remained perfectly healthy under a more varied *menu*.

A study of reported cases, coupled with a clinical experience spreading over a period of years, makes it clear to my mind that no single article of diet is capable of producing scurvy with certainty, though it is abundantly clear that the various proprietary foods and milk-preparations are flagrant offenders. The personal element in the case of infants and children has always to be taken into consideration, for it is a not unimportant factor in determining the onset of this disorder Thus several infantile members of a family may be suitably reared on a diet which proves eminently scorbutic to another infantile member of that family Even infants at the breast, and newly-born infants too, have developed scurvy, though this is not a common occurrence. Yet fresh breast milk is deemed to be eminently anti-scorbutic and it is certainly free from the ptomaines of decomposition, though in other respects it may be quite unsuitable as a food for the purpose of rearing a healthy child. Undoubtedly many articles of diet which have been administered over long periods of time are capable of producing scurvy in some infants and, equally undoubtedly, they will not do so in the majority of others. Infantile dietetic errors are the rule, but it is only exceptionally that a case of scurvy comes under observation, one unfortunate amongst the many that escape Thus a diet of sterilised milk, simple boiled milk, pasteurised milk, pasteurised percentage milk mixtures, peptonised milk, condensed milks, malted milks, desiccated milks, the numerous proprietary foods, and cereal gruels combined with the above milk-preparations, each in turn or in combination has produced scurvy in those prone to that disorder though harmless in that respect to others According to Rosenthal people amongst whom he practises have a method of feeding their children from very early life on *zwieback*—a food similar to toasted sweet bread—nothing else (not even milk) for a time and these children after three or four months of this diet show signs of scurvy.

Further, it has been proved, in a considerable number of cases, that the addition of orange-juice, or fruit-juice, or beef-juice, to some of the above dietaries which have been proved to be scorbutic, has been quite sufficient to cure the complaint. On the other hand, there is the fact that anti-scorbutic articles, in the shape of potatoes and bananas, have been taken, where milk was seldom drunk or meat was eaten, but were not successful in the face of so defective a dietary in warding off the disease. In the case of some infants a mere change of diet, and that not always *prima facie* an ideal one, and without beef-juice or fruit-juice, has proved successful in bringing about a cure The judicious combination, however, of fruit-juice and a rational dietary must be looked upon as a specific and the rapidity of the cure in such cases is most striking

Does the view of Torup of Christiania that scurvy is due to ptomaine poisoning from tainted meat, and that the fact that fresh vegetables and lime-juice are a part of the dietary is not sufficient to prevent or to cure scurvy, satisfactorily explain cases of infantile scurvy? It is a view which has much to recommend it, for it has been fortified by Arctic experiences and has, moreover, been confirmed by the experiments of Mr F G Jackson and Dr. Vaughan Harley on monkeys[1] One's clinical experience of infantile scurvy, combined with a study of the histories of numerous fully reported cases scattered through literature, do not favour the acceptance of Torup's views on adult scurvy in explanation of its etiology.

It would appear that in infantile scurvy we can go no further at present than to say that the fault lies mainly in the diet but not from a ptomaine point of view, and the more the food departs from what is natural and the more prolonged is the use of such a faulty food, the more likely is it to produce scurvy But for reasons already given there must be a personal factor in these cases. The diet prescribed may not be appropriate for the particular child for whom it has been designed, certain foods are specially obnoxious to certain children and of these harmful foods the proprietary foods hold the pride of place.

Welbeck-street, W

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.

TWO CASES OF ABSCESS IN THE TEMPORO-SPHENOIDAL LOBE PRESENTING NO LESION IN THE EARS.

(Under the care of Dr D B. LEES.)

ABSCESS of the temporal lobe of the brain is so commonly consecutive to suppuration in the middle ear, that it is desirable to record instances where no ear lesion is present. In the following cases there was necrosis of a small portion of the petrous bone, but the middle ear appeared to be perfectly healthy Septic organisms may have been conveyed to the petrous bone and to the brain from a transient otitis externa, which is not uncommon in children. Mr. C. Mansell Moullin described a case at a meeting of the Clinical Society of London,[1] in which an abscess was found in the temporal lobe although there was "no sign of middle ear disease."

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[1] THE LANCET, April 28th, 1900, p. 1184.

CASE 1.—A girl, aged six years, was admitted into the Hospital for Sick Children, Great Ormond-street, on Nov. 14th, 1901, under the care of Dr. D. B. Lees. For two months before admission she had suffered from frontal headache and earache and for the last month from vomiting. On admission her attitude was one of cerebral irritation with evidence of marked photophobia. She complained of severe intermittent pain in the right frontal region. No paralysis or rigidity was present but there was optic neuritis on each side, which was more advanced on the right side. Percussion of the head elicited tenderness only over the right side of the forehead. The tympanic membranes were normal and no discharge from the ear was found. The child's condition remained about the same till the morning of Nov. 25th, when she died suddenly.

Necropsy.—At the post-mortem examination an abscess containing about two ounces of greenish inodorous pus was found in the right temporo-sphenoidal lobe, with rough walls of some thickness and consistence. On the dura mater, facing its point of nearest approximation to the surface and overlying the external auditory meatus about half an inch from the tympanum, was a hiatus a quarter of an inch in diameter with discoloured margin, leading to a necrotic depression in the bone. On chiselling away the latter the underlying lining membrane of the meatus was found to be normal. The dura mater over the middle-ear was normal and the cavity of the latter and the mastoid cells contained only a trace of clear mucus, the walls and ossicles showing no change. The organs in other parts were healthy. A pure culture of the streptococcus pyogenes was obtained from the pus.

CASE 2.—A girl, aged one and three-quarter years, was admitted into Dr. Lees's ward on July 16th, 1896. Three months before admission she had suffered from vomiting and "used to put her hand to her head and cry out." For three weeks before admission she had lost the use of her limbs, a condition which was ushered in by a fit. The child was drowsy, with bulging fontanelle, and presented a left-sided hemiplegia. A double internal squint subsequently appeared but no optic neuritis. Death occurred on August 16th.

Necropsy.—The post-mortem examination disclosed an abscess of the size of a hen's egg in the right temporo-sphenoidal lobe with tough walls and containing thick, greenish pus. Some amount of basic meningitis was also present. The brain and membranes were adherent to the right great wing of the sphenoid and the right petrous bone showed a small patch of disease of about the size of a threepenny-piece above the tympanum. The middle-ear on this side was healthy and the membrana tympani was clear and thin. Otherwise the body showed no abnormality.

Remarks by DR. LEES.—In each of these two cases an abscess in the right temporo-sphenoidal lobe apparently resulted from necrosis of a small part of the petrous bone, without any affection of the tympanic cavity or mastoid cells. It is, however, to be regretted that the temporal lobe and petrous bone had not been removed together and placed in formalin before it was attempted to trace the path of the suppurative infection. In the case first narrated the necrosed part of the petrous bone lay over the external auditory meatus and in the earlier case it lay over the tympanum. In both cases the underlying mucous membrane was healthy and it seemed probable that the bone was the primary seat of disease. The cases prove that necrosis of the petrous bone and temporo-sphenoidal abscess *may* exist when there is no otorrhœa and the tympanic membranes are normal—a fact of great importance in diagnosis.

VICTORIA HOSPITAL, FOLKESTONE.

A CASE OF ACUTE INTESTINAL OBSTRUCTION DUE TO EMBOLISM OF BRANCHES OF THE SUPERIOR MESENTERIC ARTERY.

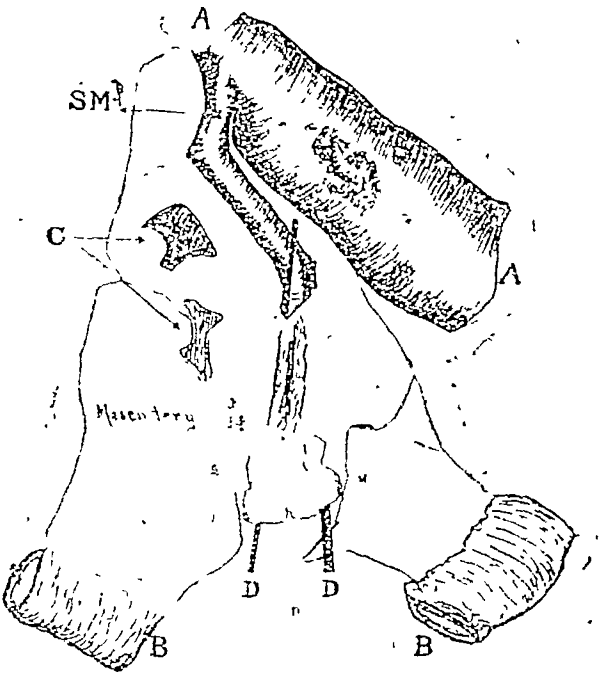
(Under the care of Dr. W. J. TYSON and Mr. W. W. LININGTON.)

EXTENSIVE interference by thrombosis or embolism with the circulation of the bowel leads to symptoms of intestinal obstruction owing to the resulting paralysis of the muscular coat of the gut. The recorded cases are not numerous and the condition has never been diagnosed before operation.

A married woman, aged 66 years, was first seen by Mr. Clifford Hackney on March 5th, 1901. Her symptoms were slight pain over the liver, constipation, sickness, and a little epigastric tenderness; these had been present for two or three days. The temperature was normal. On the 7th she stated that she felt better, the bowels acted two or three times comfortably, there was less flatulence, but she was still sick, the vomit being of a greenish colour, watery, and free from odour. On the next day the sickness became worse and abdominal distension appeared, the bowels were confined, and the general condition was much worse. The notes of the history of the case were kindly supplied by Mr. Clifford Hackney, with whom Dr. Tyson saw the case in consultation at Hythe on the 9th.

The patient was admitted into the Victoria Hospital, Folkestone, on March 9th, and was then constantly sick, the vomit being of a coffee-ground nature. There were abdominal distension and constipation. The chest was normal and the temperature was 99·5° F. It was considered advisable to perform laparotomy and this was done the same evening by Mr. Linington. On opening the abdomen a quantity of turbid sanious fluid escaped. The small bowel was congested and on tracing it down as indicated by the increased depth of colour it was found to be slightly fixed on the right iliac fossa; this was freed and about one foot of gangrenous bowel appeared, greatly thickened, black, lustreless, and in parts sloughy. The attached mesentery was in a similar state. Recognising the condition as one of thrombosis the affected part was excised well clear of the gangrene, 22 inches being removed. Murphy's button was used to unite the ends of the bowel, being augmented by Czerny-Lembert sutures. Considerable difficulty ensued with the mesentery owing to its thickened and rotten state which extended back to its spinal attachment. The dead part was removed and the adjacent edges were made to overlap so as to give greater purchase to the sutures than in an edge-to-edge approximation. The abdomen was flushed out with hot sterile water and was sewn up. The operation lasted just over an hour, being lengthened by the difficulty of dealing with so rotten and swollen a mesentery; it was only with great care that the ligatures could be tightened sufficiently to stop the bleeding without cutting through the part included.

FIG. 1.



Illustrates the post mortem specimen reduced to nearly one-half its actual size. A, Aorta, showing atheromatous ulcers. SM, Superior mesenteric artery. B, Healthy bowel. C, Clots in veins. DD, Glass rods, passed through obstructed branches of the artery.

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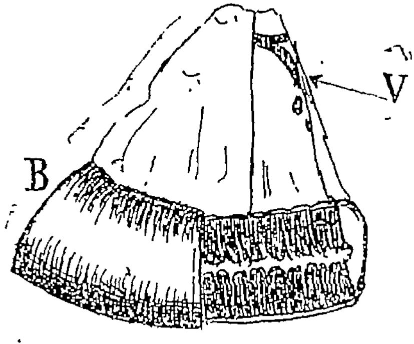
[1] Transactions of the Clinical Society of London, vol xxvii, 1894, p. 124.

The patient was very collapsed after the operation but improved somewhat later and was able to retain half an ounce of peptonised milk. She again became worse and notwithstanding the repeated use of stimulants and saline injection death occurred on the 11th, 36 hours after the operation.

Necropsy.—The post-mortem examination revealed atheromatous erosion in the descending aorta and blocking of branches of the superior mesenteric vessels. The Murphy's button was in good position and was watertight. The mesentery was also well secured The part of the bowel excised (22 inches) was from the ileum, one foot from its junction with the cæcum; the greater part of it was gangrenous, the walls being so thickened that the lumen was almost completely obstructed

FIG. 2.



Illustrates the portion removed by operation. Section of mesentery, showing V, clotted vessels. B, Bowel part laid open, showing œdema causing obliteration of lumen

Remarks by DR TYSON and MR LININGTON.—Cases of the above character are comparatively rare and as far as the literature is concerned have been more commonly reported abroad than in England It seems that the general symptoms and signs are almost similar in character, whether the superior or inferior mesenteric artery is involved. Although certain differential points have been given they do not seem to be of much value when practically considered; in both intestinal obstruction is produced and the real cause has rarely been diagnosed or even guessed at before operation or until after death The first prominent symptom is abdominal pain closely resembling an ordinary attack of colic, nausea is frequent and occurs fairly early, and vomiting follows with gradual change in the character of the vomit. Constipation sometimes occurs but diarrhœa has been commonly reported. Tension and tympanitic swelling of the abdomen are late symptoms indicating the advent of peritonitis. Extreme fœtor of the stools is of serious omen and points to gangrene of the bowel. Profuse intestinal hæmorrhage has been recorded and when meeting with this symptom it is as well to bear in mind that embolism of the mesenteric artery may be the cause.

The prognosis is always grave but not absolutely fatal; of course, this must be better if only one branch is involved rather than several—it is doubtful if recovery has ever taken place when the main vessel has been occluded. The greater the arterial obstruction the more severe are the symptoms. As regards the source of the embolus the left heart seems to be the most common and after this the abdominal aorta, as in the present case. The occurrence of thrombosis from injury has also been placed on record. There have been a few cases of thrombosis of the vein only giving rise to intestinal obstruction although the artery was unaffected—notably Fagge's and Bradford's cases. Where the swelling of the bowel from infarcts has occurred the tumour has been mistaken for one of malignant nature.

As regards treatment early abdominal section gives the only possible chance. We have not been able to find any recorded instance of recovery after delayed operation and it is quite conceivable that if the foregoing case had been operated on a few days earlier the result might have been successful It is quite evident that kneading the abdomen in such cases must be absolutely wrong and also that opium in other than minute doses would mask and obscure the real cause of the trouble. No doubt there are slight cases in which the patients get quite well without the cause of the illness being recognised, the symptoms being colic and intestinal hæmorrhage. In these the anastomoses of the vessels along the edge of the mesentery are sufficient to re-establish the circulation through the affected area, thus preventing obstruction and subsequent gangrene; in more severe cases these ensue, because the blood-supply from adjacent vessels is not adequate to the larger area involved.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Discussion on Endotheliomata occurring in Various Regions and their Mode of Origin — Congenital Multiple Sarcoma of the Skin

A MEETING of the section of Pathological Anatomy and Histology of this society was held on April 29th, Dr. J. F. PAYNE, the chairman of the section, being in the chair.

Mr. RAYMOND JOHNSON and Mr. T. W. P. LAWRENCE commenced the Discussion on the Endotheliomata by a paper (illustrated by lantern slides) on a series of specimens of endotheliomata of the salivary gland. The paper was brought forward as a contribution towards the solution of the question as to whether the so-called "parotid tumour" and others of identical structure were to be regarded as of epithelial or connective-tissue origin. Typical encapsuled parotid tumours and similar growths in the neighbourhood had been examined. In none of the specimens in the museum of University College could they satisfy themselves that there existed any adenomatous structure. From their observations Mr. Johnson and Mr Lawrence were in agreement with Rudolf Volkmann and other pathologists who regarded the tumours in question as of connective tissue origin—they were, in fact, endotheliomata. No data were obtainable as to whether they arose in the endothelium of blood-vessels or of the lymphatics. The substitution of the connective tissue for the glandular theory of the nature of the salivary-gland tumours introduced the difficult question of their limited and well-defined distribution. Tumours of the so-called "carotid gland" of identical structure had been met with, and it was suggested that similar vascular formations might occur in other parts of the area of distribution of the carotid vessels from which the tumours in question arose.

Mr. C. G. SELIGMANN read a paper on three cases of Tumour which he regarded as Endotheliomata. Two of these occurred in the soft palate in patients aged 56 and 43 years respectively. In neither of these were there any enlarged glands or other signs of metastasis. The third case was one of abdominal tumour in a woman, aged 31 years.

Dr. H. D ROLLESTON and Dr. O F. F. GRÜNBAUM showed Microscopic Sections from Four Tumours (three from the cheek and one from the lip) belonging to the class of endothelioma. One was a typical endothelioma arising from the endothelium lining lymphatic capillaries; the vessels could be seen undergoing dilatation and distension with proliferated endothelial cells. It appeared probable that the dilatation was due to proliferation of the cells in four directions on the same plane. Alveolar spaces resembling gland tubes were formed in two ways—(1) by degeneration of the cells in an originally solid mass of endothelial cells; and (2) by portions of the connective-tissue basis becoming surrounded by cells and then undergoing degeneration. The acid orcein stain showed elastic tissue in some of the alveoli. The second specimen was a perithelioma, derived from proliferation of the endothelial cells of the perivascular space, and it presented an appearance resembling a villous carcinoma. It illustrated the group of tumours called "blastoma" by Powell White, in which the cells, originally all of one type or "indifferent," eventually formed both epithelial and sarcomatous cells; such tumours had been termed "carcino-sarcoma." The third and fourth specimens, from the lip and cheek respectively, very closely resembled the endotheliomata of the parotid and, like them, contained cartilage.

Mr. A. W. Nuthall and Dr. J. G. Emanuel (Birmingham) read a paper on, and exhibited specimens from, four cases of New Growth affecting the Alimentary Tract and presenting unusual characters, occurring in patients aged 44, 27, 56, and 38 years respectively. In every case the mucous membrane was intact and the serous coat was unaffected, and Mr. Nuthall and Dr. Emanuel advanced reasons for concluding that the growths had not arisen from the mucosa of the bowel but that they were of an endotheliomatous type.

Mr. E. M. Corner and Mr. S. G. Scott showed sections of, and described, a Tumour of the Lip and another one of the Submaxillary Gland, both of long standing and benign. Both shelled out easily and had a fibrous capsule. The structure of the tumour from the lip, which contained islands of cartilage, was fully described. The submaxillary tumour was similar, only it had little or no cartilage. Mr. Corner and Mr. Scott concluded that these tumours had originated from blood-vessel endothelium from the following facts: the structure of the walls of the canals, their lining cells being continuous with those of the parenchyma, their containing blood, and the absence of ordinary blood-vessels in the tumours.

Mr. S. G. Shattock discussed the nature of a Mixed Tumour of Endotheliomatous Type which had occurred upon the lower lip. It was an encapsulated tumour consisting of cartilage, and blood-channels lined with layers of polymorphous epithelium, in place of marked columnar form. The specimen had long been in the museum of University College and he was able to show it through the kindness of Mr. Lawrence. It belonged to the same group as those of the parotid, submaxillary glands, and palate. The cartilage in these tumours he had once thought might indicate a reversion to a tissue found in the glands of the mouth in lower ancestral forms. For besides the atavism which concerned the grosser forms of organs an atavism of tissue—a teleplasia as it might be called—was theoretically possible. He had found no evidence of this; his examination of the parotid gland of the echidna and ornithorhynchus, the most likely of mammalian forms to exhibit such modified structure, showed a stroma of common connective tissue only supporting the acino-tabular elements of the gland. There was no alternative except to connect the cartilage in this series of tumours with Meckel's cartilage, in the proximity of which they occurred, near its exterior termination The blood-channels of the tumour, lined in part with columnar cells, offered great difficulties. In no member of the whole animal series were the blood- or lymph-vessels furnished with columnar epithelium. If the endothelium of the heart and great arteries was derived from the hypoblast or endoderm, the peripheral blood-system arose from vasifactive mesoblastic cells. One suggestion the speaker would make was that the channels might arise in connexion with remnants of certain extensions of the primitive *cœlom.* The pleuro-peritoneal or body cavity or cœlom arose as a direct extension of the primitive alimentary canal—i.e., it was of hypoblastic or endodermal origin. In the dogfish tubular extensions of the cœlom, lined with columnar cells, lay in the substance of the branchial bars, the blood space, lined with flat cells, being alongside; these cœlomic extensions in the dogfish disappeared. Was the system of channels in these tumours related to remnants of cœlomic extensions in the branchial bars, the blood capillaries afterwards coming to communicate with them? or did blood-vessels become invaginated into such a system after the manner described by Professor Ray Lankester as "phleboedesis," the columnar cells of channels in the tumour being furnished by the endodermal cells answering to a lymphatic sheath? Or was it simpler to assume that the mesoblastic cells which gave rise to the capillaries were of endodermal descent and that in these tumours the columnar form was a reversion indicating their primary source?

Mr. G. E. Gask exhibited sections of a Complex Papillomatous Growth consisting of a delicate fibrous stroma and lined by a layer of flattened cubical cells taken from the synovial sheath of the tibialis anticus tendon, subsequent to an injury to the ankle-joint and probably originating from the endothelial lining of the synovial sheath.

Dr. J. F. Payne, in discussing the series of papers which had been brought before the society, thought that the subject was surrounded by a good deal of difficulty. As regards "parotid tumours" he inclined to the view that they originated in some way in embryonal "rests."—Dr. H. Morley Fletcher asked Dr. Rolleston how he accounted for the elastic fibres in the tumour which he had observed, and Dr. Rolleston replied that the elastic fibres had remained while the fibrous tissue around them had undergone degeneration.—Dr. Arthur Whitfield also remarked that this same survival occurred in the lesions of tuberculosis.—Mr. J. H. Targett regarded the specimens exhibited by Mr Nuthall and Dr. Emanuel as examples of schirrhus such as occurred in the stomach. He did not see why these specimens should not be regarded as ordinary carcinomata of the scirrhus type. He had seen a great many tumours of the so-called "parotid" kind occurring in many curious places—the tip of the nose, the lacrymal gland, the palate, parotid gland, and elsewhere—but he had never met with or heard of any occurring away from the face. As regards their origin, he preferred the old-fashioned view—viz., that they were altered gland tissue. At any rate, he felt sure that he could produce sections from them which could not be distinguished from gland tissue.—Mr. J. H. Parsons, Dr. F. J. Poynton, and Mr. J. W. T. Walker also took part in the discussion and Mr. Raymond Johnson replied.

Mr. George Pernet read a paper on a case of Congenital Multiple Sarcoma of the Skin occurring in the body of a newly-born female child which was brought to University College Hospital after death. There were 70 growths disseminated over the skin and sections of some of these revealed the structure of round-cell sarcoma.

Mr. W. G. Spencer exhibited card specimens of (1) Fibromyoma in one Breast and Carcinoma in the other; (2) Hæmorrhagic Cyst of the Pancreas resulting from aseptic hæmorrhagic pancreatitis; and (3) Lymphangioma Hypertrophicum of Congenital Origin.

Mr. W. Watkins-Pitchford (Birmingham) exhibited card specimens of a large Multilocular Cyst of the Pancreas from the body of a woman 29 years of age.

CLINICAL SOCIETY OF LONDON.

Clinical Evening: Exhibition of Cases.

A meeting of this society was held on April 25th, Mr. Howard Marsh, the President, being in the chair.

Mr. H. L. Barnard exhibited: 1. A case of Left Parietal Meningocele or Cephalhydrocele occurring in a male child, aged two weeks, who was brought to the London Hospital for a swelling on his head. The swelling was noticed two days after birth and had not increased in size. It was situated on the upper and posterior part of the left parietal bone and was distinct from the anterior and posterior fontanelles and the sagittal suture. An attempt to reduce it had led to cessation of respiration and pallor. 2. A case of Multiple Chondromata or Osteomata with Synostosis of the Lower Epiphyses of both Ulnæ and Fibulæ. The tumours projected from the ribs, scapulæ, clavicles, and femora, &c. The epiphyses were for the most part enlarged. The lower epiphysis of the ulna had undergone early synostosis on both sides, leading to ulnar displacement of the hand at the wrist-joint. The fibulæ (the homologous bones in the leg) were in the same condition. The patient suffered from severe rickets when a child. 3. A case of Tumour of the Abdominal Wall.

Mr. Hastings Gilford (Reading) showed a case of Conspicuous Delay of Growth and Development. The patient was an instance of a disorder which had not hitherto been systematically described, though some dozen or more cases had been recorded by French and German writers. He was 28 years of age and came of a healthy family. At 23 years of age he was 1·078 metres (three feet six inches) in height and had since grown 18 millimetres. His height and proportions resembled those of a boy between six and seven years of age. A radiogram of the hand showed that ossification was no farther advanced than was usual at the age of 10 years, while the dentition was like that of a child of the same age. The contour of the body and the appearance of the head and face were childish. The sexual organs were the most backward in development; the testes had not descended and the external genitals were infantile. The intelligence was good; but his behaviour and conversation were more like those of a child than of an adult. The thyroid gland could be felt. The dwarfism in this case was apparently not due to any of the known causes of that condition. Achondroplasia, rickets, and microcephaly could be definitely excluded.

Mr. A. A. Bowlby exhibited a case of Ethmoidal Mucocele occurring in a man, aged 26 years, a horsekeeper.

When five years old he had suffered from "an abscess in the left eye," presumably from the history referring to a swelling in the orbit above the inner canthus and closely adherent to the inner wall. This condition had lasted for 13 months and was followed by a persistent painless swelling in the region of the upper part of the nose on the left side On March 10th, 1902, he first noticed that he was unable to breathe through his left nostril and he experienced pain at the inner side of his left eye. Since then the swelling had increased, become more tender, and was accompanied by greater pain. He had never had headache vomiting, or diplopia. Mr Bowlby explained that the inferior and middle turbinate bones had been removed The patient's temperature had been elevated and he had had severe attacks of pain. The vision was perfectly normal, although the eyeball was so displaced. It might be necessary to remove the ethmoid.—Dr HERBERT TILLEY thought that in view of the difficulties connected with the rapid healing of the wound caused by an external operation it would be advisable to operate through the nose by means of sharp spoons, if due caution were used there *should be no danger of encroaching upon the cribriform* plate. Failing relief by this means he would suggest that the ethmoid should be attached by way of a large opening in the anterior wall of the corresponding antrum. By this route the lateral masses of the ethmoid could be reached and easily dealt with

Dr W ESSEX WYNTER exhibited a case of Congenital Absence of the Nose and Anterior Nares, with Deficiency of the Hard and Soft Palate The patient, a female, six weeks old, the first child of healthy parents showed this very unusual deformity without "hare-lip" or deficiency of the premaxilla. The child suffered from difficulty in feeding and respiration. —The PRESIDENT remarked that the case was exceedingly rare. He did not know of any recorded cases.—Dr TILLEY said that on closely examining the case it would be found that the hard palate was not cleft but that its central portion for about one inch in the antero posterior direction and half an inch transversely was abruptly drawn upwards into a smooth concavity No intra nasal structures were visible through the mouth and the soft palate was quite a normal one and continuous with the concavity afore-mentioned

Sir HUGH BEEVOR exhibited a case of Probable Congenital Atelectasis occurring in a single woman, aged 22 years She had no symptoms The heart was on the right side, the apex was in the third interspace in the axilla. The lung appeared to have the upper lobe almost solid, but the bronchi were not patent, the breath sounds being almost absent There was no history of previous illness. A high and narrow palate, a double coloboma of the iris, and developmental changes visible in the lens and retinæ, suggested that the case might be one of congenital atelectasis of the lung or apneumatosis —Dr PERCY KIDD concurred in the diagnosis of collapse of one lobe He had met with such a case in the post-mortem room. He agreed that this case was one of congenital absence of development of the right upper lobe.—Sir H. BEEVOR, in reply, said that he had not been able to meet with any precedent until that mentioned by Dr Kidd, but he had met with early obliteration of the upper lobe.

Mr W G SPENCER *exhibited a case in which Excision of* the Right Wrist by a Posterior Median Incision for Tuberculous Disease had been done three years previously In March, 1900 some sinuses in the right forearm had been scraped and arthrectomy of the left knee performed. Since that time the patient had remained in good health.

Dr J WALTER CARR exhibited a case of Congenital Morbus Cordis with Extreme Clubbing of the Fingers and Toes occurring in a female aged 10 years The child had always suffered from cyanosis and much dyspnœa on exertion *She was fairly well developed and well nourished but showed* a high degree of cyanosis. Clubbing of the finger-ends was marked. The heart was enlarged transversely, mainly to the right, but the exact nature of the lesion was obscure, as the only murmur heard was a very faint systolic one over the left border of the sternum most distinct at the inner end of the second and third spaces There was marked concentration of the blood showing 8 000 000 corpuscles per cubic millimetre and 20 per cent. of hæmoglobin —Dr C H. [illegible] referred to a similar case occurring in a child, aged eight years, who died from *hæmoptysis It resembled the case* exhibited in the almost complete absence of murmur —Dr H. A. CALEY regarded the case as one of deficient interventricular septum, associated probably with pulmonary stenosis

Dr PERCY KIDD exhibited a case of Arthropathy occurring in a case of bronchiectasis. The patient was a man, aged 30 years, a compositor, with enlargement of both hands (including wrist-joints and fingers), ankles, and to a less extent the knees. The fingers and toes were clubbed. The physical signs in the chest resembled those of tuberculosis of the right upper and lower lobes, but no tubercle bacilli could be found in the sputum. The paroxysmal character of the cough and profuse expectoration suggested bronchiectasis The sputum was not offensive. The patient had suffered from gout several times during the past six years and had had chronic cough with expectoration for three years

Mr. A. BEVAN (introduced by Dr ARCHIBALD GARROD) exhibited a case of Urticaria Pigmentosa occurring in a child, five years old. The spots had appeared first upon the legs when she was only two or three months old, at first pink in colour, then gradually turning brown.

Dr STCLAIR THOMSON exhibited a case of Chancriform Ulcer of the Tonsil or "Vincent's Angina." The patient, a boy, aged 12 years, had only been complaining of *a little sore throat for four days The right tonsil* was seen to be occupied by an oblong greyish slough made up of a pulpy or chalky membrane which was easily detached The case was shown as illustrating an uncommon form of membranous ulceration of the tonsil which had been described on the continent under various names, such as "diphtheroid angina," "membranous amygdalitis," and "ulcerating lacunar tonsillitis. The name "angina of Vincent" was given to it in consequence of the discovery by Vincent in the membrane of a spindle shaped bacillus of 4 μ in length and 1 μ in width He had previously discovered the same bacillus in the dirt of hospitals.[1]—Dr HERBERT TILLEY suggested that a careful examination be made of the organisms associated with the ulcer, for in a genuine case of 'ulcerative tonsillitis' their form and arrangement were very characteristic. The affection was usually found in anæmic females.

HARVEIAN SOCIETY OF LONDON

Exhibition of Cases —Tuberculous Disease of the Knee-joint — Idiopathic Hereditary and Family Hæmaturia

A CLINICAL meeting of this society was held on April 24th, Mr W WATSON CHEYNE, the President, being in the chair

Dr T D SAVILL showed a woman aged 39 years, who was the subject of Erythromelalgia or Sclerodactylia. She had had a general eczema of the hands which started 15 months ago The skin was now cured of any eczematous element, but there was left a sclerotic condition which for some months had prevented proper movement of the fingers The redness was almost limited to the digits. All her other skin was healthy There was a history of numb dead hands much the same as in cases of Raynaud's disease. She could not resume her occupation because she was unable to close her hands. The fingers were tapered in the way usually observed in circulatory disorders.—Dr LEONARD G GUTHRIE and Mr F JAFFREY took part in the discussion

Dr ALEXANDER MORISON showed an infant seven months old, who exhibited a great Enlargement of Veins passing from the vertex of the head to the left ear When the child was quiet a venous pulsation could be detected. There was some tension of the fontanelle. Nothing wrong was noticed until the child was three months old It was the third child of the family the first having aborted at five months and the second child was now four years of age A French physician had published a description of the condition, recounting 50 cases, and he stated that there was a specific history in all the cases The French author thought that such children eventually got well. Dr Morison thought that the specific character of the condition was not made out The present patient had been treated for syphilis and for rickets.—Dr E CAUTLEY had seen cases without such history where there was marked obstruction to the circulation In one case of great obstruction the child developed hydrocephalus and the obstruction was found to be due to a tumour Assuming the syphilitic causation of the disease what was the lesion which would produce such a dystrophy? The unilateral condition sometimes met with might be due to the fact that th contained some cystic portions. The growths were carcinomatous. Malignant deposits were seen on the intestines, the omentum, and the liver. The patient was much relieved of her symptoms but she died about three months later. 2. A married woman suffered from pelvic pain and much dyspepsia which did not yield to medical treatment. The menses had become more profuse and frequent recently. A solid ovarian tumour was diagnosed. On opening the abdomen some clear ascitic fluid escaped and a large solid ovarian tumour was removed from the right side and a smaller growth of similar nature from the left side. The larger growth presented a cyst of about the size of an orange at one part. The microscopical sections which were also exhibited showed the growths to be true fibroma.—Dr. WALTER and Mr. STANMORE BISHOP discussed the cases and Dr. GEMMELL replied.

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[1] Vincent: Annales de l'Institut Pasteur, 1896 p. 488.

Dr. J. LLOYD ROBERTS described a case of death from Uræmia after Ovariotomy. A patient, aged 58 years, a multipara, was found to have a large ovarian tumour extending to about three inches above the umbilicus. There was a considerable cloud of albumin in the urine. The patient was kept under treatment by diet and medicine until the urine contained a mere trace of albumin. Abdominal section was performed and an ordinary multilocular ovarian tumour on the left side was removed. After operation the quantity of urine decreased and the albumin increased again. The patient became restless and sleepless and vomited frequently. Death from uræmic coma took place on the tenth day, only eight ounces of urine loaded with albumin having been passed during the last 48 hours of life. There were no signs of septicæmia or of peritonitis. Post mortem there was double nephritis, the other organs being healthy. The case demonstrated the gravity of the risk in performing major operations in cases of renal degeneration.—The case was discussed by Dr. DONALD and Dr. SINCLAIR and Dr. LLOYD ROBERTS replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Gastric Ulcer.

A MEETING of this section was held on April 11th, Sir CHRISTOPHER NIXON, the President, being in the chair.

Mr. R. F. TOBIN read a paper on Some Medical Aspects of Four Consecutive Cases of Perforated Gastric Ulcer successfully operated on in St. Vincent's Hospital, Dublin. Three of the patients were young domestic servants. In all the cases the position of the ulcer was the same—namely, an inch or two in front of the œsophageal opening. This, he said, was the most common site for perforation. He believed that perforation was the penalty which the overworked anæmic class that furnished most cases paid for being obliged to carry themselves upright from early rising to late bed-time. The liver in such patients was not braced up owing to the laxity of their tissues and to their being on their legs all day long. The stomach, owing to its fixity to the diaphragm, was being continually drawn through a long range of movement in the breathing that was induced by journeys up and down stairs. Now, given congestion of the area under consideration, that which extended from the œsophagus under the liver, it was easy to understand how the pressure and movement referred to would in anæmic subjects cause congestion to pass to ulceration and ulceration to sloughing; also, how rest in the recumbent position was such a healing force in such cases. He referred to the disastrous effects of movement in cases of perforation and laid down the rule that the surgeon should be called to the patient and that no patient should be moved till the opening had been closed. The convenience of operating in hospital did not cover the loss from transportation. He narrated a case on which he operated successfully with the rudest appliances. Shock should not prevent the immediate performance of an operation. It was not mere nervous shock where nothing harmful was going on while the surgeon was waiting for the patient to come round, but, on the contrary, changes were going on that might lead to thrombosis of the mesenteric veins and render operation useless. As regards prevention, he pointed out that sufferers of the servant class were constantly advised to rest in the intervals at work, although in most houses, short of rest in bed, there were no means of enabling them properly to carry out the suggestion offered.

Dr. REDMOND thought that the great difficulty in such cases was the diagnosis of perforation; there might be little or no shock. In one of his cases he found the patient sitting in bed leaning forward supported by two friends and crying out with pain. She had been in excellent health all day and had eaten heartily of mutton at dinner. There was no diminution of the area of liver dulness. He recommended operation; a perforation at the cardiac extremity of the stomach was found and sutured and the patient made a good recovery.

Dr. J. M. FINNY looked on the diagnosis of the perforation as the real difficulty in these cases. One of his patients who had all the typical symptoms of perforation—vomiting, tympany, pain, and so forth—was operated on three hours after the onset of the attack and all the viscera were found to be healthy; there was no ulcer whatever. The abdomen was stitched up and the patient made a good recovery. He had seen a good many operations for perforating ulcer of the stomach and he could not agree that it was so easy a performance as some thought, particularly if the perforation occurred on the posterior wall; such an operation could not be successfully carried out with lamp or candle light. Absence of liver dulness was not an essential symptom in the early stage of the disease.

Dr. J. F. O'CARROL expressed the opinion that the sooner the operation was performed after the perforation the better. Some few cases might recover under medical treatment, but he thought that the safer practice was operation. The onset of shock was the call for laparotomy; interference should never be postponed on account of shock.

Mr. H. G. CROLY, Mr. D. KENNEDY, Dr. JAMES LITTLE, and others also discussed the paper.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on April 18th, Dr. Leonard Guthrie being in the chair.—Dr. D. Mackenzie showed a case of Cystic Hygroma of the Neck undergoing spontaneous cure in a child, aged 11 months. It was of the size of a small orange at birth but had become so small as to be scarcely perceptible.—Mr. R. H. A. Whitelocke (Oxford) remarked that Mr. Bland-Sutton had said that these tumours generally disappeared after puberty, but he had seen a case as late as the age of 27 years.—Dr. Edmund Cautley showed a case of the Peroneal Type of Muscular Atrophy in a girl, aged seven years. She was the third of five living children. There was no history of similar atrophy of muscles or of nervous disorders in the family except epilepsy in a brother and a sister of the mother. The child showed a "claw-like" deformity of the hand due to paralysis and atrophy of all the intrinsic muscles and "club foot" due to atrophy of the corresponding muscles of the foot and of the peronei and extensors of the toes. The other muscles below the knees, the vasti interni, and to a less extent the hamstrings, tensor vaginæ femoris, and glutei were also involved. The affection began in early life and was perhaps secondary to measles at the age of six months.—Dr. Guthrie, Dr. Fletcher Beach, Mr. H. J. Curtis, Dr. Dawson Williams, and Dr. G. A. Sutherland discussed the paper.—Mr. Sydney Stephenson showed a child, aged eight years, who presented Tuberculosis of the Choroid in the Right Eye and slight signs of phthisis at the apex of the left lung. He knew a case of tubercle of the choroid which had apparently dated back for 30 years.—Dr. Guthrie, Dr. George Carpenter, and Mr. Curtis took part in the discussion.—Dr. J. W. Thomson Walker showed a Tuberculous Nodule of the size of a walnut arising from the dura mater and embedded in the upper and inner part of the left cerebellar hemisphere. Death was due to meningitis, cultures from which showed staphylococci.—Dr. Walker also showed a Primary Osteoma of the Floor of the Third Ventricle with the Formation of a Cyst at one part. The symptoms were those of left cerebellar disease and an exploratory operation had been performed. Only 11 other examples of the tumour were found in literature.—Dr. Guthrie remarked upon the misleading symptoms which had shown themselves in the second case. The girl had right-sided headache and kept her head turned to the right side. Double optic neuritis, slight right facial paralysis, and tremors of the right arm were present, and the right knee-jerk was exaggerated. When placed upon her feet she reeled towards the right. The right side of the cerebellum was, however, found to be quite healthy.—Dr. Sutherland, Mr. Edmunds, Dr. Theodore Fisher, (Bristol), and Dr. Burgess discussed the cases.—Mr. Whitelocke read notes of the case of a girl, aged four years, who was admitted to the Radcliffe Infirmary, Oxford, for supposed Strangulated Left Inguinal Hernia. A reducible hernia was also present on the right side. Double herniotomy was performed and from the left side a body was removed which bore some resemblance to an ovary. A similar body was present on the right side, but it was returned to the abdomen. On microscopic examination the body removed proved to be a testis. Photographs of the external genitalia were shown illustrating the fact that to all appearances they were those of a normal female child.—Dr. Sutherland remarked upon the difficulty of deciding as to the way in which the child should be brought up, whether as a boy or as a girl.—Dr. Guthrie agreed with Dr Sutherland that she should be brought up as a girl.—Mr. Whitelocke, in reply, said the question of sex was a difficult one. He had heard of a case where a hermaphrodite, if considered a male, was entitled to considerable property.—Dr. C. O. Hawthorne and Mr. Curtis read a paper on a case of Transperitoneal Nephrectomy for Small Round-celled Sarcoma, the patient being a boy, aged four years. The tumour removed weighed three pounds 15 ounces. It appeared to have commenced on the hilum of the left kidney. The wound healed and the stitches were removed. Death, however, occurred on the fifteenth day after the operation from extensive bilateral pleurisy with effusion. No secondary growths could be discovered at the necropsy and no trace of peritonitis or of suppuration elsewhere. The need for early diagnosis and immediate operation in carefully selected cases was emphasised and successful results were quoted.—Dr. D. N. Nabarro, Dr. J. Porter Parkinson, and Dr. Fisher discussed the case.—Dr. Carpenter read notes of a case of Malignant Endocarditis in a boy, aged eight years. Intense optic papillitis supervened associated with simulated choroidal tubercle and sub-retinal hæmorrhages. Just before death embolism of the right common iliac artery occurred.

HUNTERIAN SOCIETY.—A clinical meeting of this society was held on April 9th, Dr. A. L. Galabin, the President, being in the chair.—Dr. F. J. Smith showed a case of Lymphadenoma in a girl, aged eight years, who was admitted to the London Hospital in February, 1902, under the care of Dr. A. E. Sansom. She had had whooping-cough, chicken-pox, and measles, the last named at the age of four years, and it was subsequently to this illness that a lump was noticed in the left side of the neck which had increased in size in an irregular manner. She was a fairly healthy-looking child, apparently enjoying pretty good general health except for some shortness of breath and cough on exertion. Examination of her blood showed 4,000,000 red corpuscles and 4000 white corpuscles per cubic millimetre. Her digestive system seemed to be quite healthy but the spleen was easily to be felt extending some three inches or so below the costal margin. Some slight irregularity was occasionally present in the heart's rhythm and a hæmic bruit was to be heard when she lay down; the frequency of the pulse was also above the average, varying between 100 and 120 per minute. There was increased resistance on percussion over the upper part of the left chest, but air entered both lungs freely and without any adventitious sounds. The urinary and nervous systems were without obvious abnormality. Her temperature occasionally rose to 100°F but was usually normal or slightly subnormal. A swelling of about the size of a man's closed fist was visible in the left side of her neck, with slight thickening of the tissues of the upper arm and pectoral region, though there was no pitting on pressure. To the hand the lump evidently consisted of enlarged cervical glands; the skin was freely moveable over them and they were freely moveable amongst the deep connective tissue. The individual glands were easily to be felt without any matting together of glands and connective tissue. No other glands were enlarged. The patient had been treated during her stay in hospital with arsenic in increasing doses up to six minims of Fowler's solution per diem and with extract of malt, and under this she had gained in weight 10 pounds in six weeks. Dr. Smith preferred to give a preliminary diagnosis of enlargement of lymphatic glands simply. Tubercle, he thought, could be eliminated by the absence of adhesions of the glands to one another or to the skin after a duration of four years. The duration of the case excluded any process that might be called sarcomatous and he was driven to conclude that the patient was the victim of a disease which would ultimately destroy life unless arsenic were able to hold it in check. He thought that one or other of the glands might be removed with a view to making the diagnosis more certain, as it was possibly a case of splenic anæmia in a child with some tuberculous glands.—Dr. Smith also showed a case of Hemiplegia in a boy, aged nine years. About six or seven months ago, when he was over eight years old, he began to lose power in the right arm and leg. There was now great weakness of all the muscles of the right hand and arm to the shoulder, also of the right leg to the thigh, accompanied by complete freedom of movement on the left side. The perception of general sensation and its localisation were fairly good over the affected areas (quite good over the non-affected ones) but he had very defective judgment between heat and cold all down the right side, the arm, the trunk, and the leg. The patellar reflex on both sides was above the average, but on the right side it was very exaggerated and was accompanied by ankle clonus; on tickling the soles the right big toe was bent up (pathological) while the left one was bent down (normal). The cranial nerves seemed to be quite healthy. Intelligence was unimpaired and the patient had no peculiarities of speech and no headaches. Dr. Smith's diagnosis was degeneration of nerve fibres; the evidence, especially the spasticity, was on the whole in favour of a cortical lesion.—Dr. W. H. Kelson showed a case of Enlargement of the Right and Middle Lobes of the Thyroid Body of six years' duration in a woman, aged 33 years. Slight tremor and palpitation were present and she suffered from menstrual irregularity and breathlessness. Dr. Kelson took the view that the symptoms were due to some abnormality in the thyroid secretion and that in very varying degree such symptoms were always present in all thyroid enlargements, the culminating point being a typical case of exophthalmic goitre, although microscopically the appearances differed considerably.—Sir Hugh R. Beevor showed a case of Factitious Urticaria.—Dr. David Ross showed a case of Tetany in a labourer.—Dr Kelson, Dr. T. Glover Lyon, Dr. Milligan, Sir Hugh Beevor, Mr. J. H. Targett, and the President discussed the cases.

CHELSEA CLINICAL SOCIETY.—A meeting of this society was held on April 15th, Dr. C. A. Morris, C.V.O., the President, being in the chair.—Dr. C. C. Gibbes showed a case of Patency of the Ductus Arteriosus occurring in a man, 27 years of age, pale in complexion, stunted in growth, and badly developed. Dyspnœa, œdema, cyanosis, and clubbing of the finger-tips were entirely absent. The heart was normal in size. A systolic murmur could be heard over the right carotid artery and in the aortic area but there was no diastolic murmur. A continuous harsh murmur, commencing about the middle of the systole, running through the second sound, and occupying about two-thirds of the diastole could be heard over the whole of the first, second, and third intercostal spaces. It could not be heard over the sternum. There was no thrill.—Dr. T. Vincent Dickinson read the notes of a case illustrating the value of Belladonna in the treatment of Broncho-pneumonia in children. The patient, a girl of good physique, aged nine years, was attacked with typical broncho-pneumonia following measles. One-quarter of a grain of extract of belladonna rubbed up with glycerine and chloroform water was administered every four hours and three days afterwards the dose was increased to three-eighths of a grain every two hours, and one hundredth of a grain of digitalin and one-sixtieth of a grain of strychnine were injected. Improvement was noted the following day, and the belladonna was reduced to one-quarter of a grain. From this stage improvement continued rapidly to convalescence.—The President read notes of a case of Hydramnios in the fifth month of pregnancy. The patient, who was 37 years of age and married, had five children, the last being one year and ten months old. The abdomen appeared to be larger than in former pregnancies of the same date and it was now found to be much distended by a tumour reaching up to the ensiform cartilage which was dull on percussion and gave throughout a very distinct and superficial feeling of fluid. Per vaginam the cervix was found to be soft and the os was dilated so as to admit the finger; ballottement was easily obtained; and the membranes were bulging into the cervical canal. Hydramnios was diagnosed. Under ether the os was gradually dilated with the finger until all the fingers could be introduced; the membranes were ruptured and the fluid was allowed to escape very gradually the hand being used occasionally to close the canal. Two children were delivered by turning, perforation of the skull being necessary. Altogether ten pints of amniotic fluid were collected. The placenta came away easily by expression, with no post-partum hæmorrhage. There was a single placenta with two amniotic cavities. The patient made an uninterrupted recovery. The history in this case was fairly typical. A multipara has a normal pregnancy up to the fourth or fifth month when the abdomen enlarges rapidly and causes extreme distress from pressure. The case usually ends in abortion before the end of the seventh month. The condition is very common in twin pregnancies. The causes of the condition are doubtful. The symptoms resemble those of pregnancy complicated by an ovarian cyst, and the chief sign as an aid to diagnosis consists in the intermittent contractions of the uterine walls, which were very distinctly felt in this case and affected all parts of the tumour. The treatment here adopted was correct, as limited aspiration had been tried and had failed and drugs were useless. The children very seldom survive for many hours.

EPIDEMIOLOGICAL SOCIETY.—At a meeting of this society held on April 18th, Dr. Patrick Manson, C.M.G., the President, being in the chair, Dr. J. C. Thresh, medical officer of health of the Essex County Council, read a paper on Small-pox Hospitals and the Spread of Infection which was published in THE LANCET of April 26th, p. 1172.—Dr. A. Newsholme was not convinced by Dr. Thresh's arguments; more or less surreptitious intercourse did take place between the ships and the shore. He would like to have had a complete history of the first dozen or so cases, on which the whole subsequent course of the epidemic might depend. The mere fact of one district suffering more than others was not sufficient, for so did West Ham with no hospital in its vicinity. Dr. Thresh spoke of miles whereas Mr. W. H. Power did not go beyond quarters of miles, and he had referred to *prevailing* winds without saying whether the outbreaks corresponded with changes in the actual direction. He would allow 40 patients in a hospital and had seen no harm result from 100 or 350, though Mr. Power saw a possible danger from nine. The theories of aerial diffusion and the concentration of the poison threatened to reduce the question of hospital provision to an absurdity and an impossibility.—Dr. L. Parkes believed in aerial diffusion up to perhaps a mile and that small-pox behaved differently from other fevers. If, however, they would but adopt the German system of universal vaccination and compulsory revaccination there would be no need for hospitals at all.—Dr. E. W. Goodall pointed out that if Mr. Power's comparison of a hospital to a fire were good the wisdom of piling up all our infective material in one place was very doubtful. He would like to know whether the closure of the small-pox hospitals in London had effected a change in the local incidence of the disease as shown in Mr Power's series of maps since 1860, or whether it still haunted the same localities. The susceptibility of workmen about a hospital to small-pox and fevers was mainly a question of age incidence. Dr. Thresh attached much importance to strong winds as vehicles whereas Mr. Power taught that the infection spread further in calm, foggy weather.—Major W. G. Macpherson said that at Gibraltar in the epidemic of 1893-95 he or his inspectors had visited every case and had been able to trace it to its source in Spain or Africa. Until the publication of Mr. Power's report the cases had been treated in an old building in the very heart of the city and they were afterwards accommodated in one 400 yards outside, but never had he had any evidence of aerial infection. The spread of the disease was invariably the result of delayed notification, home treatment, or concealment of cases, and when a patient had been promptly removed secondary cases were unknown; infant vaccination was strictly enforced.—Dr. S. Richmond, medical officer of health of Dartford, said that of 200 cases in that district 95 patients were employed as workmen or tradesmen about the Gore Farm Hospital, 60 cases at Swanscombe to the windward of the hospital were traced to labourers and others from London, and altogether there were not 40 unaccounted for by ordinary personal contact.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held on April 24th, Dr. A. J. Harrison, the President, being in the chair.—The President announced that as Dr. Unna's oration at the annual meeting would deal with the subject of Eczema it would be interesting if members brought forward carefully selected cases to illustrate the subject.—The President then read notes giving the termination of a case which he reported to the society in February, 1901, with the provisional diagnosis Senile Syphilis. The patient, a man, aged 74 years, had recently developed peculiar looking growths on the thigh. He had suffered from syphilis 50 years previously, but he had shown no further manifestation of the disease and his children were not affected. He improved for a time under iodide of potassium with a mercurial inunction. Gradually, however, his health failed and he died eventually from cardiac failure. The growth proved to be a round-celled sarcoma. There was no evidence clinically of sarcoma of the internal organs. The President considered the probability of this being a case of primary sarcoma of the skin.—Some fine drawings and microscopic specimens illustrating the case were exhibited. The President was asked to allow the former to be reproduced in the Transactions and he gave his consent.—The following cases were shown:—Dr. G. N. Meachen (for Dr. Abraham): 1. A Case for Diagnosis. This was recognised as an instance of the white spot dermatosis described by Dr. Westberg from one of Unna's cases. On the arms were minute white atrophic spots, each surrounded by an extremely narrow erythematous border. This latter sign was not present in Unna's case. 2. A case of Erythema following vaccination in a man who also showed Lichen Planus on the legs. 3. A case of Milium affecting nearly the whole of the face of a baby.—Dr. Edward Stainer showed: (1) A case of Hyperkeratosis of the palms and soles in a girl, aged 15 years, no cause for which could be discovered; and (2) a child showing Multiple Acanthomata on the face and hands.—Dr. Graham Little showed: (1) A baby suffering from Congenital Syphilis complicated by Eczema; and (2) a woman suffering from Syphilis who had developed an intense Iodide Eruption. —Dr. A. Eddowes showed: (1) A case of Healed Lupus treated by complete excision; and (2) a child suffering from Hydroa Vacciniforme. The eruption affected the central part of the face and the back of each hand. It had recurred three years in succession. A microscopic specimen from the case was exhibited at the same time.—Dr. W. Warde (for Dr. Abraham) showed a case of Thrombotic Lupus. The patient, a woman, had 36 years previously had many scrofulous ulcers. All healed save one and that remained infiltrated. One year ago the patient had an attack of erysipelas and some months after the face became covered by an eruption of small lupus nodules.—Mr. G. Pernet showed sections from a case of Yaws stained by Pappenheim's method to demonstrate plasma cells.

WIGAN MEDICAL SOCIETY.—The ordinary meeting of this society was held on April 17th, Mr. T. M. Angior, the President, being in the chair.—The President gave his address on Diphtheria and Its Treatment. He drew comparisons between the definitions of diphtheria of the older text-books and those of to-day. He also compared the treatment of diphtheria in the pre-antitoxin period with that at the present time. This was illustrated by notes on cases which he had attended before 1895 and after that date, showing a high rate of mortality when serum was not used as compared with to-day. He spoke on the advisability of its early use in the disease and of repeating the injections two or three times if necessary. He remarked on one particular case (fatal) where serum was not used until from the seventh to the tenth day of disease, which was too late to be efficacious. He emphasised the necessity of discussion before medical societies of this particular disease, whilst certain authorities recently had been tempted to hold the antitoxin treatment in disfavour. Complications which had been said to arise from the use of serum were touched upon; he (the President) had experienced none. He mentioned the fact of the antitoxin serum having been administered by the mouth and with satisfactory results, and suggested that this might be a preferable mode rather than risk any tendency to tetanus due to puncture in patients with nerve idiosyncrasies.—An interesting discussion followed, in which Mr. J. Chronnell, Mr. W. Latham, Mr. H. Winstanley, Dr. F. Rees, Dr. J. Blair, Mr. Maurice McElligott, and the honorary secretary took part. A consensus of opinion advocated the antitoxin treatment from as early a period as possible and with regard to isolation that at least three weeks should be enforced.—The President replied.—Mr. W. Mitchell Roocroft then read notes on the following cases: (1) Gastro-jejunostomy; (2) Abdominal Hysterectomy; and (3) Nephrolithotomy.—An interesting discussion followed and the following members took part: the President, Dr. Rees, Dr. R. P. White, Mr. C. M. Brady, Dr. E. H. Monks, and Dr. Blair. Mr. Roocroft replied

PLAISTOW AND CANNING TOWN MEDICAL SOCIETY.—A meeting of this society was held on April 24th, Mr Percy Rose being in the chair.—After an exhibition of interesting cases and also of macroscopic and microscopic-pathological specimens Dr. W. J Hadley gave an address on Some Points in the Diagnosis, Prognosis, and Treatment of Pulmonary Tuberculosis. The points emphasised were the necessity for early diagnosis in order to get the best results to treatment and the differential diagnosis between tuberculosis and some other chest and pulmonary affections The methods of diagnosis were from symptoms, signs, and examination of the sputum. Symptoms were generally present and signs not infrequently absent in the early cases. The testing of sputa for bacilli was the only sure test, and whilst positive results to such testing were conclusive negative results could only be relied on after several repetitions. Differential diagnosis was then given between tuberculous disease and (1) bronchitis; (2) pulmonary growth and other intra-thoracic tumours; (3) syphilis; (4) actinomycosis, (5) hydatid; (6) aspergillosis; (7) bronchiectasis, with or without fibroid lung; (8) pulmonary gangrene; and (9) foreign body. Prognosis was influenced by (1) the family history; (2) the occupation; (3) the age; (4) the comparison of the duration of the disease with the progress which it had made; (5) the comparison of constitutional disturbance with the extent of the lesion; and (6) the conditions under which the cure was to be attempted and maintained. The rest of the address was devoted to treatment, which was divided into preventive, general, and the special treatment of symptoms and complications.—A general discussion followed and a number of questions were put to the reader of the paper.—The meeting concluded by a hearty vote of thanks being given to Dr. Hadley for his interesting address.

GLASGOW SOUTHERN MEDICAL SOCIETY.—A meeting of this society was held on April 17th, Dr. John Stewart, the President, being in the chair.—Dr. G. H. Edington showed a patient, a boy, aged 11 years, who was the subject of Coxa Vara. In a short statement the history, the symptoms, and the treatment of this very uncommon complaint were in turn reviewed. Special reference was also made to the differential diagnosis from morbus coxæ.—The committee appointed to draw up a protest against the recent edict of the General Medical Council with reference to the keeping of open shops or "medical halls" and the sale of poisons then gave the result of its deliberations. The following protest was submitted and unanimously approved of by the meeting:—

James Robertson, Esq., Registrar of Scottish Branch of the General Council of Medical Education and Registration of the United Kingdom.

SIR,—We, the undersigned, in name and on behalf of the Glasgow Southern Medical Society, hereby protest against the notice of the General Medical Council to registered medical practitioners published in the *Glasgow Herald* of Dec 14th, 1901, as being unwarrantable, oppressive, and vexatious.

(Signed) JOHN STEWART, President.
DUNCAN MACGILVRAY, Vice-President.
THOMAS FORREST, Treasurer.
JOHN FRASER ORR, Secretary
ANDREW WAUCHOPE, Editorial Secretary
JAMES FORRESTER, } Members.
LACHLAN BURGES, }

PATHOLOGICAL SOCIETY OF MANCHESTER—A meeting of this society was held on April 16th, Dr. J. Collier being in the chair—Mr. F. A. Southam read a paper on a case of *Fat embolism following a Compound Fracture of the Tibia*, due to direct violence, occurring in a man, aged 43 years (*vide* p. 1240 of our present issue)—Dr A. Knyvett Gordon showed a Continuous Suture that had been passed per anum on the tenth day after Laparotomy, and Suture of a Perforation in the lower end of the Ileum, occurring in the second week of a relapse of enteric fever. The patient was a girl, aged eight years, who after the operation went through the remainder of the relapse of enteric fever and made an uneventful recovery The passage of the suture was not attended by any constitutional disturbance. In sewing up the ulcer a continuous suture was used and Dr. Gordon attributed the sloughing that had taken place to the pressure of the silk over the entire area sewn up, stating, however, that he was inclined to prefer the continuous suture on account of the rapidity with which the stitches could be inserted, a most important point in dealing with the lesion of enteric fever In this case the duration of the operation was 20 minutes—Other preparations were exhibited as card specimens.

ERRATUM.—In THE LANCET of April 26th, p. 1182, in the report of Dr. E. E. Glynn's paper read before the Pathological Section of the Liverpool Medical Institution, the words, "In two cases at least cancer appeared to have originated in a previous chronic ulcer," should be, "In two cases it was demonstrated that cancer had originated in a previous chronic ulcer."

Reviews and Notices of Books.

Diseases of the Intestines. By Dr. J. BOAS, Specialist for Gastro-intestinal Diseases in Berlin. Authorised translation from the first German edition, with special additions by SEYMOUR BASCH, M.D. London: Henry Kimpton. 1901. Pp. 562. Price 21s.

THE popularity which Dr. Boas's treatise has enjoyed abroad and the absence of any detailed and exhaustive work on intestinal diseases in English have led to the publication of the present translation. Dr. Basch has performed his task well and has produced an English edition free from the characteristics of German grammatical construction. The book is intended more especially for the requirements of the general practitioner, but containing, as it does, an exhaustive and concise description of physiologico-chemical processes and laboratory methods, it will also prove of value to scientific investigators.

The first two chapters of the book deal with anatomical, histological, physiological, and physiologico-chemical points which must be thoroughly understood before a comprehensive knowledge of the diseases of the intestines can be obtained. The various methods of examining patients are then minutely described. The chapter on Examination of the Fæces is an important one; the microscopical and chemical examinations are considered mainly in regard to the clinical aspects and the diagnostic importance of the various tests is fully discussed. The chapter on Acute and Chronic Intestinal Catarrh contains much useful information and the remarks on treatment well deserve attention, although the dietetic regimen is scarcely that which is usually adopted in this country

The surgeon will find much to interest him in the chapter on Intestinal Neoplasms. A good *résumé* is given of the various operations which have been performed for the removal of the growths and Czerny's extensive statistics are quoted The results are encouraging but the exact figures are too involved to reproduce in a review. The chapter on Intestinal Stenosis and Intestinal Obstruction is also well arranged. The classification introduced by Sir Frederick Treves is adopted but Dr Boas makes many original observations The remarks on Appendicitis will naturally attract attention and the symptoms of that condition will be found accurately and concisely described. The diagnostic and prognostic importance of the temperature in appendicitis is rightly insisted upon and stress is also laid on the characters of the pulse. Severe peritonitis may exist without any rise of the temperature and it is in these cases that the pulse becomes of so much importance; the frequency and regularity (or the reverse) should therefore be constantly noted. The section on Differential Diagnosis is also worthy of notice The indications for operation are fully discussed The views of various observers are duly noted and clear rules are given as to when, in Dr Boas's opinion, the aid of the surgeon should be called in. In operating in cases of chronic appendicitis Dr. Boas considers that the social status and the vocation of the patient are of great importance in deciding for, or against, an operation. In the case of a patient who is so situated that he can take every possible care of himself an operation will probably not be so urgently called for as in one who has to work hard for a living. In relapsing appendicitis, especially among the working classes, operative interference is indicated when the attacks occur at short intervals and become more and more severe. We may direct attention to the chapter on Nervous Diseases of the Intestines. Many affections of common occurrence are there described and numerous valuable hints in regard to treatment are given.

The illustrations throughout the book are good and are well produced. The whole work is an interesting one and will amply repay perusal.

Atlas und Grundriss der Psychiatrie. (Atlas and Manual of Insanity.) Von Privat-dozent Dr. W. WEYGANDT in Würzburg. With 24 coloured Plates by JOH. FINK and W. FREYTAG, and 276 Illustrations. Munich: J. F. Lehmann. 1902. Pp. 663. Price 16 marks.

THIS text-book is the twenty-seventh volume of Lehmann's Medical Atlas and Manual Series. Although a treatise on insanity does not lend itself to illustrations to the same extent as do works on other branches of medicine, nevertheless a great effort has been made to maintain this feature of the series in the present volume and, it must be admitted, with considerable success. An excellent collection of types, for the most part original and taken from photographs by the author, has been reproduced to represent the various forms of mental disease, and many of the cases which are cited to illustrate the text are accompanied by a portrait of the patient, forming together as objective and practical a presentation of the subject as is possible.

The first part of the book takes a general view of the subject. The author commences with a short but clear exposition of the normal psychological processes and then proceeds to demonstrate the abnormal variations to which these are liable. The principles laid down are thoroughly sound and orthodox; in dealing with the abnormal the reader is always carried back to the normal and an endeavour is made to show the different stages by which the one condition may develop from the other. The pathological account is somewhat scanty and strictly anatomical. The author has nothing to tell us about general pathological or psycho-pathological principles or theories. A chapter is devoted to the treatment of the insane, in which the arrangement of model asylums is described with considerable detail, ground plans of the buildings and other details being given. The author advocates the hydropathic treatment, and especially the continuous bath, for many cases and he strongly urges the total exclusion of alcohol from all asylums.

The second part of the book deals with mental diseases *seriatim* and in his clinical classification Dr. Weygandt follows Kraepelin. The descriptions of the diseases are concise and thorough, and in a comparatively small space a clear and lively clinical picture is given of the disease under consideration. Altogether 143 cases are cited to illustrate typical and atypical mental conditions. The chapter on Epilepsy is very interesting and instructive and the author's remarks on the relationship of epilepsy to alcohol are suggestive, especially the opinion here held, as put forward by Kraepelin, that certain forms of dipsomania in which periods of alcoholic excess alternate with intervals of sobriety are epileptic in origin and nature. Although pregnancy and childbirth are, of course, frequently referred to in the text as immediate causes of different forms of insanity, the usual custom of devoting a separate section to this part of the subject is not adhered to. On the question of alcohol Dr. Weygandt is absolutely uncompromising. He cites experiments showing that a man who takes one litre of beer a day, equivalent to 45 grammes of alcohol (about one and a half ounces), thereby reduces his capacity for work and he would stigmatise such a man as a "drinker." He discusses the subject at length in its social aspect and makes an eloquent appeal for more stringent measures against the terrible ravages caused by drink.

On the whole the book is a thoroughly useful manual on the subject with which it deals and a worthy contribution to the series.

A Handbook of Pathological Anatomy and Histology. By FRANCIS DELAFIELD, M.D., Professor of the Practice of Medicine, Columbia University, New York, and T. MITCHELL PRUDDEN, M.D., Professor of Pathology in the same University. Sixth edition. London: Baillière, Tindall, and Cox. 1902. Royal 8vo, pp. xix. and 819. Price 21*s.*

FORMER editions of this handbook have probably been better known in America than in this country. There is good reason for its taking here as prominent a place as a text-book for students as it has long done on its merits there. We gather from the preface that Professor Delafield has retired from an active share in the revision of the work, so that the responsibility for this edition rests mainly with Professor Prudden who has secured the assistance of several able coadjutors in carrying out his task.

The plan of the book is comprehensive. It is divided into three parts, the first dealing with the methods of post-mortem examination and of preserving and examining pathological tissues, the second being devoted to general pathology in which bacteriology takes its due place, and the third, and largest, comprising the special pathology of the different tissues and organs. The first part is short but eminently practical and useful; it describes thoroughly and completely the way in which a body should be examined after death, both from a pathological and a medico-legal standpoint. Special sections are devoted to cases of suspected poisoning and to examination of the bodies of newly-born children, while an adequate account is given of the lesions found in the commoner forms of violent and sudden death. The chapter devoted to Microscopic Technique is necessarily short and makes no pretence at completeness, but it is all to the point and contains a large number of useful hints.

The second part of the book, devoted to general pathology, occupies some 275 pages, but this includes an account of all the important infective diseases. It is too often the case that a writer on general pathology thinks it incumbent upon him to include in his treatise a complete text-book on bacteriology. In this book an admirable restraint has been exercised. Just so much detail has been introduced concerning the form, structure, and physiology of bacteria and other micro-parasites as to render intelligible to the student the part which these organisms play in pathology, but it is all done, and well done, in little more than 30 pages. The only omission which we see reason to regret is a criticism of modern theories of immunity which might well have found place in a work on general pathology. Such criticism has, however, been deemed outside the scope of the book. The various infections are excellently and tersely described, the morbid anatomy and histology of each preceding the account of its special microbe. The different chapters in the second part of the book show some variations in the fulness of their detail. That dealing with Atrophy, Degeneration, and Necrosis appears to us somewhat inadequate—lardaceous disease, for example, being dismissed in little more than a single page. The chapter on Inflammation and the Healing of Wounds is, however, excellent as is also that on Tumours.

The third portion of the work, dealing with special pathology, is naturally the largest, occupying some 430 pages. Even in this space it is obviously impossible to deal with such a subject in anything approaching fulness of detail. Nevertheless the account of the morbid anatomy and histology of the different organs is thoroughly good and excellently adapted for the student. We have tested it as a manual of reference in routine pathological work and have seldom found it wanting in at least a short account of the lesion under consideration. If, indeed, we were asked to name the distinguishing feature of this book we should unhesitatingly mention its admirable perspective. We have had occasion to review in these columns more than one work of similar aims in which too much had been attempted and in which the concise and lucid treatment required by the modern student of medicine in a useful text book was conspicuously absent. Here this is not so and we can recommend the volume most heartily to students and practitioners as a first-rate guide to modern pathology.

Our review would be incomplete without reference to the figures which so profusely illustrate the subject-matter. These include 13 full page plates and no less than 453 illustrations in the text, a good many are in colours. They are clear and artistic and are printed with unusual distinctness owing to the fine character of the paper employed. It is not often that so well illustrated a text book is met with.

Therapeutics its Principles and Practice By HORATIO C. WOOD, M.D, LL.D, Professor of Materia Medica and Therapeutics and Clinical Professor of Diseases of the Nervous System in the University of Pennsylvania, and HORATIO C WOOD jun, M.D, Demonstrator of Pharmacodynamics in the University of Pennsylvania. Eleventh edition. London Smith, Elder, and Co. 1902. Pp. 850 Price 18s.

THE eleventh edition of a work requires, as a rule, but few words from the reviewer. In this instance, however, the original author has been joined by his son and the result has been that the present volume, although retaining many of its old features, is so different from its predecessors as properly to be considered a new book. The principal changes have consisted in making the various articles conform more closely to a uniform and carefully arranged scheme. The descriptions of the general effects produced by drugs in the lower animals, minor theoretical discussions, and other matters of less importance than those considered in the general text have been printed in smaller type. The literary references have been omitted from the body of the text and have been placed at the end of the various chapters. This plan makes the reading of the book pleasanter and the student's attention is not distracted by the constant interpolation of the names of observers and the work or publication from which the reference has been taken. An excellent method is adopted of giving a summary in large type of the action of all the principal drugs. This is most convenient for the purpose of reference and enables the student to systematise his knowledge in such a manner as to be easily retained. For English readers however, the book has one great disadvantage—the preparations of the English Pharmacopœia are not given, consequently although much information may be gained from the work as to the principles of therapeutics, from the point of view of materia medica the volume is of little use.

Forensic Medicine and Toxicology By J DIXON MANN, M D St. And, F R.C.P Lond, Professor of Forensic Medicine and Toxicology in Owens College, Manchester, Examiner in Forensic Medicine in the University of London and in the Victoria University, Physician to the Salford Royal Hospital. Third edition, revised and enlarged London Charles Griffin and Co 1902. Pp 692. Price 21s

THE text of this very excellent work on forensic medicine and toxicology has been thoroughly revised in accordance with the results of recent scientific researches on the subjects of which it treats. The main additions are to be found in Part III. which is concerned with toxicology. The section on Arsenical Poisoning has been re-written, advantage being taken of the observations which were made during the recent outbreak in Lancashire. The remarks on the elimination of arsenic have been considerably amplified, Dr Dixon Mann's own observations being fully incorporated in the general text. He points out that arsenic has been regarded as a non cumulative poison, and when only a few doses are taken this view is correct. "Cumulative however, is a relative term and although arsenic does not appear to combine intimately with the tissues as some of the heavy metals do, still when small doses are taken into the system in close succession for a considerable period as in chronic poisoning, a certain residuum remains in the tissues after the last dose has been taken for a much longer time than was formerly supposed. In one case Dr Dixon Mann found arsenic in tissues examined 52 days after the last dose had been taken. In chronic arsenical poisoning arsenic may be detected over prolonged periods (49 days) in the exfoliated horny scales of the epidermis, in the nails and in the hair. These results are interesting and of considerable practical value. Some additional poisons have been included in this edition, amongst these being digitalin, fly papers, formalin heroin hydrofluoric acid, hyoscine and 'paregoric.' The list of poisons is now very complete and forms a valuable source of reference for the practitioner.

We consider this work to be one of the best text-books on forensic medicine and toxicology now in print and we cordially recommend it to students who are preparing for their examinations and also to practitioners who in the course of their professional work may at any time be called upon to assist in the investigation of a medico legal case.

LIBRARY TABLE

Atlas and Principles of Bacteriology and Text book of Special Bacteriologic Diagnosis By Professor K. B LEHMANN and Dr R. O NEUMANN Authorised translation from the second enlarged and revised German edition Edited by G H. WEAVER, M D, of the Rush Medical College, Chicago. London and Philadelphia W B Saunders and Co 1901 In two vols Atlas, 69 plates, text, 511 pages Price 21s.—It is rather more than two years since we reviewed in these columns the German original of this translation. We were able to speak of it, and especially of its textual part, in terms of high commendation, we have no reason for altering our opinion and, indeed a perusal of this translation only inclines us to emphasise our former verdict. The plates forming the atlas are as good as can be expected in the case of inexpensive coloured figures and are of undoubted utility. Professor Lehmann's chapters on General Bacteriology are a most admirable epitome of current knowledge on the subject and well repay the reader. The larger part of the second volume is devoted to special bacteriology and is so arranged as to facilitate the recognition of the most important species which may be encountered. This is done by means of synoptic tables, designed on a more or less dichotomic basis, at the head of each great division of the family, from these the student is referred to the detailed specific descriptions. A due sense of proportion is observed in the amount of space allotted to each species, those of practical importance being the more fully treated. A large amount of careful work appears to have been performed in the authors' laboratories at Würzburg in the way of correlating species which have been described under different names the task of identification is thus considerably reduced and we have found the work a more trustworthy guide to the recognition of unfamiliar species than any with which we are acquainted. The translation is accurate and readable, though here and there it is unmistakably American. We can recommend the book as a most useful adjunct to every bacteriological laboratory.

Handbook of Obstetric Nursing. By F. W. N. HAULTAIN, M.D., F.R.C.P. Edin., and J. HAIG FERGUSON, M.D., F.R.C.P. Edin. Fourth edition, revised and enlarged. Edinburgh and London: Young J. Pentland. 1902. Pp. 267, with Frontispiece and 37 Engravings. Price 5*s.*—This excellent little handbook for the use of obstetric nurses has now reached a fourth edition. The authors have revised the account of the management of labour and more especially that of the third stage. They have also drawn up rules applicable to the antiseptic management of labour, both in hospital and in private practice. The book has been carefully revised and brought up to date. It is a good example of the kind of book suitable for obstetric nurses and does not err on the side of giving too detailed information. The authors have again included in an appendix the very useful memorandum issued by the British Medical Association of the regulations proposed for adoption by the Obstetric Nurses Board.

The Life of St. Luke. By EDWARD CLAPTON, M.D., F.R.C.P. Lond., late Physician to St. Thomas's Hospital. London: J. and A. Churchill. 1902. Pp. 80. Price 1*s.* 6*d.* —This unpretending little work concerning the life of the patron saint of the medical profession consists in a catena of statements put together from the Gospel according to St. Luke, from the Acts of the Apostles, from Josephus, and from patristic writers. Besides these historical statements Dr. Clapton puts forward some theories of his own which are certainly reasonable enough in most cases. His theory that "the thorn in the flesh, the messenger of Satan," referred to by St. Paul, was "the mosquito produced malaria," Satan—i.e., Beelzebub—being the lord of flies, is ingenious and quite as likely to be true as any other theory. Dr. Clapton objects to physicians at the present day being called disciples of Æsculapius because, he says, the Asclepiades of Pergamos were quacks. Very likely they were, but so far as we know Æsculapius was not and the treatment as carried out at his chief shrine, Epidauros, was quite sound. We do not object to Christians being called disciples of Christ because the "Christian Scientists" are quacks.

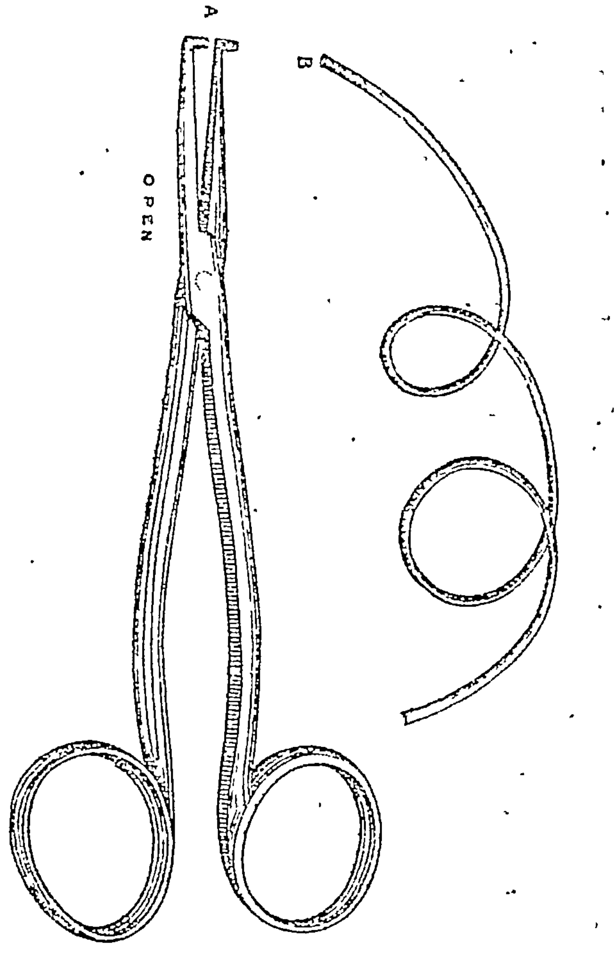
The Book of Asparagus, with Sections also on Celery, Salsify, Scorzonera, and Seakale. By CHARLES ILOTT, F.R.H.S., Lecturer on Horticulture to the Cornwall County Council, together with Chapters on the History, Decorative Uses, and Cookery of these Vegetables by the Editor. London and New York: John Lane. 1901. Pp. 108. Price 2*s.* 6*d.*—This is the first of a series of handbooks on practical gardening and is edited by Mr. Harry Roberts, F.R.C.S., who may be congratulated on having produced a useful and pretty little book on a very interesting subject. Asparagus is a well appreciated vegetable which has well-marked and well-known physiological effects on man; seakale, like most of the other members of the order to which it belongs, has antiscorbutic properties; salsify and scorzonera are nourishing and palatable vegetables and deserve to be more generally grown. Celery is, of course, a universal favourite, but celeriac is appreciated chiefly by those who associate it with bright and happy days spent in Italy. It hardly falls within our scope to discuss the culture of vegetables and it must suffice to say that Mr. Ilott generally gives good advice. His teaching on asparagus represents a position about midway between the most enlightened teaching of the best French specialists on the subject and the crass ignorance of the ordinary English gentleman's gardener. The most interesting part of the book is that contributed by Mr. Roberts on the history of the vegetables, and perhaps the most useful that on the methods which may be employed in preparing them for the table. The vegetable *entrée* is too much neglected in England, a fact to be regretted both from a gastronomic and from a hygienic point of view. The book is well printed and contains 17 illustrations, some of which are very old friends.

A System of Physiologic Therapeutics. Vol. IV. Climatology. Book II.—In the description and review of this volume which appeared in THE LANCET of April 26th, 1902, page 1189, it was omitted to state that the work is by F. Parkes Weber, M.A., M.D., F.R.C.P. Lond., with the collaboration for America of Guy Hinsdale, A.M., M.D. Dr. Parkes Weber states that the connexion in that review of Dr. Coan's name with the remarks on sea-bathing is erroneous. Fuller particulars as to the title, authors, and editor of the work will be found in THE LANCET of April 19th, 1902, page 1115, above the review of Volume III. Book I.

New Inventions.

NEW FORCEPS FOR THE INTRODUCTION OF DRAINAGE-TUBES.

DIFFICULTY having from time to time arisen in fixing Southey's fine drainage-tubing on the cannulas I have had made for me a pair of forceps which will undoubtedly do away with that difficulty. The illustration speaks for itself. Mr. Staniforth of Church-street, Cardiff, is the maker.



Cardiff.

T. GARRETT HORDER.

A NEW FORM OF SPLINTING.

As a general practitioner I have often felt the need that exists for some form of light cheap splinting which can easily be cut when wanted into any desired shape and size, for it is practically impossible for a country or suburban general practitioner to keep ready-made splints in sufficient variety of shapes and sizes for all the various fractures which he may at any time be called upon to treat. Gooch splinting is good and convenient but many splints, such as right-angled ones, cannot be made from it Poroplastic also is good but is rather heavy, expensive, and requires moulding Some time ago I made some splinting from corrugated boards—i.e., corrugated paper fastened between two sheets of cardboard By fastening two such corrugated boards together with the corrugations in one at right angles to the corrugations in the other I obtained a splinting which I have used for about a year This splinting has the following advantages —(1) it is light, (2) it is easily and quickly cut with a penknife into any desired shape, (3) it is quite strong enough for any ordinary splint except a long hip splint, (4) it requires very little or no padding, as the material itself is comfortable against a limb; (5) it is transparent to x rays, a rather important matter nowadays, and, lastly, (6) it is cheap. Further, it may be strengthened as much as can possibly be desired by the insertion of, wires, such as bicycle spokes, into some of the corrugations, and in right-angled splints some of the spokes will go one way in one set of corrugations and some at right angles in the other set of corrugations, and in splints longer than bicycle spokes, the spokes can be inserted from each end, overlapping in the middle of the splint. Also, by cutting the splinting into the desired shape, then inserting a sufficient number of spokes or other wires, it can be then bent into many shapes suitable for orthopædic purposes. For instance, I have used it successfully for splints for talipes plantaris to be worn at night instead of a Scarpa's shoe, the foot piece being forcibly bent round at right angles to the leg piece, and the angle can be easily strengthened by another such piece glued on to the outside Tapes or elastics are easily fastened between the wires or spokes to hold down the toes in cases of hammer toe, &c The bicycle spokes, which are very strong and tough, are easily cut into desired lengths by a special though cheap cutter or simply "nicked" with a file and then broken off. For x ray purposes these spokes can be withdrawn from all ordinary splints if desired without taking the splint off the limb and so again inserted. This splinting will not be so much required for stationary civil hospitals or by surgeons living near skilled instrument-makers, but by army and other moving hospitals, ambulances, and by the great numbers of general practitioners living in the country or suburbs who have to make their own splints as required

Messrs Arnold and Sons have recently made some of this splinting covered with white paper cardboard, in sizes of 30 inches square, and they can also supply the bicycle spokes and spoke-cutters GEORGE B BATTEN, M D Edin

Dulwich.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

An ordinary meeting of the Comitia was held on April 24th, Sir WILLIAM SELBY CHURCH, Bart, the President, being in the chair

The PRESIDENT announced that Sir Richard Douglas Powell, Bart., K C.V O, had consented to act as the delegate of the College at the Medical Congress to be held in Cairo in December and that Dr J F Payne would represent the College at the tercentenary celebration of the Bodleian Library at Oxford The President also announced that owing to the illness of Dr J W Washbourn the Croonian Lectures would not be delivered until November The President further informed the College that the following Fellows had been appointed to act as a committee to make suitable arrangements for the erection of stands and decorations at the time of the Coronation The College Officers, Dr C. Theodore Williams, Dr W H. Allchin, and Dr Oswald A. Browne

The following gentlemen having passed the required examination were admitted Members of the College Dr Joseph Shaw Bolton, Dr William Philip Sutcliffe Branson, Mr Gerald Godfray Giffard, Dr Charles Herbert Melland, Dr Sidney Vere Pearson, Dr Edward Furniss Potter, and Dr Walter Henry Maxwell Telling

Licences to practise physic were granted to 123 gentlemen who had passed the required examination. The Examiners for the Murchison Scholarship reported that they had decided to advise the College not to award the scholarship for this year

The following Members of the College were on the nomination of the council elected to the Fellowship Dr Henry Carr Maudsley (Melbourne, Australia), Dr William Camac Wilkinson (Sydney New South Wales), Dr Frank Montague Pope, Dr Edward Malins, Dr William Alfred Wills, Dr Thomas Hancock Arnold Chaplin, Dr William Page May, Dr Arthur George Phear, Dr George Francis Blacker, Dr John Fawcett, Dr Herbert Campbell Thomson, Dr Albert Sidney Frankau Grünbaum, Dr James Barr, and Dr Joseph John Perkins

The following communications were received 1. From the secretary of the College of Surgeons reporting certain proceedings of the Council on April 10th 2. From the General Medical Council submitting certain questions with respect to the courses of study in chemistry, physics, and biology required from candidates for the conjoint diplomas, and announcing that the examinations of the Colleges in those subjects will be visited and reported on for the Council during the present year

A report was received from Dr NORMAN MOORE on the proceedings of the General Medical Council at the special session held in February last

Dr FREDERICK J SMITH submitted the draft of a petition from an Association of Licentiates of the College and of Members of the College of Surgeons of England, and asked permission that the petition might be presented to the College by a deputation at a future date. After some discussion in which Dr MOORE, Dr ALLCHIN, and Dr PAYNE took part, it was resolved, on a motion proposed by Dr SMITH and seconded by Dr DAWSON WILLIAMS, that leave should be given for the presentation of the petition, but that it was not the wish of the College that this should be accomplished by means of a deputation.

A report was received from the Committee of Management dated March 10th. The Walsall Municipal Science and Art Institute was recognised for instruction in chemistry, physics, and practical chemistry The regulation recently adopted by the General Medical Council with respect to the attendance at a fever hospital in the case of a registered practitioner who desires to obtain the diploma in public health was also referred to and it was resolved that the Committee of Management should draft a letter to the General Medical Council drawing the attention of that council to the disadvantages under which the candidates from London medical schools are placed by the impossibility of their obtaining the necessary instruction at the hospitals of the Metropolitan Asylums Board.

A second report was received from the Committee of Management dated March 17th, in which it was recommended that the course of clinical instruction in lunacy given by Dr T Claye Shaw at St. Luke's Hospital, Old street, London, should be recognised as fulfilling the conditions of Clause 10, Section 1, of the regulations of the Examining Board in England

Both these reports were adopted After some further formal business the PRESIDENT dissolved the Comitia.

FESTIVAL DINNER OF ST MARK'S HOSPITAL.—Sir Joseph Dimsdale, M P, the Lord Mayor of London, presided over the festival dinner of St. Mark's Hospital, held at the Hôtel Metropole on April 24th to celebrate the sixty sixth anniversary of the hospital. After the usual loyal toasts had been duly honoured the Lord Mayor gave the toast of the evening, "St Mark's Hospital.' He pointed out that in collecting funds for the hospital they were under a certain amount of disadvantage because the institution rendered assistance to persons suffering from diseases that prevented the friends of the charity from pleading for help with the same freedom and openness in public that was possible in the case of other hospitals There was an assured annual income of a little over £2000 a year and that had to be increased to £4500 In the course of the evening it was announced that the list of donations reached a total of over £2000 The following gentlemen spoke in the course of the evening Mr R B. Martin, M P (treasurer), Mr Alderman and Sheriff Bell, Mr D H Goodsall, Mr F S Edwards, Mr E F Carey, and Viscount Dungarvan.

THE LANCET.

LONDON: SATURDAY, MAY 3, 1902.

Some Points Relating to Massage.

THE Society of Trained Masseuses have recently had an opportunity of hearing an address from Sir WILLIAM H. BENNETT which contained many points of direct interest to the medical profession. It is an old saying that there is probably no instrument that is powerful for good which is not also powerful for evil and the history of massage amply confirms this view. Sir WILLIAM BENNETT gave an instructive account of his recollections of the old-fashioned "rubbers"—"very respectable people, rather portly in figure as a rule, strictly honest according to their lights; their main purpose seemed to be the rubbing away of knots in muscles which did not exist and the dispersing of curious conditions of the veins which were also of doubtful existence." From this it will be seen that the earliest form of massage was more or less of the fraudulent description which the Society of Trained Masseuses has been incorporated to resist. Unfortunately, amongst the laity there is apt to spring up a fashion for some particular form of medical or surgical treatment from which quacks reap a rich harvest. Such a tendency can only have one certain result and that is to bring into disrepute what may really be a most valuable therapeutic measure. Then, rather than appear to pander to a popular error, some practitioners refuse to make any use of the remedy: massage and hypnotism have both suffered in this way. In suitable cases and administered by proper and trained hands massage is admittedly of great value in the treatment of certain arthritic and muscular affections and in particular in diseases of the nervous system, both organic and functional, while it has proved its efficiency in some conditions in which there is failure of nutrition. Yet owing to the manner in which massage has been misapplied there has been a natural tendency amongst many members of the medical profession to use it as little as possible. Quacks have prescribed it, and their prescriptions (as well, for that matter, as those of the medical profession) in respect to massage have been exhibited too often by young women devoid of the slightest knowledge of their subject. Moreover, the way in which the word "massage" has been employed as a cloak for immoral practices has made it stink in all men's nostrils. This, of course, should not be allowed to affect legitimate treatment by the methods of massage, but apart from the attempt of the *fille de joie* to pose as a *sœur de charité*, some of the distrust of massage has been due to the ignorance or incompetency of many of the professional manipulators and to the absurd and extravagant efforts to proclaim it as an exclusive method of treatment.

Within recent years, however, many of the difficulties which at one time beset manipulative treatment have been gradually overcome. Classes have been formed under the guidance of skilled teachers in which male and female attendants have been carefully trained in a thoroughly scientific manner and have acquired a good knowledge of the theory and practice of massage. But something more than this is necessary. It is not difficult for any person to acquire the requisite knowledge of the technique, but certain personal characteristics in the masseur or masseuse are absolutely necessary. Sir WILLIAM BENNETT, in speaking to the Society of Trained Masseuses, referred at length to the absolute necessity that the person who undertakes to administer massage must be physically fit for the task. He rightly suggested that physicians who have had extended experience in the use of massage must have found many times that the masseuse has had a depressing effect upon the patient owing to her own personal peculiarities; and he no less rightly explained the existence of such attendants by pointing out that there are a large number of philanthropic people in the world who are always anxious to assist, either by advice or pecuniary help, others who are in less fortunate circumstances than themselves. Ill-directed kindness has led to the position. Many women who have failed in other callings, generally from ill-health or want of strength or even from some physical deformity, have been sent by philanthropic friends to receive a course of instruction in massage with a view to the gaining of a livelihood. The launching of such persons into the calling of massage is, we maintain, unfair to the individuals themselves, because they cannot possibly succeed; it is unfair to the general body of those who practise massage; and it is especially unfair to any patients who may happen to fall into the hands of persons quite unsuitable to carry out the treatment prescribed. If there is one quality more essential than another in those who practise massage it is that they should be able to exercise a wholesome, invigorating influence upon the patients; but if the masseur or masseuse be the victim of an obvious physical defect or be in bad health an exactly opposite effect can hardly be avoided. A similar result will also follow if the masseuse be wanting in the ordinary amount of tact and kindly feeling towards the patients whom she is asked to attend.

The formation of the Society of Trained Masseuses was really called for if manipulative methods were to be rescued from the keepers of bagnios, from quacks claiming to heal all diseases, and from the hardly less dangerous hands of the uninstructed young lady. One of the essential points for the effective application of massage is that it should only be carried out under the orders of a medical practitioner, for attempts by massage-attendants to treat patients on their own initiative can end only in failure. The fact that a masseuse is a member of the Society of Trained Masseuses is not only a guarantee that she has been well trained but ensures that she will not attempt to practise on her own account. There is a great danger, moreover, that a larger number of persons, especially women, will learn massage than can find employment, and as a matter of fact we believe that already the supply exceeds the demand. By only admitting as members of the society women who are in every way suitable for the calling great assistance will be rendered to the practitioners who make use of massage in the course of their practice and a deterrent to the overcrowding of the calling will thus be established. While wishing the Incorporated Society of Trained Masseuses continued success we would suggest that male attendants should likewise form a kindred association, or that the existing society should so alter its constitution as to admit *both men and women to its body. We strongly urge that* the practice of masseurs should be confined to men and that of masseuses to women. This is desirable from many points of view, most of which are too obvious to make it necessary to enter upon the matter here. The masseur is therefore as necessary to the medical practitioner as is the masseuse, and the same steps should be taken to regulate their supply and standardise their attainments.

The Sanitary Oath.

SIR FRANCIS JEUNE and Mr. Justice GORELL BARNES have had posted outside the two courts of the Probate, Divorce, and Admiralty Division notices to witnesses calling their attention to the fact that they may be sworn in the Scotch manner before giving evidence. That is to say, they may be sworn with uplifted hand repeating a solemn invocation to the Deity, instead of taking a book and kissing it after listening to a form repeated by a minor official of the court. The notice to which we refer is repeated outside one of the courts of the Chancery Division and we have every hope that it may become universal. As it is, we may claim the publication of such a notice in the High Court of Justice at all as a victory for a cause that we have long advocated. We have for many years contended that the oath by kissing a book has nothing to commend it, while it is nasty and may become a means of propagation of disease; and we have seen with regret that the statutory permission to swear in the Scotch fashion was, as a rule, not known by witnesses and frequently, also, that judges, coroners, and magistrates were ignorant of it. This permission was given by the Fifth Section of the Oaths Act of 1888, a statute which we owe to the late Mr. BRADLAUGH. The Fifth Section provides that "if any person to whom an oath is administered desires to swear with uplifted hand in the form and manner in which an oath is usually administered in Scotland, he shall be permitted to do so and the oath shall be administered to him in such form and manner without further question." The primary object of this section was, we believe, to allow Scotch witnesses to be sworn in English courts in the manner to which they were accustomed. It is, however, obviously so worded that any one who does not wish to kiss the book may avoid doing so without his religious or other motives becoming the subject of any inquiry. No doubt it would be more satisfactory if a form of oath excluding the kissing of a book were directly prescribed by the legislature, but the power to dispense with the practice, long denounced by us as dirty and dangerous, is a step in the right direction. We trust that the power so given will soon be universally known. It has, however, been to a large extent ignored by coroners, while one county-court judge only, so far as we know—his Honour Judge EMDEN—has been active in calling attention to the Act, posting notices relating to it in his court and doing his best to introduce the sanitary oath among witnesses giving evidence before him. Presumably the small-pox epidemic and the spread of knowledge of sanitary laws have contributed to break down the well-known conservatism of the law courts and to discourage a procedure that had somehow become universal.

The form of swearing by kissing a book is purely one of custom. There is no direct authority for it in any Act of Parliament, or rule, or book of practice. The date also of its introduction is unknown, but this is not because it has been lost in the mists of antiquity, for it is fairly certain that, so recently as at the end of the seventeenth century, if the form existed it was not in any general use. It has been pointed out that COKE in his Institutes makes no mention of kissing the book but writes of the "corporal oath" as thus named because the witness touched with his hand a portion of the Scriptures, and this aspect of the oath no doubt survives in the familiar warning of the usher to the witness to remove the glove before taking the testament for the purpose of kissing it. It is also observed that in the "Book of Oaths," of which an edition was published in 1689, there is no mention of kissing a book. How the kissing originated is, we believe, almost as much a matter of speculation as is the date at which it became frequent or universal. The laying of the hand on the Gospels in swearing is, no doubt, of great antiquity, while the laying of the hand on the altar of a deity in invoking the deity to witness a statement or promise is older than the Gospels. The laying of the hand on the Gospels has its parallel in other countries besides England. The kissing of the book is, however, we believe, peculiar to England, or to England and Ireland, and it is not quite easy to assign its origin to the kissing of relics when we apparently find it introduced in England after all veneration for relics had been swept away and made illegal. It is worth noting that English people were more addicted to kissing once than they are now. Kissing as a form of salutation was so common among them that it excited the interest and amusement of foreigners. ERASMUS refers to it and a Hungarian gentleman who visited London and moved in good society in 1663 was much struck with the way in which men kissed ladies when they greeted them, where Hungarians would have shaken hands. Even Frenchmen in the middle ages held kissing as a peculiarity of the English nation, much as we remark upon it now among the French. It is, therefore, at least possible that the kiss bestowed upon the book in taking an oath may have been not so much a kiss of veneration as a form of salutation or acknowledgment by bodily contact, somewhat more ceremonious than manual contact, but still not associated with any great feeling of solemnity.

That there is any solemnity now surviving in the oath as usually administered in a court of law none will maintain. The rapid gabble of the usher or officer of the court saves time, and this may commend the unceremonious ceremony to the tribunal. The witness not infrequently kisses his thumb and believes that all danger of incurring the wrath of the Divinity if he forswears himself is thus avoided. We can well understand that the perjurer would prefer the oath so taken to the Scotch form. He would not lightly bear false witness who had raised his hand to heaven and had repeated the words solemnly dictated to him: "I swear by Almighty GOD, and as I shall answer to GOD at the great Day of Judgment, that I will tell the truth, the whole truth, and nothing but the truth, in so far as I know or as the same shall be asked of me." It is, however, urged that if the Scotch oath now permitted became universal through being made compulsory delay would result, particularly with uneducated and stupid witnesses. In order to obviate such delay Mr. F. A. STRINGER, in a letter published in the *Times* on Jan. 12th, 1897, suggested that the Scotch form of oath might be administered according to a method suggested by the practice of French, Belgian, and Spanish courts. In this case the person administering the oath would repeat a form commencing with the words, "You do swear by Almighty GOD," and when he had concluded the person sworn would hold up his hand and say, "I swear by Almighty GOD." We need hardly point out that an oath by Almighty GOD should be binding upon members of all creeds which involve belief in a supreme deity, and that an oath so generally applicable must be to some extent a convenience. In any case, it must not be forgotten that whether the oath is more or less binding to the conscience when administered without bodily contact of a book, there are still the legal penalties of perjury to deter those whose conscience is easily appeased.

Many years may possibly elapse before fresh legislation renders universal and obligatory a sanitary and at the same time an impressive and a reverent form of oath. The step forward upon which we now congratulate those who have urged reform consists in the endeavour of certain judges of the High Court of Justice to make better known the Scotch form which is permitted, but not ordered, for all witnesses, whether Scotch or not. We note, moreover, that these judges preside in that Division in which in 1886 the late Mr. Justice BUTT ridiculed the objection of Dr. T. HARKNESS of Derby to kiss a book which just before had been kissed by two common prostitutes. At least one other medical man had before this called attention to the question, and we had lent support to his view. Since then medical men have frequently protested against being obliged to kiss a book, and since 1888 many have availed themselves of the Act of that year when aware of it and when not prevented from doing so. And we have commended their action. We have not, nor has anyone, proved or asserted the frequent spreading of infectious disease through the taking of the witnesses' oath. We have, however, insisted that kissing the book was uncleanly and that it might in conceivable cases be dangerous. In one case in 1898 Mr. F. D. LYS, late medical officer of health to the District Council of Wareham and Purbeck, ascribed, in his annual report to the council, the death of a policeman to acute ulceration of the throat contracted through taking the witness's oath at petty sessions at Wareham. Besides ourselves many individual medical men and laymen since 1885 have contended on behalf of a sanitary form of swearing, conspicuous among them being Mr. F. A. STRINGER, the author of "Oaths and Affirmations," an experienced official of the High Court of Justice, and Mr. F. W. LOWNDES, late senior surgeon to the Liverpool Police, who has taken a constant and energetic part in the struggle from its commencement. That the success obtained should have come slowly and should be incomplete even now affords a fair instance of the difficulty with which reforms are sometimes brought about, even though they are admitted on all sides to be desirable. It illustrates also the indifference of the general public to sanitary questions that are not brought vividly before them by the actual presence of disease.

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The Affairs of the Royal Orthopædic Hospital.

THE affairs of a hospital—its administration, management, and pecuniary arrangements—must always be to medical men as well as to the general public of scarcely less interest than the purely professional side of these charitable institutions. And when difficulties and disagreements arise among those controlling the administration of hospitals it is as a rule a wholesome thing to illuminate the corners of the committee-room wherein the discussions have taken place, so that no one may have the unfortunate impression that things are being done in the name of popular charity that are not for the popular good. Publicity in such matters generally makes for what is just and right, and by freely ventilating disagreements we most easily get the big battalions of the public behind those with whom victory ought to rest. It is with this object that we return to discussion of the affairs of the Royal Orthopædic Hospital. We make no further excuse for once again urging the need for full investigation into the proposed sale of the site of the hospital in Hanover-square. The suggestion that by calling attention to the existence of dissension we may actually damage the institution has been made, but it is a ridiculous one. Every sensible supporter of a hospital likes to feel that his subscription is given where it is rightly spent, and the suspicion that a charity is being mismanaged is vastly more prejudicial to its future than any demand for enlightenment can ever be.

Curiosity has been naturally excited by the fact that the authorities of a hospital possessing a freehold site the value of which is still rising should be anxious to sell their magnificent position and to build a home for themselves elsewhere, while burdening themselves with a rent. The policy is so extraordinary, having in view the grave financial difficulties of other London hospitals, that those responsible for it ought to wish to make it intelligible. Either the need for ready money must be urgent to an extent that is unknown to the public or the demand for an orthopædic hospital upon another site must be more pressing than we, or any members of the medical profession, have ever suspected. The committee of management, however, which is proposing the sale, has made no attempt to demonstrate the need for either. Indeed, if ready money were the object the committee possesses in its freehold a means of raising it, while the fact that a sum of £2000 was spent recently upon the repairing of the present building points neither to acute need of cash nor to a long-established belief that Oxford-street is an unsuitable locality for the work. On one thing information is particularly needed. If a new building is really desirable why is not the very reasonable suggestion of the opponents of the sale considered? They desire to rebuild the hospital upon its present site, believing it an unsound financial proceeding to sacrifice the freehold. Their view is that the hospital should be rebuilt on part of the site and that the income of the charity could be increased by letting the remainder at a high rent. With a frontage upon Oxford-street and another upon Hanover square the prospects of letting any part of the premises that could be spared as shops or offices must be exceptionally good, a fact that is certainly well known to those who are now proposing to pay an enhanced but, as we believe, inadequate price for the premises. The committee, however, seems bent upon a sale and an alternative scheme of any kind receives no serious consideration from its members We should like to know the reason. We are perfectly willing to believe that the motives of the committee are based purely on a desire to improve the welfare of the Royal Orthopædic Hospital and we deplore the insinuations that have been made to the contrary as stupid and unjustifiable. But granted the excellence of the motives yet to an impartial eye the improvement that should accrue upon such action is obscure; and, together with the minority who oppose the sale, we ask the simple question Why is it necessary to sell the site? There can be nothing intrinsically wrong in the site for it is one which keeps the institution in the public eye. If it is the building which is radically vicious, why in the first place spend a large sum of money repairing it? And in the second place, why not re build on the old site? Lastly, if satisfactory reasons are forthcoming why the site must be sold every effort should be made in the interests of the charity to get the largest possible price. At least if it must be sold let the site be put up for public auction and the market be fairly gauged

We have before us as we write a valuation of the site made within the last month by a firm of estate agents competent to give an opinion upon the matter After saying, *inter alia*, that "properties in these highly favoured positions, being seldom in the market, are increasing in value to an incredible extent," the estate agents categorically declare that £40,600 is the wrong price for the freehold, and that a 99 years' lease of the ground at £1400 a year, with an option to purchase for £40,600 in three years' time should not be granted These, we learn, are the proposed terms of sale. The agents give their reason for believing that the site should realise at the present moment at least £7000 more, while they state that far better terms could be obtained in three or four years' time. We find their views convincing in the absence of any explanation why immediate sale of the site is compulsory And if the mere facts of the situation at the Royal Orthopædic Hospital call for explanation a closer examination into the history of the proposed sale leaves the inquirer still more in doubt as to the standpoint of the committee. The sale of the site of the hospital was first proposed by a committee in 1899 and that committee lost its position of authority on this very point It was ousted largely, we believe, through the efforts of the present chairman who was elected, it was understood, in maintenance of a no sale policy Yet before long the new chairman and his supporters are found furthering the designs of their ejected predecessors and even outdoing them in their eagerness to sell the site of the hospital There is no reason whatever why a man or a committee should not change in mind, but when the financial affairs of a public charity are concerned, the reasons for recanting should be forthcoming willingly

Annotations.

"Ne quid nimis."

THE ENDOWMENT OF HIGHER EDUCATION

THE appeal of University College, London, for a million pounds sterling has drawn attention to the very urgent need which exists for the endowment of higher education in Great Britain. Under certain circumstances elementary teaching may be self supporting, the payments of the scholars providing sufficient to defray the cost of the school premises, the books and materials needed, and the remuneration of the teachers. Yet it is being recognised that a very large part of even the elementary education of the country must be assisted by the State, or to a great extent supported by voluntary contributions If this is so where elementary education is in question, where the necessary acquirements of the teachers and the equipment for teaching are not of a high standard, much more must it be the case where higher education is in question. It has been long known that the fees which students are able and willing to pay for instruction are totally inadequate to reimburse the teaching institutions for the expenses incurred It has been estimated that the average cost in French and German universities of educating a student amounts to between £50 and £70 a year and the expense in this country would surely not be less. Yet the annual educational fees required from a student in most British universities and institutions of university rank do not exceed £20 or £30 It is clear that the difference between these amounts must be supplied by endowment. Moreover, the recent developments in science have greatly increased the expense of the equipment necessary for efficient teaching, and the development of many sciences makes it no longer desirable or even possible for one lecturer to deal with all the branches of one science The scientific method, too, has invaded departments of study which at one time were dealt with empirically, and thus new forms of applied science have come into being Each of these branches of learning must be taught by professors and lecturers who have devoted special attention to the subject. For these adequate remuneration must be provided or it will be impossible to obtain the best men £300 a year is surely little enough to attach to any lectureship and £800 would be a more desirable stipend Further, in most subjects in addition to the lecturer there should be assistant lecturers and demonstrators are also equally essential. A most important branch of all scientific institutions is research work, for to neglect to aid in the advance of a science is to drop behind. No institution of university rank fulfils its destiny if it fails to provide facilities for research work for the lecturer himself, for his assistants, and for the senior students A great item is the cost of fitting up modern laboratories, and more expensive still is their maintenance In this country the need for the endowment of higher education was formerly fully appreciated and the Universities of Oxford and Cambridge are noble monuments of bygone munificence. Even in recent years there have not been wanting instances of the endowment of higher education—among them may be specially mentioned Mason's College, Birmingham—but other countries have done far more In our own times the University of California has been endowed with £9,000 000 sterling, the University of Chicago has received £2,500,000 and the Johns Hopkins

University £1,400,000. On the continent of Europe we find the State recognising the value and the needs of a University education and contributing with no niggardly hand to the expenses of the universities. In Germany there are 22 universities and these receive more than £700,000 a year from the State, and in France a like sum is granted to its 16 universities. In this country it is almost hopeless to expect substantial help from the Government for the endowment or support of higher education, and we must therefore look to private individuals for the funds to establish and to maintain institutions of university rank. We can imagine no more beneficent object for the liberality of the wealthy. Efficient higher education is one of the most essential elements of our national life. University College, London, has done good work in the past, and especially worthy of mention and of interest to all medical men is its medical faculty with its long list of distinguished alumni. Its funds are, however, entirely insufficient for the due prosecution of its work, and its probable incorporation in the University of London makes it more necessary than ever that its endowment should be greatly increased. A million pounds sterling is a large sum of money, but unfortunately the present low rate of interest necessitates the allocation of a far larger amount of capital than would at one time have been required to produce the income urgently needed. Adequately endowed, University College, London, should prove of the greatest value in making the new University of London a real university in the best sense of that word.

WEEK-ENDS.

To point to the hurry and stress of modern town life as the cause of half the ills to which flesh to-day is heir has become almost a commonplace in etiological diagnosis. The old-fashioned, so to speak time-honoured, complaints might almost excite a medical man's pity, so much do they seem to be crowded out by those active widespread young fellows, neuritis, neurasthenia, and a whole young family of nervous illnesses, the offspring of the strained existence of to-day. A chain is as strong as its weakest link and to-day it appears that the nervous system is the weak link of the organism. The weakness is not natural. It is acquired because the strain upon this link is so often almost constant and out of proportion to the wearing power, so to speak, of the material. Whether as generations advance individual nervous systems will more easily bear the labours asked from them or not, at any rate it may fairly be assumed that in the early days of any new style of life the generations born under an old *régime* have, to speak colloquially, the worst of it. Their children cope more easily with the new necessities. They are earlier confronted with them and new arrangements which perplexed and worried their parents become habits easily borne and therefore not to be reckoned among the trying elements of existence. Thus we may imagine future generations perfectly calm among a hundred telephones and sleeping sweetly though air-ships whizz among countless electric wires over their heads and a perpetual night traffic of motor-cars hurtles past their bed-room windows. As yet, it must be sorrowfully confessed, our nervous systems are not so callous. Some of us still start at the telephone-ring and find the irregularities of the instrument a source of irritation and worry. Many of us are actually nervous at the sudden appearance of a motor-car round the wrong side of a London street-corner. The result of countless repetitions of these trials, small though they may be singly, is not to be lightly estimated. It is not only in the case of infectious diseases that a virgin soil affords the most favourable condition for a fertile growth and spread of the morbid influence. Our readers are familiar with the ravages perpetrated by such diseases as syphilis and small-pox when they fall for the first time upon a savage population. It is not straining an analogy too much to compare with these the effect upon civilised populations of large cities of the manifold stresses, hurries, worries, and anxieties of modern existence in its latest form. The savage communities always knew disease but syphilis and small-pox were new forms. Town populations always knew worry and excitement—electric communication and rapid locomotion provide their new forms. Fortunately, the very causes of nerve exhaustion, so far a improved rapidity of locomotion may be counted one o them, provide one important counteracting feature of town life at the present day. We are alluding to the facility with which those whose week-days are spent in city toil may spend the seventh in breathing the fresh air and beholding the innocent joys of the rustic. To the hard-working Londoner the value of the week-end properly used is hard to over-estimate. From the eager broker and worried business man to the stifled seamstress and toiling artisan there are few who cannot find further or nearer from the metropolis some fresh and open spot where they may replace the evil atmosphere of the office or the factory. Without trains, electric tramways, and motor-cars such a wholesome change of scenery and surroundings would be scarcely possible in the limited time available. We do not wish to underrate for a moment the value of parks and open spaces—the "city's lungs" as such places have been aptly called. For many these afford the only possibility of a Sunday in at any rate comparatively fresh air. Those large numbers, though, who habitually find the Sabbath's rest in a day's wholesome exercise at some little distance from their work-a-day centre may spare a moment from the usual condemnatory attitude towards the bustle, rush, and clatter of up-to-date locomotion to bless the means which enable them so profitably to enjoy that day which a far-seeing design has allotted to the recuperation of striving Christianity.

OLD BELIEFS CONCERNING TOBACCO.

THE belief that tobacco-smoke is a disinfectant has long been popularly held and THE LANCET has been lately invited by the *Daily Chronicle* to "spare a moment from the pursuit of germs" to speak upon the point. In doing so we are not departing from that which our excellent contemporary holds to be our permanent engagement, for the question has much to do with germs, though the classic experiments with tobacco-smoke and cultures of bacteria prove little. As long ago as 1888 Dr. Paul Tassinari of Pisa subjected the germs of various deadly diseases (such as anthrax, cholera, and typhus fever) to the action of dense clouds of imprisoned tobacco-smoke during periods of 100 to 150 hour and he came to the conclusion that in most cases, and especially when large cigars had been employed as generators, the development of pathogenic bacteria was either partially or wholly arrested. But nobody retains smoke in his mouth for 100 hours at a time! An occasional pipe, indeed, scarcely counts in comparison with Dr. Tassinari's intense soaking process. Besides, under the conditions imposed by the Italian investigator would not the smoke of coal or wood produce the same results as that of cigars? It is recorded, says the *Daily Chronicle*, that during the Great Plague children were told to smoke in their schoolrooms. The idea was probably borrowed from the custom of the buriers of the dead on their way, in charge of dead-carts, to Holywell Mount. We read in "A Brief Abstract of the Virtues of the American Tobacco Plant," published in 1783, that at first these persons only used tobacco as a deodoriser, "little thinking that what they used for momentary relief would prove a constant preventative. When the Plague was happily stayed, the Virtues of Tobacco began to be investigated, it was found that those persons who plentifully used it, either in smoking or snuffing, had most wonderfully escaped the dire contagion; for though they visited the chambers of the sick, attended the funerals of cartloads at a time, they unexpectedly avoided the infection." The writer even goes so far as to advance the theory that since Europe took to smoking epidemics had greatly decreased and we find him stating the belief that dealers in tobacco were secure from plague infection. Yet he can assign no reason why tobacco should prove so valuable as a disinfectant except in so far as it fortifies the head against "exhalations." Workmen in tobacco factories are often cited as being immune from cholera and other epidemics. It is interesting to trace this belief back. Abroad it probably received its first impetus in Toulouse, where shortly before the Revolution the workmen in the State tobacco factory are said to have remained immune during a deadly epidemic of *suette* (sweating sickness). The belief, according to Parent-Duchâtelet and d'Arcet, who reported to the French Government upon the health of workers in tobacco in 1829, was probably much more ancient in that neighbourhood. It may perhaps be of the nature of folk lore. They cite the opinion of the medical man attached to the Bordeaux State factory who writes to them expressing his belief that this local industry was a veritable blessing to a damp and foggy town. "The piquant and ammoniacal emanations arising from the tobacco qualify the air and diminish its insalubrity." Before the establishment of this factory, he goes on to remark, the poorer parts of Bordeaux had been ravaged by epidemics and contagions now unknown. The death rate among the tobacco workmen is, he adds, very low, while very few cases of illness occur among them, although they are in general ill-lodged and clothed and even worse fed. Parent-Duchâtelet and d'Arcet seem to support the views of their correspondent, and we have no new facts to add in evidence of the value of tobacco-smoking in epidemic disease. As yet, at any rate, there is nothing authoritative to be said.

THE PURIFICATION OF RIVER WATER.

AT a meeting of the Association of Municipal and County Engineers recently held in Birmingham a paper on the Filtration of River Water was read by Mr. J. A. Jenkins, C.E. There are, he said, three methods of dealing with river water that is liable to pollution: (1) sedimentation in storage reservoirs; (2) slow filtration through sand; and (3) coagulation by the addition of chemicals with subsequent rapid filtration. The advantages of sedimentation could not, he thought, be too highly advocated. There was no doubt that a reduction in the numbers and vitality of harmful bacteria was effected by means of the bactericidal action of the harmless species working with the help of sunlight and air and considerable numbers were also got rid of during the process of precipitation. As the result of careful observation it had been found that if a high degree of bacterial efficiency was to be maintained the rate of filtration must not exceed four lineal inches per hour. This was practically two gallons per square foot per hour, or rather more than 1,000,000 gallons per acre in 24 hours. It was essential that the rate of filtration should be regular, as otherwise the bacteria caught on the upper layers of sand might be washed down into the lower coarser material or out of the filter altogether. Mr. Caink of Worcester said that sand filtration gave the best health statistics. Several towns supplied with water from the new red sandstone, which is supposed to be very pure chemically and bacteriologically, had a typhoid fever case-rate of from 150 to 200 per 100,000 of population, while others supplied with river water receiving sewage pollution, when effectively filtered in an adequate area, even without sedimentation, had typhoid fever case rates varying from 20 to 25 per 100,000 of population. With reference to the foregoing, the views entertained by the people of Egypt on the subject of potable water may be of interest. Nile water, they say, should never be filtered. Not only does the mud it contains add to its nourishing qualities but it also makes it wholesome. Even educated Egyptians, some of them members of the medical profession, sustain this theory and endeavour to justify it scientifically. According to their contention every human being admits innumerable microbes into his system every moment of his life. The majority are probably innocuous but unquestionably some are more or less deadly. Now it is well known that microbes are continually engaged in internecine war but nature has so adjusted the strength of the combatants that the net result for their human host is health. If, however, in a purblind attempt to improve on nature, that host should be foolish enough to meddle with her far-seeing arrangements he will inevitably disturb the equilibrium of the microscopic belligerents and end by doing himself an injury. Specious reasoning of this calibre is proudly advanced as unanswerable by the possessors of a little learning, but when they are asked to account for the fact that since the introduction of modern sanitation the duration of life has sensibly increased and, a still more telling argument, that the time lost by sickness has greatly diminished, it is the drinkers of shallow Pierian draughts who themselves remain dumbstricken.

THE TORBAY HOSPITAL.

DIFFICULTIES have of late arisen at the Torbay Hospital in reference to the tenure of office of the medical staff and the method of electing its members. The following are the main facts of the case as far as the matter has gone at present. At the annual meeting of the governors of the Torbay Hospital in February, 1901, the rule relating to the election of the honorary medical staff was, at the instance of the weekly board, altered so as to make the election annual, though some members of the staff protested at the time against the alteration. The staff are elected by a special board consisting of the weekly board (14 members) and the honorary medical staff (eight members). It was pointed out at the time that the staff would not care to vote for their own election. When the special board was summoned this year to elect the staff the latter, not caring to vote for themselves, did not attend the meeting. There were nine vacancies and the honorary secretary handed round ballot papers containing the name of each member of the staff, with ruled columns opposite, the one headed "For" and the other "Against." In the case of two of the staff more votes were given "against" than "for." The chairman accordingly ruled that these two were not elected. Advertisements were then inserted in the newspapers asking for candidates for the vacancies. In the meantime the two rejected members of the staff called a meeting of the local profession, which was attended by practically all its practising members, and a motion was unanimously carried pledging all the members not to apply for the vacancies until the annual rule had been rescinded. When the board met to elect there were no candidates. A special meeting of the governors was then held on March 21st to rescind the new rule and substitute for it practically the old rule. The chairman allowed no amendments to be put. Eventually a motion was carried adjourning the meeting for a month in order that a conference might be held between 14 members of the Torquay Medical Society and the weekly board with a view to settle their differences. The Torquay Medical Society is composed of nearly every registered practitioner in Torquay, together with many from the surrounding districts. The society met and chose as its representatives 14 of its members who practised in Torquay and who were in no way

Mauritius, a telegram from the Governor received at the Colonial Office on April 25th states that there were no cases of plague for the week ending April 24th. On the principle that "forewarned is forearmed" the medical officer of health of Bristol, Dr. D. S. Davies, has issued a circular to medical practitioners in his district pointing out that though at present there is no known case of plague existing in these islands, yet the possibility of its introduction, especially into seaport towns, is ever present. The circular draws attention to the need for regarding with suspicion any case of pneumonia among sailors recently arrived from suspected ports or among dockyard labourers engaged in unloading cargoes from such ports. Any case also presenting the smyptoms of fever with adenitis after possible exposure to infection should be viewed with suspicion. The circular concludes by stating that any communication from a medical practitioner to the medical officer of health with a view to securing a bacteriological diagnosis will receive attention.

HOLIDAYS FOR POOR CHILDREN.

THE Ragged School Union and Shaftesbury Society, which was founded nearly 60 years ago, sent last year some 6000 children from the unhealthy and crowded back streets of the metropolis to the country or the seaside for a fortnight or more. This year the society wishes to repeat this useful work and its appeal for funds will be, we trust, readily responded to by those who are able to help. One child can be sent away for a fortnight's holiday for the sum of 10*s.* and it is difficult to estimate the value, both physical and mental, of a fortnight's holiday in the pure air of the country to the children of the slums. Donations should be sent to the secretary, 32, John-street, Theobald's-road, London, W.C. By the way, the question of the risk to the country districts of spreading small-pox among them through the medium of the little holiday visitors, though small, must not be disregarded. We trust that the society will take every precaution in the matter.

THE OBSTETRICIAN—PHYSICIAN OR SURGEON?

IN our issue of April 5th, p. 979, we referred to the troubles which have arisen at the Lincoln County Hospital concerning the action of the physician in charge of gynæcological cases performing operations such as abdominal sections. The matter was referred to the weekly board and that body decided that the gynæcologist in question was within his right in performing such operations as we have mentioned. The members of the staff who are also members of the weekly board attended but did not vote. The matter was then referred to the quarterly board of governors which met on April 10th and by 16 votes to 14 it was resolved that the decision of the weekly board should stand. This is but a small majority to decide a question which has obviously given rise to a great deal of heat and one upon which five-sixths of the medical staff appear to be in unanimous opposition to the remaining sixth. Moreover, the chairman of the quarterly board of governors is reported as saying that he considered that the members of the staff were quite right in not voting at the weekly board, "otherwise they would have been sitting as judges on their own case." But the chairman of the quarterly board of governors is also the chairman of the weekly board and the meeting of governors was called to adjudicate upon the decision of the weekly board. Therefore the chairman of the meeting of governors practically did the very thing which he praised the medical staff for not doing—namely, sat in judgment on his own case. However, the lay authorities of the hospital have decided against the majority of the staff and in our opinion the staff had better try to settle matters between themselves. It surely ought not to be difficult with the exercise of a little "sweet reasonableness." It is a thousand pities that the work of a beneficent institution such as a hospital should be impeded because the essential members of its *personnel* cannot agree upon a method of procedure.

THE BATTLE OF THE CLUBS.

ANY practitioner who is asked to take the appointment of medical officer to an association of clubs in the district of Holmfirth, Yorkshire, would do well to communicate previously either with Dr. H. Watthews or Dr. H. W. Williams, both of Holmfirth.

THE PREVALENCE OF SMALL-POX.

THE returns of small-pox in London for the past week show the following figures:—On Saturday, April 26th, there were 39 cases notified and removed; on Sunday, the 27th, there were 27 fresh cases; on Monday, the 28th, there were 31 fresh cases; on Tuesday, the 29th, there were 28 fresh cases; and on Wednesday, the 30th, there were 39 fresh cases. In the county of Essex for the week ending April 26th, there were notified 63 cases, making a total of 890 cases throughout the county from Jan. 1st.

THE ST. JOHN AMBULANCE BRIGADE.

WE understand that an association of honorary surgeons of the St. John Ambulance Brigade has been formed, having as its objects: (1) to further civil ambulance work; (2) to aid and advance the interests of the Order of St. John of Jerusalem; (3) to watch the interests of the honorary surgeons; and (4) to promote social intercourse among its members. Circular letters have been sent to all the honorary surgeons throughout England and Wales, and any of these gentlemen who may not have received them are requested to communicate with the honorary secretary, Dr. James J. Marsh, 104, Sloane-street, London, S.W. The first annual meeting will be held at the Hotel Cecil on June 25th, and will be immediately followed by the first annual dinner. The present annual subscription is 2*s.* 6*d.*

THE MANCHESTER AND SALFORD HEALTH ASSOCIATION.

THE jubilee of the Manchester and Salford Health Association falls in the present year and has been celebrated by a congress on sanitary reform which was opened in the Manchester Town Hall on April 24th. The Lord Mayor in welcoming the members on their arrival said that theirs was the oldest sanitary association in the country and that it had given direction and encouragement to the efforts of other towns and societies. The presidential address was delivered by the Bishop of Manchester (the Rev. Dr. Moorhouse) who discussed at considerable length the death-rates of Manchester and Salford, comparing them with those of other places and emphasising the importance of sanitary surroundings as a factor in the moral and physical improvement of the population. At the close of the Bishop's discourse the chair was taken by Professor J. Dixon Mann and the business of the conference commenced with an address delivered by Dr. Arthur Ransome on the history of the association, the preludes to the formation of which were the publication of the report of the Health of Towns Commission in 1842 and the revelations made by the returns of the Registrar-General with respect to the great mortality of most large towns. Sir James Crichton Browne, whom one of the speakers styled the "Chrysostom of the profession," then introduced the subject of light and sanitation in a speech remarkable for its scientific breadth, sustained eloquence, and wealth of impressive phraseology. Naturally enough, he was severe in his condemnation of the window tax which, he said, was instituted in 1696 and continued in force till 1851. It had blighted domestic architecture for 150 years, it had undermined in some degree the physical vigour of the people, and it had accustomed them to dingy dwellings. Sanitary laws were similarly infringed by the modern practice of building houses of inordinate height and by the production of immense volumes of smoke in factories and in various industrial processes. Papers were then read by Dr. Arthur Newsholme on Vital Statistics and by Mr. Horsfall on the Housing Question.

PLAGUE AND RATS ON SHIPBOARD.

A VALUABLE contribution to our knowledge of the transmission and diffusion of plague is provided by the circumstances of an outbreak on board the s.s. *Antillian*. This vessel, a troopship of 3666 tons, left Capetown with a clean bill of health on Feb. 1st, 1901, and entered Sydney Harbour on March 2nd, having no cargo but in shingle ballast and completely fitted for carrying mounted troops; there was a crew of 65 persons in all but there were no passengers and no surgeon. The health officer of the port was informed that all hands were well except a sailor who was thought to be suffering from pleurisy. It was known that plague had occurred at Capetown subsequently to the departure of the *Antillian* and an examination of the patient showed that he suffered from that disease. He was therefore removed to the hospital, where he died on March 3rd, and the vessel was sent to the maritime quarantine station; at the same time inoculation was offered to all hands, but only ten (mostly officers) accepted. During the night of March 11th–12th a man who was a storekeeper on board fell ill with a typical attack of plague from which he was pronounced convalescent on the 31st The bodies of two rats which had been picked up dead on the vessel on March 4th were found to be teeming with plague bacilli. The captain said that there were not many rats on board, but that on Feb. 22nd, the day of the departure of the vessel from Albany, Western Australia, where it had been for 24 hours, 15 carcasses were discovered. At Albany the vessel anchored in the stream and received coal from a lighter which came alongside. Plague broke out immediately afterwards in Western Australia, but there was never any suspicion of the disease in Albany among either the human population or the rats; most of the cases occurred in Perth, 245 miles from Albany but connected with it by rail. At Sydney the *Antillian* was four times fumigated with sulphur, more than three-quarters of a ton having been burnt. The store-rooms, having probably been the resort of rats, were specially treated; they were at different times twice sprayed with corrosive sublimate solution (one in 500) by means of Geneste-Hirscher sprays and were separately fumigated. After repeated searches only 83 dead rats were found and the vessel was released for service on March 15th. In a report on this case made to the State Treasurer Dr. J. Ashburton Thompson, the President of the New South Wales Board of Health, draws attention to the circumstance that plague communicated to the rats which infested a vessel of 3666 tons to the number of about 100 continued among them for 29 days and yet at the end of that term it had killed only a minority of them. From this it may be inferred that length of voyage within the limits common with steamships at the present day does not avoid the risk of infection run by clean ports which are in communication by sea with infected ports. Another fact of even greater practical importance is that a ship may become infected at a port (in the present instance, Capetown) which lay under no suspicion of plague at the time the ship left. Under ordinary circumstances communication of such a ship with any healthy port at which it arrived would be unrestricted, and there is reason to believe that the epidemic at Sydney in 1900 originated in this way.

OVERCROWDED TRAINS.

THE recent disaster to a workmen's train on the Great Eastern Railway at Hackney Downs Junction, having as its result the death of several persons and the maiming and mutilation of others, will serve a useful purpose if it calls public attention effectively to the question of overcrowding railway-carriages. No doubt the inquiry which will follow into the causes of the accident will show to what extent, if any, overcrowding may have been responsible for what happened, and also to what extent, if any, it may have aggravated the injuries and suffering inseparable from so serious an occurrence to a passenger train. The accidents, however, which take place in consequence of the number of passengers travelling by train exceeding altogether the accommodation provided by railway companies, without taking into account such serious catastrophes as that to which we are referring, are very numerous. Hundreds of men and women in and round the metropolis daily risk life and limb in the struggle to obtain standing room in trains that will convey them to or from their work. Should they be successful in entering a compartment they have to travel, perhaps for an hour or two daily, in an atmosphere of the foulest description. The justification of such overcrowding of the train is, presumably, the contention that the workmen's train could not be run without it, except at a loss So much, however, has been done, which to our fathers would have seemed ruinous and impossible, to improve the conditions of travelling for the humbler classes, that we cannot readily admit the want of accommodation in the workmen's train to be a necessity for which no remedy is possible. Our methods of locomotion are just now in a violently transitional state, especially in, and in the vicinity of, crowded centres. Hopeful people, with Mr. H. G. Wells as their prophet, believe that order will soon be evolved from chaos. If this be so, order will be attained by the ruthless confiscation of all machinery found wanting in the ameliorated condition of things. Our railway companies should have it before their eyes that competition is at last putting them on their trial.

THE annual meeting and May dinner of the Aberdeen University Club, London, will be held at the Trocadéro Restaurant on Wednesday, May 21st, at 7 P.M. The chair will be taken by Sir John Anderson, K.C.M.G., and those intending to be present should communicate with the honorary secretaries, Dr James Galloway and Mr. J. Malcolm Bulloch, at 54, Harley-street, W.

THE Prince of Wales, as President of King Edward's Hospital Fund for London, has received from Mrs. Samuel Lewis the first quarterly instalment of the munificent annual subscription of £10,000 which she will give to the fund during her life. This represents the interest on the amount bequeathed to the fund by her husband, in which sum she has a life interest.

THE May dinner of the Edinburgh University Club of London will be held at the Criterion Restaurant on Wednesday, May 7th, at 7.30 P.M., under the chairmanship of His Grace the Duke of Argyll, K.T.

THE governing body of the Jenner Institute of Preventive Medicine has appointed Major Ronald Ross, F.R.S., late I.M.S., to be head of a new department in the Institute at Chelsea.

THE annual general meeting of the Medical Defence Union will be held on Thursday, May 15th, at 5 P.M., at 4, Trafalgar-square, London, W.C., to receive the annual report of the council and the statement of accounts and to transact other business of interest to the union and to the profession at large.

A MEETING of the Anatomical Society of Great Britain and Ireland will be held at the Charing Cross Hospital Medical School, on Friday, May 9th, at 4 P.M.

LORD CROMER'S ANNUAL REPORT ON EGYPT.

LORD CROMER'S annual report on the finances, administration, and condition of Egypt is, as usual, full of interesting and clearly expressed information. Having dealt exhaustively with the affairs of the whole country (exclusive of the Soudan) under 82 distinct headings, his lordship in conclusion feels justified in placing on record two extremely satisfactory deductions: (1) that "the past year was one of steady and normal progress"; and (2) that "in Egypt proper it may be said that the foundations on which the well-being and the material prosperity of a civilised community should rest have been laid." To anyone who was acquainted with Egypt in the bad old times before the British occupation 20 years ago the transformation which has taken place must appear to be well-nigh as miraculous as though our Consul-General had had the control of Aladdin's lamp. It would be impossible to describe the universal betterment more tersely and adequately than Lord Cromer himself does; we therefore append his *ipsissima verba*:—

> It is, of course, obvious that in every department of the State further improvements are both necessary and practicable. But these are, for the most part, matters of administrative detail. So far, at all events, as the purely Egyptian portion of the administration is concerned no radical change of any kind appears to be required. The fiscal system has been placed on a sound footing. The principal irrigation works are either completed or are approaching completion. Means of locomotion, both by rail and road, have been improved and extended. The institution of slavery is virtually defunct. The corvée has been practically abolished. Although both the judicial system and the organisation of the police admit of further improvement it may be said that law and order everywhere reign supreme. The courbash is no longer employed as an instrument of government. The army is efficient and well organised. The abuses which existed under the old recruiting system have been swept away. New prisons and reformatories have been built. The treatment of prisoners is in conformity with the principles generally adopted in Europe. The sick man can be nursed in a well-equipped and well-managed hospital. The lunatic is no longer treated like a wild beast. Means have been provided for enabling the peasantry to shake themselves free from the grip of the money-lenders. A very great impulse has been given to education in all its branches. In a word, all the main features of Western civilisation have been introduced with such adaptations as have been necessitated by local requirements.

Of the 82 sections into which Lord Cromer's report on Egypt proper is divided no fewer than 22 are more or less intimately concerned with medicine and sanitation. Under the heading "Medical Administration," we are told that the number of admissions to the Government hospitals continues to increase, 23,447 persons having been treated as in-patients in 1901 as against 22,572 in 1900; and also that, judging from the steady increment in fees observable every year, it is evident that the native population is beginning to appreciate the advantages of hospital treatment. At Kasr-el-Aini the income under this head has risen from £E349 in 1896 to £E1247 in 1901.

In the course of 1901 two very important modifications of administrative detail were sanctioned. Hitherto the construction and repair of buildings utilised for medical and sanitary purposes have been carried out by the Public Works Department but in future this work is to be done under the orders of the Director-General of the Sanitary Administration, who has been allowed to employ his own staff of engineers and others for the purpose. The second modification deals with the scavenging and watering service of Cairo which, with its entire staff and plant, was once more handed over to the sanitary director from Jan. 1st, 1902, the accompanying grant amounting to £E25,000.

Under the heading "Infectious Diseases" Lord Cromer writes as follows:—

> Independently of plague, 3622 cases and 632 deaths from infectious diseases were notified during 1901, against 4144 cases and 1027 deaths in 1900. Small-pox accounted for 1665 cases and 220 deaths. Cairo was comparatively free from this disease during the year, only 20 cases and four deaths occurring against 172 cases and 41 deaths in 1900. This immunity was, without doubt, due to the very thorough revaccination of a large proportion of the population during 1900. The good results of efficient vaccination in preventing the spread of small-pox cannot be better illustrated than by what took place at Port Said in 1901 when an outbreak of the disease occurred in that town.
>
> The population of Port Said is 47,500, of whom 35,000 are natives and 12,500 Europeans. 174 cases and 56 deaths from small-pox were reported from this town during 1901. Of these 129 cases and 38 deaths occurred among Europeans and 45 cases and 18 deaths among natives. This enormous disproportion was, without doubt, due to the lack of vaccination among the European population. It is possible to enforce vaccination among the native population but among the European, though vaccination is compulsory by the law of the country, it is impossible to enforce it, as the Egyptian Sanitary Department has to depend on the consuls of the various countries for the notification of births in their respective colonies and these notifications are either sent with no information as to the residence of the parents or are not sent at all, so that it is impossible to trace the children and prosecute the parents in the courts if they refuse to have them vaccinated. Over 30,000 of the inhabitants of Port Said were vaccinated between January and June, 1901. After the end of June no further cases occurred.

Lord Cromer commends the above facts and figures to "those who are disposed to doubt the utility and efficacy of vaccination," and adds that small-pox, which was formerly very prevalent in the province of Assouan, especially among the Bisharin Arabs, has been almost entirely stamped out by more efficient vaccination.

With reference to diphtheria Lord Cromer writes:—

> 357 cases of diphtheria occurred in the town of Cairo during 1901, as against 210 certified during 1900. The difficulty of suppressing the ravages caused by this disease arises from the fact that many cases among the native population are not brought to the notice of the sanitary authorities until after death has taken place. In all houses infected with diphtheria and those in contact with them the prophylactic treatment by the injection of anti-diphtheritic serum has been practised on all surviving children where the parents have accepted it. In houses where this treatment has been carried out second cases of the disease have never occurred. It is regrettable that in some cases parents will not accept this treatment for their healthy children who have been more or less in contact with the infection of diphtheria, as without doubt it offers a very real protection against the disease.

It is satisfactory to find that sanitation is making some progress in the villages of Egypt as well as in the towns. During the past year 227 cemeteries were condemned and other sites were selected in lieu of them. "Very few villages now remain," adds Lord Cromer, "in which it will be necessary to change the cemeteries." The work of improving the sanitary condition of the mosques likewise continues steadily. 1179 village mosques were dealt with in 1901, but Pinching Bey, late Major R.A.M.C., Director of the Egyptian Sanitary Department, is unable to report as favourably regarding the *birkets* (ponds) which exist in the neighbourhood of nearly every village and which constitute a danger alike to human beings and to animals. Lord Cromer, however, trusts that "sooner or later it may be possible to deal with this important, but somewhat difficult, subject."

In Egypt a good and pure water-supply is one of the first of needs, for, unfortunately, the Nile—its only source—has from time immemorial been used as a main sewer. Arrangements, we are told, have been made to supply several more provincial towns with good water. Borings have also been made with success in others and the necessary steps have been taken to prevent contamination prior to delivery. At Alexandria new filter-beds are under construction but the new scheme for distribution will not be completed for three years. With the approval of Government the municipality of this seaport has recently raised the sum of £E500,000 which is to be spent on sanitation. In Cairo a system of surface-drainage for the removal of storm water has been completed at a cost of £E20,500, the work having been carried on by night as well as by day, but Lord Cromer makes no mention of the larger scheme for the complete sewerage of the city about which so much was heard a few years ago. It would probably lessen the growing dampness of Cairo if used garden and kitchen water could be removed by these new drains, but, of course, care would have to be taken to prevent the entrance of sewage matter.

Since 1895 a sum of £E21,000 has been spent on alterations and improvements in the only lunatic asylum which Egypt possesses. The accommodation is, however, entirely insufficient and a second asylum is much needed. Only 85 *hashish* patients were admitted in 1901, as against 128 in 1900, the improvement being due to the "campaign" against the importation and use of the drug which has been prosecuted with much vigour.

> The most interesting medical work at present in hand at the asylum (writes Lord Cromer) is the observation of cases of insanity due to, or accompanied by, pellagra. A record of these cases is being published in European scientific journals.

One of the last and most obstinately defended of the strongholds of corruption in Egypt was what is known as the *Wakfs*—or more properly *Ouckaf*—a body of trustees charged with the administration of vast properties which from time to time have been bequeathed for the benefit of charity (including hospitals), religion, and education In 1898 the accounts showed a deficit of no less than £E27,000 but in 1901 there was a revenue of £E245,000 During the five years the aggregate surplus amounted to £E270,000 As Harari Pasha, quoted by Lord Cromer, justly remarks, "These results are worth recording, or else the public, interested in the *wakfs*, may be led to forget the past and think the administration has always existed in its present form" In addition to the public *wakfs* there are also numerous private *wakfs* whereof the beneficiaries now receive the full amounts accruing to them. Too much praise cannot be accorded to the way in which this extremely delicate reform has been carried out. Very large sums have been saved from diversion to improper purposes without the least ruffling of Mohamedan religious feeling

A report on the Soudan, which on this occasion has been compiled by Lord Cromer himself, is included in the publication and there is also a highly interesting memorandum on the plague in 1901 by Pinching Bey

AN ACTUARIAL VIEW OF VACCINATION AND SMALL-POX

ON Monday last, April 28th, at the Institute of Actuaries, Staple Inn Hall, Holborn, a paper by Mr. Arthur Francis Burridge, the secretary of the Equity and Law Life Assurance Society, was read, dealing with vaccination in a manner that is just now of particular interest to the medical profession. Mr C D HIGHAM, President of the Institute of Actuaries, occupied the chair

Mr BURRIDGE commenced by pointing out that the Journal of the institute contained little information on vaccination, only a few brief remarks by Dr S H. Ward in 1860, some paragraphs in a general paper by Mr W H Porter in the same year, and a paper by Dr Sprague in 1877 Starting with the introduction of the practice of inoculation consequent on a letter sent to England by Lady Mary Wortley Montagu in 1717, he then traced the history of vaccination down to the present time, illustrating his remarks with tables and charts conclusively showing that there must be in all civilised countries some other cause in addition to sanitation which had favourably affected small pox mortality The conclusions arrived at in his historical *résumé* were clearly brought out. He found that the diminished mortality from small pox in the various countries dealt with had followed vaccination legislation and that a marked difference appeared since the epidemics of 1870 and 1874 as between those countries which enforced and those which did not enforce vaccination ; and further that in the only country in which revaccination was compulsory—namely, in Prussia—small pox had been practically eradicated. As regards England and Wales the last 50 years he divided into two periods—namely, the period from 1848 to 1870 during which vaccination was compulsory though not strictly enforced, and the period 1871 onwards in which vaccination was more or less compulsory The mortality in the first of these periods fluctuated considerably but showed on the whole a slight downward inclination The second period opened with an epidemic and the figures for 1871 72 were abnormal. The mortality in the following year fell to a low point, and from that time it had fluctuated within much narrower limits Next he found that the decline in mortality had principally affected children under 10 years of age, the influence being less and less felt as the higher age groups were reached, until, for ages above 45 years the mortality from small pox remained at the present day as heavy as it was 50 years ago Mr Burridge next examined the statistics of special communities and classes in which the vaccination condition was ascertainable. The tables and plotted curves dealing with the Sheffield epidemic showed, he said, the very large immunity from attack enjoyed by the vaccinated class as compared with the unvaccinated The gradual approximation of the rates among the two classes as the groups at the higher ages were reached was strikingly shown, as was the very small percentage of fatal attacks among the vaccinated classes. The experience of armies, Mr Burridge pointed out, formed the largest available material, where individuals were under constant supervision and where the vaccination condition was a more or less known factor, while the mere act of vaccination gave no protection unless it was efficient. An examination of the number of marks afforded some guide to the degree of protection, the evidence upon the whole pointing to the conclusion that the greater the number of marks the greater the protection Proceeding to inquire what the operation of the law had effected for vaccination Mr Burridge said that vaccination was made compulsory by the Act of 1853, but its universal practice was not strictly enforced until the passing of the Act of 1871, when it was rendered obligatory on the part of the guardians to appoint vaccination officers to enforce the operation of the law For many years subsequently to the passing of this Act the number of infants unaccounted for with regard to vaccination in the year of birth was about 5 per cent. only, the remaining 95 per cent. having either been reported as successfully vaccinated, as insusceptible of vaccination, as having had small pox, as having died unvaccinated, or as having received certificates of postponement. Since 1883, however, the percentage of infants unaccounted for had, he said, been steadily on the increase, until in 1898 22·9 per cent of children were not finally accounted for The conscientious objection clause had somewhat improved the figure. He attributed the large number of children unaccounted for between the years 1889–96 to the fact that a Royal Commission on Vaccination was sitting during those seven years Mr Burridge concluded his paper with suggestions for increasing the popularity of vaccination and for adding to its efficiency Of these the most important, even from a medical point of view, was that every medical man should be a public vaccinator and should receive a supply of the Government lymph.

The PRESIDENT (Mr Higham), in inviting discussion, said that all present would agree that Mr Burridge had read an excellent paper He did not think that the conscientious objector counted for much, though it was a pity that he had been manufactured He suggested that the present system of penalties should be supplemented by a system of rewards There was no reason why a small fee should not be paid to the man or woman who brought his or her child to be vaccinated soon after birth There were many more objectionable ways of spending public money

Mr WATSON, while agreeing in the main with Mr Burridge's paper, pointed out that available statistics were not complete enough to convince the anti vaccinationist He pleaded for a better understanding of statistics on the part of medical men.

Dr SYMES-THOMPSON thought that the paper would convince all except those who would not be convinced

Mr RYAN regretted that the reader of the paper had made no reference to Dr William Farr and had not given statistics relating to Switzerland since the abolition of compulsory vaccination in 1885.

Mrs. GARRETT ANDERSON spoke of the desirability of educating public opinion as much as possible with regard to this question. No mathematical proof was possible when dealing with human beings, though there was an experiment which would be very cruel—and she did not advocate it—which would approach such a proof If 10 vaccinated and 10 unvaccinated children were allowed to stay in a small pox ward for two or three days she thought that it would prove uncomfortable for the 10 unvaccinated children. With regard to the improvement of the Vaccination Act of 1898 she hoped that the powers at present possessed by boards of guardians would be taken away from them and put into the hands of the health authorities There ought, she considered, to be a better supply of lymph and it should be supplied to the private practitioner Glycerinated lymph, it had been stated, would keep only a week and the private manufacturer could not be expected to destroy stock remaining unsold at the end of seven days In Germany there were 25 State institutions for the manufacture of lymph Considering what a small pox epidemic cost us it was false economy on the part of the Government not to produce an adequate supply of lymph The word "compulsory" was an objectionable one and she suggested that "obligatory" might be better liked by some. If masters would make their employés show their vaccination certificate before hiring them much good would be done.

Mr WARNER reviewed the objections of the conscientious objector

Dr. S. MONCKTON COPEMAN said that his position at the Local Government Board somewhat tied his hands, but he felt that it would be unwise to let a remark made by Mrs. Garrett Anderson, to the effect that glycerinated lymph would only keep for a week, go before the public without correction. It occasionally happened that a batch of lymph was not particularly good, but the Local Government Board took every opportunity to test the lymph before it was distributed, and he had frequently had samples three months, six months, or even a year, old which gave good results. What he suspected Mrs. Garrett Anderson was referring to was the fact that public vaccinators were requested to use the lymph within a week of its being sent out. The reason of that was because it was occasionally found that public vaccinators had been known to leave the lymph in a warm room and in sunlight, two factors which were detrimental to lymph. The supply *certainly did* run short during the great rush in the early part of the year when the demand for lymph was 50 times as great as at other times and the Local Government Board did not feel justified in increasing the laboratories to an extent which would meet a permanent demand of that kind. At the present time it was not intended to supply private practitioners but it was not improbable that the scope of the supply of Government lymph might be increased.

Mr. BURRIDGE, on account of the lateness of the hour, only briefly replied to a vote of thanks.

THE METROPOLITAN WATER-SUPPLY: THE LONDON WATER BILL.

ON April 22nd the Joint Committee of the two Houses of Parliament continued its inquiry into the London Water Bill. At the opening of the proceedings Mr. PEMBER, K.C., stated the position held by the water companies in regard to the Bill. They were "unwilling sellers," and if their undertakings were to be transferred to a public body they desired that the terms of that transfer should be in their judgment, "fair and reasonable," which, being interpreted, means that they wished to get as much as possible. The case for the Bill was conducted with considerable reserve by Mr. RICKARDS, K C., who is well acquainted with the subject and who has published a very useful little book on the London water-supply.

Mr. C. PERRIN, M.I.C.E , the Water Commissioner to the Local Government Board, first gave evidence as to the districts of supply of the water companies, the population of each district and its rateable value, and the present boundaries of "Water London."

Mr. RICKARDS then said that he did not propose to tender further evidence concerning the question of transfer and that he relied on the various Royal Commissions on the London water-supply. Counsel for the water companies did not entirely approve of this method of proceeding, but, in reply to Sir E. CLARKE, K.C., and Mr. PEMBER, the CHAIRMAN (Lord Balfour of Burleigh) held that the water companies would not be damaged by the absence of further evidence.

The counsel for the Bill then stated that they did not propose to tender evidence on the "appointed day" on which under a provision of the Bill the undertakings of the companies should be taken over by the proposed Water Board, for the constitution of which the Bill also provided. Lord BALFOUR held, however, that the limit of time laid down in the Bill was not entirely a matter for argument but was to some extent also a question of fact. In consequence of this decision Mr. J. LITHIBY, assistant secretary to the Local Government Board, was called to state why that department proposed the appointed day. The proposal was that whether the purchase price were then ascertained and paid or not the undertakings of the companies should vest in the Water Board on the appointed day. The arguments in favour of that proposal were that as it would probably be necessary that the value of the undertakings should be settled by arbitration and that as, moreover, arbitration was not an expeditious proceeding if a day were not definitely appointed on which the Water Board should take over its duties it might happen that the arbitration would hinder the board from beginning its work, and that it was likely that when the companies definitely knew that their businesses were to be transferred their interest in managing them for the benefit of their customers would be less keen. The arrangements for the transfer would occupy some years, and it might be seriously detrimental to the water consumers if there were no authority exercising adequate control over the supply of water during that period. The proceedings of the Water Board would be seriously hampered if it did not take over its duties on a definite day. The day which it was proposed should be that on which the duties were to be transferred to the Board was 12 months after June 24th, 1903. Before that date the companies would have ample time to "prepare their cases" and to get them settled. Mr. Lithiby said that he had had no experience of managing a water company and he added that the secretary and the assistant secretaries advised the Local Government Board on the London water question and that it had been his function to advise in this particular case.

The cause of the objection to the appointment of a particular day for taking over the water companies' undertakings can be readily understood from the cross-examination of this witness by Mr. PEMBER, who showed very clearly the fears of the water companies as to the effect of some of the evidence which might be tendered in the arbitration cases. *On which side*, he asked, would the engineer of a particular company, whose undertaking had already been transferred, give evidence—for the purchaser or for the vendor? Lord BALFOUR said that he presumed that the engineer would tell the truth and this suggestion was received with laughter.

The financial proposals of the Bill were supported by Mr. BANBURY, M.P., trustee and manager of the London Stock Exchange. Mr. Banbury said that he had not been consulted beforehand by the Local Government Board and that he had had nothing to do with the drafting of the Bill. The suggested mode of payment to the water companies by means of water stock was really due to Mr. Banbury's ingenuity and it was explained by him with great clearness at the thirtieth sitting of the Llandaff Commission which took place on July 18th, 1898.

In regard to the transference of the water compani undertakings to the Water Board on a definitely appoint day Mr. JAMES MANSERGH at a sitting held on April 2 gave evidence in support of the Bill and Mr. GEORGE HILL gave evidence against the proposition. Both th gentlemen are past presidents of the Institute of Ci Engineers; the former was employed by the Local Gove ment Board, the latter by some of the water compani Mr. HAYWARD, the controller of the London County Counc gave evidence against the financial arrangements propos in the Bill. The engineer employed by the Local Gover ment Board said that he knew personally all the enginee employed by the metropolitan water companies; they we all gentlemen and would act as such. They would give t same evidence on the facts whether they were acting on t one side or the other; but—and this is the point on which strong light is thrown on the ethics of expert evidence "when it came to giving an opinion upon value then the evidence should be as a witness for the company" (*vi Times* report).

The Joint Committee met on April 29th, when the eviden of Mr. MACKINNON WOOD, chairman of the Water Con mittee of the London County Council, was taken.

The Joint Committee met again on April 30th, when M MACKINNON WOOD was cross-examined. The evidence w taken of Mr. SHAW-LEFEVRE, late President of the Loc Government Board, and of Mr. G. F. DEACON, late chi engineer to the Corporation of Liverpool. The evidence both was condemnatory of the Bill, and after an hour deliberation in private the Joint Committee decided to alt the constitution of the proposed Board by deleting the repr sentation of the metropolitan boroughs and of the urba districts and boroughs in the counties of Essex, Kent Middlesex, and Surrey.

HEALTH OF MALMESBURY.—At the meeting o the Malmesbury Town Council held on April 8th the medica officer of health (Mr. C. W. Pitt) presented his annual repor for 1901. This stated that during the year 69 births had bee registered, giving a rate of 23 per 1000. The death numbered 33 (18 less than in 1900), corresponding to a rat of 11 per 1000.

Looking Back.

FROM

THE LANCET, *SATURDAY, MAY 1, 1824.*

LEPROSY.

The following description of the species of leprosy commonly met with in India, is from the interesting work entitled—*Sketches in India*, written by Mr HUGGINS, late an indigo planter in the district of Tirrhoot:—

"A person attacked with the species of leprosy prevalent in India is bloated in his face; his forehead, nose, lips and ears swell out; his nostrils expand; his eyes appear sunk and very fiery; the tone of his voice is altered to a loud and somewhat nasal sound; no eruptions appear upon his body but his skin is hard, parched, and dry, having entirely lost its softness and moisture. About the shoulders he appears tight and contracted; his knees are stiff and motions constrained; the hairs fall off him, or are seen in their stunted stalks, dried up from want of wholesome nourishment; his breath is fœtid, his perspiration stopped, or if it flows at all is rank and stinking; he complains of *excessive internal heat, cannot bear exposure to the sun, and is* irregular in his discharges, the digestive organs performing their functions very imperfectly; there is a certain numbness seizes all his faculties, so that his sensations of pleasure and pain are considerably impaired; and lepers of this kind have no excessive propensity to venery after the disease appears, although they may have had it before. It is a common opinion that people seized with this malady are of a warm and amorous temperament; but when a person is seized with leprosy, the pleasure derived from such indulgencies, and the capacity for them are in a great measure annulled. After these primary symptoms, when the disease has become inveterate, the leper's fingers are gradually eaten away, and drop off at the joints; his toes are affected in a similar manner sores break out about his ancles and wrists. During the progress of these cancerous attacks no pain is endured by the leper, owing to that numbness which I have already stated as pervading his system whilst the disease gradually proceeds ulcerating his flesh, and dissolving his joints, till the vitals become affected In the last stage his flesh gapes with long sores, his mouth, nose and brain dissolve before the leprous poison, till death happily relieves him from such accumulated miseries Some fakirs profess to cure this disease, if applied to at an early stage of it; and I have *myself known men healed by them* *To effect* a cure these men administer a root procured from Nepaul, which causes copious salivation; they also put the patient on a regimen, forbid him the use of salt and sexual cohabitation, and the lepers who recover generally abstain from these during the remainder of their lives"

THE ROYAL ACADEMY.

THE 134th exhibition of the Royal Academy of Arts which will be open to the public on *May* 5th is an average show That is to say, there are good pictures and mediocre pictures, but there is no work like the famous "Ascher Wertheimer" of Mr Sargent exhibited in 1898. That accomplished artist sends eight portraits, of which perhaps the best are (157) "Alfred Wertheimer, Esq," and (323) "The Duchess of Portland" The painting of the jewels in the last-named is comparable to that of Titian in the "Family of Darius." To our thinking, however, by far the best portrait in the exhibition is (202) "Lady Marjorie Manners" by Mr. Shannon. Both colour and quality are beautiful and the way in which the various shades of black are managed is worthy of all praise

Of portraits which have a more or less medical interest we must mention (134) "The Right Honourable the Lord Mayor of London," Sir Joseph Dimsdale, M P, by Mr A S. Cope; (244) an admirable picture of "Lord Kelvin," by Mr Ouless; (291) "Professor J B Pettigrew," also by Mr Ouless; and (788) a very good likeness of Surgeon General Jameson by Mr. W R. Symonds A clever portrait is (45) "Miss Gertrude Bowles," by Mr Mouat Loudan Of figure studies Mr H J Draper in (23) "A Deep-sea Idyll" shows his usual mastery in anatomical drawing and flesh painting, while good anatomical drawing and modelling triumphing over difficulties of position are to be found in (110) "Many Waters cannot Quench Love," by St. George Hare, and in (149) "Storm Nymphs," by the President. In (295) "The Plague," Mr John Collier has painted a gruesome subject with great skill His dead lady looks really dead. we have never seen the absolutely lacklustre eye of a corpse represented more truthfully Of other pictures Mr Charles Sims's "The Top o' the Hill" (24) is full of breeze and light and atmosphere, while Mr. W. Hatherell in his "Gleaners Waiting for the Last Load" (92) sends a clever study of a low evening lighted landscape In the large room (160) "A Tanagraean Pastoral," by Mr. G H. Boughton, exhibits all the painter's well-known grace and delicacy of handling, while special mention must be made of (166) "The Isle of Avalon," by Mr. J. W. North; of (167) "Tucking the Rick," by Mr La *Thangue*, of Mr *Melton Fisher's* charming picture (179) "The Mirror"; of (191) Mr Hook's "Home from the Marshes," wherein we grieve to state that the returning sportsman has shot a heron, of (198) by Mr. W J Donne, being a very original presentment of "The Chalk Pit, Merstham"; and (201) a perfect little gem by Sir L. Alma Tadema, "Caracalla." Mr George Clausen, in (648) "The Rickyard: a Winter Idyll," gives with his usual skill the effect of the cold wintry sunshine. *Of* the sculpture we may mention (1600) "Fairy Tales," a pretty little statuette, by Mr F M Taubman; (1609) Mr Brock's statue of Gladstone, (1617) Mr Swan's wonderful representation of a wounded leopard. It is transfixed by an arrow, at which it is tugging in a vain effort to extract the missile The late Mr Onslow Ford has several examples of his art, the most noticeable of which is (1723) "Snowdrift"; *another (1694), a silver and ivory group,* "*St. George and* the Dragon," is a piece of real handicraft. St. George is standing on the dying dragon and he is habited in one of those wonderful petticoated suits of armour which, although they look all right when the wearer is on horseback, are not suitable to a dismounted man. Of the water-colours we have only space to refer to Mr Goodwin's exquisite "Amalfi" (978).

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bath Urban District—We are glad to learn from the current annual report of Dr W. H. Symons that the criticisms which we published in our columns in October, 1898, as to sanitary arrangements at the Royal Mineral Water Hospital at Bath have resulted in an enormous improvement in the condition of the institution. The general sanitary *arrangements are now,* Dr Symons *states,* "*models of* applied science." This institution was founded in 1737 with the view of gratuitously extending to the poor of the United Kingdom the benefits of the local hot springs Dr Symons has gone very thoroughly into the distribution of tuberculosis in Bath, and he finds that during the last 32 years there have been in some streets no deaths from this disease, whereas in others the deaths have been numerous. In one street he found as many as 52 deaths and as an instance of the diminishing number of deaths from phthisis in one selected locality of the city the figures by decades have been worked out. In 1866-75 there were 34 deaths and in the next decade there were 31 In the five years 1886-90 improvements were made and during this period there were but 11 deaths From 1891 to 1900 there were in the same area but five deaths from this disease In connexion with the control of phthisis in Bath it may be mentioned that the Corporation has contributed £500 towards the erection of the Winsley Sanatorium for consumptive patients and an annual subscription, to provide two beds, of £130

Croydon Rural District—The Croydon sewage farm, which would appear to be situated in or near this district, gave rise to serious complaints during the past year and we are glad to hear that the sewage is now to be further treated Diphtheria has been very prevalent in a locality known as Beddington Corner, *which is bounded on one side by the* Croydon sewage farm and on the other by the polluted Wandle river The soil of the Corner is water-logged and Mr C M. Fegen, the medical officer of health of the district under consideration, is evidently inclined to ascribe to the topographical conditions of the Corner some share in the production of diphtheria, even if such share be one of predisposition only The district council provides antitoxin and opportunities for bacteriological examinations for the medical practitioners of the district. The foul condition of the Wandle remains unabated, but the several district councils morally involved have conferred together with a view to purify the stream.

Correspondence.

"Audi alteram partem."

THE MIDWIVES BILL, 1902.

To the Editors of THE LANCET.

SIRS,—Having recently looked up the Home Office returns of coroners in connexion with inquests upon the newly born, I was astonished at the number of cases in which a verdict of murder was actually returned. It is a matter of common knowledge that juries will only return such verdicts in exceptionally bad cases, so I think that the following figures furnish food for comment. In 1900 there were 614 inquests held upon the newly born out of a total of 37,076 inquests held upon persons of all ages. At inquests held upon the former there were no less than 35 verdicts of wilful murder, whilst at those held upon the latter there were only 145 such verdicts. The rate per 1000 inquests held upon the newly born of verdicts of murder works out at 57, whilst the rate of inquests held upon all other cases works out at 3·8. Comparing private experience of the number of still-born children with the approximate knowledge of the number which are said to be still-born, no just proportion can be found. It is therefore, perhaps, more than a matter of mere suspicion that the amount of infanticide in the country is very considerable and very disgraceful. Unfortunately, the newly born, whose very dependence upon others should excite commiseration and pity, have no incorporated society to protect their interests; they are therefore left out of consideration when influential persons are busy with legislation.

I now ask the question: Does the Bill for the Registration of Midwives at present before Parliament do anything for the protection of the lives of the newly born? Does it not, in reality, render it more easy for those mothers who desire the death of their children to have the deaths procured with less chance of discovery, subsequent inquiry, and perhaps punishment? I say perhaps, for it must be well known that any chance of punishment in these cases is a remote one. It appears to me that the Bill in its present condition is one which contains elements of great danger. I do not myself see how it can be amended, for it is radically unsound. The medical profession will, I venture to believe, be well advised if it makes no efforts to amend it, but leaves its rejection to the good sense of the House of Commons.

I am, Sirs, yours faithfully,

Hatfield, April 28th, 1902. LOVELL DRAGE.

To the Editors of THE LANCET.

SIRS,—I have been requested by the council of the Medical Provident League to ask your permission to express in your widely read columns their collective opinions concerning the present Midwives Bill. They would studiously avoid the imputation of any unworthy motives and feel confident that those who have promoted this legislation—however mistaken they may be—must have been actuated by the best intentions. It is to be hoped therefore that any discussion which takes place upon this subject may be conducted in that spirit of courtesy and fair play which men of all opinions can appreciate.

1. It is believed that general practitioners, owing to their over-busy lives, cannot have had the leisure or opportunity to study this Bill—that they cannot have realised how deeply detrimental such legislation must be both to themselves and to the public—or that they would have taken the most active steps to secure its defeat. Instead of which, week follows week, the matter is scarcely referred to in the press, and there appears to be no organised opposition to the Bill.

2. No one can understand so fully as the medical profession the injury which ignorant midwives can work. But it can be proved that the extent of the evil has been greatly exaggerated, and, moreover, that it is being diminished year by year by the efforts of our profession. The often-repeated argument that because midwives have always existed so they must always continue to exist must appear ridiculous to those who are aware that many races and species have become extinct in the past, and that one of nature's most inexorable laws decrees the extermination of the unfit It is submitted that even if midwives—and other plagues—were necessary evils at the time of Moses they can only be regarded as septic anachronisms in the twentieth century. And, as a demonstrable fact, midwives are rapidly dying out in England; their place is being taken by more or less well-trained obstetric nurses. The advocates of the registration of midwives have studiously avoided any reference to the striking fact that last year out of 4,536,000 people in the county of London there were only 366 midwives, and of these five were over 75 years of age and no less than 83 were more than 55 years old. It may confidently be predicted that the census returns for the rest of England will show similar figures. It is submitted, then, that there is no need for special legislation for such a small and diminishing number of workers.

3. It has been asserted that in those countries in which midwives are registered the mortality in childbirth is much higher than in this country. Accurate and recent statistics on this point would be very valuable.

4. The essential feature of the present Midwives Bill is that it legalises a new order of independent practitioners of midwifery, recognised and supported by the State in their practice. Putting aside all the specious sophistry and special pleading which has darkened counsel on this matter, what does this mean? Simply that the midwife, after some three months' work and at a cost of some £15, would be placed by Parliament precisely on the same level in midwifery practice as the medical practitioner who has devoted five years and has paid probably £1000 for his education. It is mere futile foolishness to pretend that she will not enter at once into active competition with the general practitioner, or to imagine that she will carefully confine her attention to the poorer classes, or to expect that she will refrain from practising medicine as well as midwifery. No power on earth could prevent her from doing any one of these things. She will be a registered practitioner and the public will as eagerly swallow her pretensions as they now accept in blind faith the potency of anything else to which the Government stamp is affixed. It is submitted that the first and greatest effect of this legislation would be to flood the country with more or less well-educated women only too eager to avail themselves of the opportunity of becoming licensed quacks.

5. It is the danger to the public rather than the damage to individual practitioners which will most appeal to our self-sacrificing profession. So it is submitted that to place a government stamp of efficiency upon the existing inefficient, decadent midwife would be a cruel delusion and a snare to the poorer classes. It would be the more unjustifiable because Parliament in 1886 insisted upon an infinitely higher standard for medical men—that is to say, for the protection of the richer classes of society. The last Medical Act ordained that no practitioner should be registered unless proficient in medicine and surgery as well as in midwifery. It is a truism that parturition involves dangers and results which require a complete knowledge of medicine and surgery to combat successfully. Yet Parliament is being asked to guarantee to the ignorant poor the efficiency of midwives who know very little of obstetrics and nothing whatever of the other sciences. Are the lives and safety of poor women of less account than those of the rich? But Parliament has been gravely assured that the medical profession approves of this Bill and the absence of all opposition from us has naturally afforded support to the statement. The second reading of the Bill was taken without a division. The Bill has passed through committee almost unaltered—certainly without one real safeguard being added. Is it possible that the profession will permit it to pass without a single protest?

6. Not only is the principle of this Bill bad, its details are ridiculous. The whole demand for legislation is based on the alleged need of supervising midwives. Yet this supervision is gravely placed in the hands of borough or county councils—that is to say, of worthy gentlemen engaged for the most part in commercial or agricultural pursuits and who must be entirely ignorant of midwifery. Yet they are to be made the judges concerning charges of malpraxis or misconduct on the part of the midwives in their district! It is further submitted that no medical man is likely to take upon himself the thankless and most invidious task of making or supporting a charge of malpraxis or misconduct against a midwife, and who else could or would do so? In brief, it is submitted that the so-called supervision of midwives would inevitably become a Gilbertian farce, and that the midwife would be the most free and independent practitioner in these happy islands.

7. It is being said that opposition is hopeless. The Medical Provident League declines to adopt so invertebrate an attitude. It only comes forward at this juncture because no

other body is apparently moving in the matter and because it realises the very grave public and professional dangers involved in this legislation. But the league will not court failure by taking any action without adequate support. The crisis is acute and demands the most active work and assistance from everyone opposed to this Bill. If at least 500 practitioners will promise their help and a small subscription each towards the necessary expenses, the Medical Provident League will contribute £10; I will give the same amount; other donations will be forthcoming; and opposition shall be organised. But it is already the eleventh hour and if anything is to be done it must be done *immediately*. It is therefore suggested that those who are opposed to this legislation and who will help to prevent it if possible should write *at once* as follows:—

> I will give my active assistance in opposing the Midwives Bill.
> I inclose postal order (or cheque) towards the expenses.
> My Member of Parliament is ———.
> And I also personally know ——— M.P.

with signature and address very clearly written.

This may be sent either to the Secretary, Medical *Provident League, 11, Adam-street, Strand, W.C., or to*

Your obedient servant,
BEDFORD FENWICK.

20, Upper Wimpole-street, London, W., April 19th, 1902.

THE CASE OF DR. W. T. LAW.

To the Editors of THE LANCET.

SIRS,—May I be allowed to direct the kind attention of your readers to a meeting of friends and sympathisers of Dr W. T. Law which will be held at the King's Hall, Holborn Restaurant, W.C, on Friday afternoon, May 9th, 1902, at 2 o'clock?

I *trust that your excellent leading article on Forsythe v.* Law, which appeared in THE LANCET of March 8th, 1902, p. 680, was duly read and weighed by your numerous readers. It begins by stating that: "It has seldom been our duty to comment on a more painful case," *and at the close these words occur: "Had Dr.* Law rendered his services over a term of years for gain and profit—which is not customary when the patient is a nurse—there might have been more room for criticism, but what are the facts? He gave freely of his time, his skill, and his kind-heartedness for no other reward than the satisfaction of feeling that he was discharging a charitable office with the hope of alleviating human suffering. He acted the good Samaritan—not wisely, perhaps, but too well—and what was his reward? Scorn and contumely were heaped upon him by some who were and are to be pitied and by others who deserve severest blame. He will have the consolation which his merits deserve, given unstintedly by his professional brethren and by a generous and just public opinion. His legal and moral acquittal was complete."

In consequence of the poverty of the plaintiff Dr. Law will have to defray his own heavy expenses and as he is not a wealthy man, as is erroneously considered, there will be ample scope for the display of practical sympathy, and for this object the meeting will be held. Sir Samuel Wilks, Bart., Sir Henry Thompson, Bart., the President of the Royal College of Physicians of London—viz., Sir William Selby Church, Bart.—and many other distinguished and esteemed members of the medical profession have shown their sympathy for Dr. Law. Unfortunately, Dr. Law was not a member of either of the medical defence societies, but I may state for the information of the gentlemen who blame him for not being so that they cannot do better than take a lesson of charity from the magnanimity displayed by the former presidents of the Medical Defence Union—viz., Dr W. S. A. Griffith and Mr. Victor Horsley—who already with others have kindly contributed. I am anxious to be able to announce subscriptions at the meeting from members of a noble and generous profession which will be a credit to the profession itself and to the satisfaction and delight of him who is said to have shown unwise benevolence. In this hard, cold, calculating world it is not usual to meet with men who display an excess of benevolence either in thought or deed. When such a one is found let us treat him as he richly deserves

Mr. John Langton writes to me and says: "I hope the profession will show by their gifts that they have solidarity with their professional brethren in time of trouble." I shall be glad to receive and acknowledge any contributions that may be sent on behalf of Dr. W. T. Law. Postal orders or cheques should be crossed "Law Fund, London and County Bank, Holborn." I am, Sirs, yours faithfully,
RICHARD PARAMORE.

2, Gordon-square, W.C., April 28th, 1902.

TRAUMATIC DISLOCATION OF THE CRYSTALLINE LENS.

To the Editors of THE LANCET.

SIRS,—The perusal of Mr. S. Stephenson's interesting paper on Spontaneous Cure of Senile Cataract in THE LANCET of April 26th (p. 1175), reminds me of a case of dislocation of the crystalline lens that came under my care when on the medical staff of Hanwell Asylum The patient, a healthy young woman suffering from mania, received a violent blow on the eye from another patient in the same ward. I saw her directly afterwards and found a transverse rent in the cornea and the lens lying on her cheek. I treated the injury precisely on the plan adopted after the usual operation for cataract, and at the end of a week, on removing the pad and bandage, I was pleased to find the wound in the cornea perfectly united and the patient recovered her normal vision without the least bad symptom. The case was interesting as showing the immunity with which the eye can sustain a severe injury and the facility of recovery under very simple treatment.

I am, Sirs, yours faithfully,
Shanklin, I.W., April 26th, 1902. J. HAWKES, M D. St. And.

TREATMENT OF CHRONIC HEART DISEASE BY RESISTED EXERCISES, OR THE SO-CALLED "SCHOTT" OR "NAUHEIM" TREATMENT.

To the Editors of THE LANCET.

SIRS,—Lest there should be any misunderstanding as to the latter part of the title to my letter, I should like to point out, as has been done before,[1] that the treatment of heart disease by resisted exercises was carried out in Sweden before the Drs. Schott were born and that they merely adopted the Swedish method and combined it with the Nauheim baths. But great thanks are nevertheless due to the Drs. Schott for bringing the treatment prominently before the profession and before the world at large. There are few forms of chronic heart disease in which the treatment fails to afford relief, for if due care be taken even the most serious forms can be dealt with with advantage.

The Nauheim waters are supposed to do good by virtue of the free carbonic acid gas which they contain. The gas keeps on bubbling up through the water and is said to stimulate the cutaneous nerve-endings and reflexly the central nervous system. The Nauheim baths can very easily be prepared artificially with the help of Sandow's effervescing powders and tablets. A mild non-carbonated bath is prepared as follows. In 50 gallons of water at 93° F. four and a half pounds of Nauheim salt are dissolved; three minutes before the bath is to be used one packet of Sandow's effervescing powders is added and stirred and two of his effervescing tablets are placed on the bottom of the bath. The temperature of the water should be 91° F when ready for use. A medium non-carbonated bath contains six and a half pounds of Nauheim salt, a strong non-carbonated bath 10 pounds of the salt. A mild carbonated bath is prepared in a similar way except that four packets of Sandow's powders are added and eight of his tablets placed along the bottom of the bath It contains four and a half pounds of Nauheim salt. A medium carbonated bath contains six and a half pounds and a strong bath 10 pounds of the salt. The duration of the bath should be 10 minutes, increased to 12 and 15 minutes. The bathroom must be well ventilated and the patient after the bath wrapped in a large warm Turkish towel-sheet and dried He should rest lying down for one hour after dressing The bath itself should be either exceedingly well coated with enamel paint, or, still better, be a porcelain or wooden one, as the acid is apt to corrode a metal bath.

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[1] THE LANCET, Dec. 22nd, 1894, p. 1515.

Having thus very briefly considered the baths we now come to what may be looked upon as the most important part of the treatment—viz., the resisted exercises. The great principle underlying the treatment is to diminish the peripheral resistance to the onward flow of blood and so to make it easier for the heart to perform its work. There are three ways in which this can be done by exercises: (1) by acting on the muscular system; (2) by acting on the respiratory system; (3) by acting on the digestive system.

1. Let us consider what takes place when a muscle is at work. It alternately contracts and relaxes. When a muscle contracts it hardens; the intra-muscular and intra-fascicular blood- and lymph-vessels become squeezed, the fluid is driven out, and owing to the valves which are placed in the veins and lymphatics the fluid is driven towards the heart. This causes a relative fluid-emptiness in the muscle, so that when it relaxes a suction is created drawing the blood towards and into the muscle and away from the heart. Each muscle may, indeed, be looked upon as an *additional heart.* As the heart itself is the great central pump in the body, so is each individual skeletal muscle a peripheral pump which by alternately contracting and dilating pumps the blood onwards. If a single muscle were to be thus acted upon the result might be infinitesimal, but when groups of muscles, say of a limb, are made alternately to contract and relax, the influence becomes important. The fact that muscular contractions really do have a marked effect can be demonstrated by examining the pulse; for whereas the pulse before the exercises may be irregular and quick the almost invariable condition found after exercising is a slower and more regular pulse-rate. I have seen instances where there has been a difference of 20 beats a minute before and after exercising. Besides thus mechanicaly helping on the blood-stream, a more remote result is that waste products and exudations with which the muscles probably are infiltrated are cleared away and that the metabolism becomes more active. It is easy, then, to understand why resisted exercises should be helpful in heart disease. An over-full and dilated heart struggling to contract and to drive the blood onward against great peripheral resistance finds its work eased and feels itself able to perform its function with less output of energy, the result of which is that its action becomes slower and more regular. This result may not last long to begin with—perhaps a couple of hours—but by persevering with the treatment day by day for some time it cannot but permanently improve and strengthen the diseased organ. The physiological effect of resisted muscular exercises on an over-full and dilated heart is very much the same as the effect of emptying an over-distended bladder. The analogy is complete, for are they not both hollow muscular organs?

2. By acting on the respiratory system. It is well known that during an inspiration the large veins in the chest dilate, as do also the cardiac auricles. A suction action is thus established the effect of which is to draw the blood away from the periphery towards the heart. But besides this, by alternately filling and emptying the lungs of air by deep inspirations and expirations the circulation through the pulmonary capillaries and vessels is very much facilitated, for when an air-vesicle dilates during inspiration and resiles during expiration the capillaries in the vesicular walls are alternately put on the stretch and contracted, and this tends strongly to relieve any congestion which may be, and often is, present in the lungs in chronic heart disease. There is yet another way in which respiratory exercises are beneficial—viz , by ensuring a more thorough aeration and oxygenation of the blood, for thus more blood is made to course through the pulmonary circulatory system in any given time.

3. By acting on the digestive system. A common symptom in patients suffering from chronic cardiac disease is irregularities in the performance of the abdominal organs, not—at least in the earlier stages—owing to any actual local lesion, but as the result of the sluggish manner in which the circulation is carried on. Thus we get a congestion of all the abdominal viscera, which shows itself in a deficient secretion of the liver, the stomach, the pancreas, and the bowels, and in the presence of albumin in the urine. The *raison d'être* of the treatment is forcibly shown here. The passive congestion just mentioned offers a considerable resistance to the flow of blood towards the heart, thus rendering the backward pressure extremely felt by an enfeebled organ. An improvement is brought about indirectly by acting on the muscular and respiratory systems, as I have already endeavoured to show, and directly by stimulating and kneading the abdominal viscera through the abdominal walls. *Ubi stimulus ibi affluxus*, or wherever there is a demand for energy thither does the blood flow. The circulation in the abdominal viscera becomes roused, there is a demand for fresh blood, the used-up blood is moved on, greater activity takes place in the various abdominal organs, and the bowels, the liver, the stomach, and the kidneys take on a healthier physiological action.

When writing a movement prescription, then, attention should be directed towards these three systems and a typical prescription would be very much as follows: (1) Arm exercises, (2) respiratory exercise, (3) leg exercises, (4) respiratory exercise, (5) trunk exercises, (6) kneading of the abdominal viscera, (7) respiratory exercise. During the performance of the exercises—which should be given slowly—the pulse should be carefully watched, as should also the patient's respirations, for the slightest evidence of distress, either cardiac or respiratory, must be taken as an indication that a certain exercise may be too strong or unsuitable. It is well that the patient should rest in the most comfortable position for an hour after each treatment, which should occupy about half an hour each time.

Let me, in conclusion, urge members of the medical profession to take up this treatment personally, instead of leaving it in the hands of nurses and assistants. It is becoming more and more recognised what a powerful therapeutic agent for good or evil this treatment is, not only in heart disease, but in many chronic complaints, and it is but right that it should be in the hands of the profession. Then, and then only, will it take its due place in the long list of the various methods of treatment.—I am, Sirs, yours faithfully,

OTTO HOLST, M.R.C.S. Eng., L.R.C.P. Lond.

Eastbourne, April 28th, 1902.

OPERATION FOR SUSPECTED STONE IN THE KIDNEY.

To the Editors of THE LANCET.

SIRS,—In reading the interesting series of cases of Operation for Suspected Stone in the Kidney and the clinica remarks on them published by Mr. Edmund Owen i THE LANCET of April 19th, p. 1105, I am reminded of case that was under my care in the York County Hospita in 1900.

The patient was a man, about 30 years of age, who fo some time before I saw him had been suffering from pai over the right kidney with frequent attacks of hæmaturi and had also passed several small pieces of uric acid calculi. As the pain increased in severity and frequency I cut down upon the right kidney, turned it out, and punctured it in five or six places, but I failed to detect any stone. The kidney was replaced; the wound healed up and since then the patient has been entirely free from pain and hæmaturia. He is now in the South of England and I heard of him a few weeks ago, the report being to the effect that he had been entirely free from all his old symptoms since the operation, that he had put on flesh, and that he felt better than he had done for years. Is it possible that the various punctures may have relieved tension and so produced amelioration of his symptoms?

I am, Sirs, yours faithfully,

WILLIAM H. JALLAND, F.R.C.S. Eng.

York, April 22nd, 1902.

To the Editors of THE LANCET.

SIRS,—Few surgeons will, I think, dissent from the views so ably expressed by Mr. E. Owen in your issue of April 19th, p. 1105. It seems, however, unnecessary to refuse assistance from the x rays through fear of one's judgment being unduly influenced. In a woman on whom I operated a fortnight ago the only indications of calculus were persistent pain in the left loin, from which she had suffered daily for four years, and the occasional presence of a trace of albumin in the urine. A series of excellent radiographs taken by Mr. W. J. D. Bromley, the senior house surgeon at the Lancaster Royal Infirmary, utterly failed to indicate the presence of a stone; yet from the pelvis of this kidney I removed an *oxalate* calculus weighing 48 grains.

The two cases first mentioned by Mr. Owen seem to present little difficulty in diagnosis. Both the subjects were young men who suffered from typical attacks of renal colic accompanied by albuminuria. The only reasonable ground of doubt appears to have been the absence of hæmaturia.

Blood is often absent from the urine in these cases and, moreover, is often overlooked when present. One of my former teachers used to advise his patients to patronise a certain line of omnibuses which were famed for their rigid springs and also for the rugged roads that they traversed. After this he had the urine which was passed during the following 24 hours collected in a conical vessel. An examination of the deposit very rarely failed to detect blood-cells. I believe that attacks of "colic" are only present in a minority of cases of stone in the kidney In many the pain is constant and although subject to exacerbations—which, however, are not paroxysmal in nature—is unaccompanied by sickness or hæmaturia. Increased frequency of micturition is common, but as it also occurs in many other conditions is not of great value as a diagnostic sign. Any reaction to Mr Jordan Lloyd's test is in my experience exceptional

And now as regards two points in the technique of the operation We are frequently told that it is advisable to plug the wound in the kidney I fancy that most surgeons have now discarded this practice. The kidney substance is best brought together by mattress sutures No urine exudes and no drainage either of the kidney or the outer wound is required In reference to the site of the incision into the kidney the experience of those who have used that advocated by Brödel would be of great value. I used it in a recent case but cannot say that I noticed any marked diminution in the amount of bleeding

I am, Sirs, yours faithfully,
Lancaster, April 21st, 1902. A. STANLEY BARLING

THE ROYAL NAVY MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—In the regulations in connexion with the above recently issued by the Admiralty it is stated that early promotion to the rank of staff-surgeon may be granted to those surgeons who before entry held the post of house surgeon to a civil hospital. Would it not be better that a naval surgeon should be allowed to hold a house surgeoncy for six months at his hospital at any time within 12 months of his entering the service, provided he could obtain nomination for such a post, his time and pay counting during such house surgeoncy? At present candidates are deterred from seeking the post of house surgeon before entering the service on account of the loss of time and seniority it would entail. If they were to be permitted to hold such a post after entering it would be for the benefit of the service and would induce the best class of men to join. The candidate who takes his house surgeoncy before entry will always run the risk of finding himself junior in the service to his junior in experience.

There is a further rule requiring naval surgeons to undergo a post-graduate course of three months' duration at a metropolitan hospital once in every eight years, receiving full pay, lodging, and provision allowance, &c., but being required to pay himself the necessary fees for such a course. The rule concludes by stating that the officer will be required to produce separate certificates of efficient attendance in the following: (1) medical and surgical practice of a hospital, (2) a course of operative surgery on the dead body, (3) a course of bacteriology, (4) a course of ophthalmic surgery, and (5) a practical course of skiagraphy. The fee for this course, 33 guineas, is a severe tax.

Ought it not rather to be required that the naval surgeon should put in a three or six months' course quite free of all expense at least once in every six years, or preferably once in every three years—i.e., at the end of each commission? Should he not also be encouraged to take higher qualifications? A course of six months' study of State medicine would be of the greatest value in the service, and a surgeon who was willing to qualify and take the diploma in Public Health should, I think, be considered eligible for special promotion quite as much as a surgeon who has been fortunate enough to hold the post of house surgeon. As matters stand at present as warden of a medical college I am obliged to advise candidates for the Naval Medical Service to enter the service as early as possible and without seeking to hold house appointments, but if the suggestions I have made were adopted the candidates could enter just as early and prove far more valuable men in the end

I am, Sirs, yours faithfully,
MUNRO SCOTT,
April 30th 1902. Warden of the London Hospital Medical College.

SMALL-POX ON THE RIVIERA.

(FROM OUR SPECIAL SANITARY COMMISSIONER)

A Bad Season.—The Efficacy of Revaccination at Nice —Small-pox and the British and American Colony

THE Riviera winter season which has just concluded has proved disastrous in some places and nowhere is it qualified as a good season, although, as usual, the Principality of Monaco is the last to be affected by any evil circumstances that may arise. Indeed, the hotels, in spite of their numbers, have been well filled, and early in March, when I arrived at Monaco, it was with some difficulty that I could secure a suitable room. Now, of course, the great bulk of visitors have left and this is the moment when all concerned have time to pause and to consider the situation.

There are two principal causes that have produced the unfavourable result—namely, small-pox and the war No explanation is necessary to show that the war has compelled many British families and tourists to postpone the pleasure and the expense of wintering in the south. This is an unhappy circumstance over which local enterprise and the municipalities of the Riviera resorts had no control. The same cannot be said with regard to the prevalence of small-pox. Ever since British visitors have frequented the Riviera and English papers have published descriptions of the various attractions of this favoured coast, protests have been uttered against the want of proper sanitation and efficient drainage As a consequence there have been various improvements effected, but more remains to be done than has actually been achieved. In one respect especially there has been the most reprehensible neglect and that is in regard to the provision of isolation hospitals for infectious cases This great grievance was rendered distressingly obvious during this winter's season by the prevalence of small-pox. Nothing can be more alarming and painful than the position of a person away from home and country and stricken down by small-pox while staying in an hotel. In England a stranger would be removed in a proper ambulance by well-trained attendants to the fever or small-pox hospital where he would find the best sanitary conditions, medical attendance, and highly trained nurses. The room in his hotel would be thoroughly disinfected and the risk incurred by the other inhabitants of the hotel would be reduced to a minimum If, on the Riviera, the authorities insist on removing the patient they can only take him to the general hospital where he will be nursed by untrained sisters who know more about proselytising than about *nursing and he will be a source of* danger to the other patients. If he is allowed to remain in the hotel he endangers his fellow residents and is not in suitable surroundings for efficient treatment.

In such circumstances it is not surprising that the fear of small-pox has kept many intending visitors away from the Riviera. That it should have this effect is so obvious that the authorities concerned have done their best to conceal the fact that small-pox cases have occurred in several of the winter resorts But the policy of concealment always defeats its own ends. Absolute concealment is impossible and the absence of official information naturally gives rise to exaggerated rumours. Thus, we find in the *New Free Press* of Vienna a statement that there were during the season from 400 to 500 deaths from small-pox at Nice. This is undoubtedly an exaggeration. A few cases of small-pox occurred at Nice during the month of November, but it was not till Dec. 14th that several cases were notified on one and the same day, and the disease may then be said to have assumed an epidemic aspect. The disease was exceptionally virulent · the proportion of mortality was equal to about 32 per cent. of the cases. But this outbreak has in any case served one good purpose, for it has once more demonstrated the efficacy of vaccination. It may also be claimed that it has not been unconnected with economic and insanitary conditions Dr Balestre, director of the Bureau d'Hygiène of Nice, informs me that the inhabitants of the old town suffered most. He visited the two worst streets and the poverty, overcrowding, and filth prevailing there were beyond all description. The tall houses in those narrow, winding, steep, and picturesque streets have simply no sanitary accommodation at all In the streets there are some gratuitous latrines but there are no closets in the houses The inhabitants, for the most part very poor Italian labourers, empty out all their household refuse and soil into the streets. As there are no compulsory means of enforcing vaccination it is easy to understand how quickly small-pox may spread in such localities. On the other hand, where it has been possible to enforce vaccination, its beneficent effect, even in the presence of bad sanitation, has been most conclusively demonstrated. To make matters worse the inhabitants did all they could to conceal the cases which occurred among them and the presence of small-pox was often only known after a death had occurred. These poor Italians object to see a medical man and are still more opposed to the prospect of being removed to the hospital. But the soldiers belonging to the garrison of Nice often associate with these poor people and frequent the localities where they live. Every soldier is vaccinated; and, if there is no result, he is again vaccinated three times consecutively and then only is he judged to be immune. The garrison at Nice this winter amounted to about 3800 soldiers and there has not been one single case of small-pox among them. If, however, are added to the garrison all those who are employed by the public municipal or departmental administrations, the State tobacco manufactory, and the railway and tramway companies, we find a grand total of about 10,000 persons who have now all been revaccinated. Among these 10,000 people there were 14 cases of small-pox previously to vaccination and two other persons who had avoided being revaccinated had small-pox.

With respect to the well-to-do classes and the visitors to Nice there has been the same immunity from small-pox among those who had been revaccinated. But it would be a mistake, according to Dr. Balestre's opinion, to consider such immunity as absolute. To his personal knowledge there have been a few cases among people who were successfully revaccinated. On the other hand, though this has been a most virulent epidemic such cases among the revaccinated were of the mildest type and the patients all promptly recovered. Among his private patients Dr. Balestre noticed that in well-to-do families small-pox attacked the one member who had not been revaccinated while it spared all the others. Dr. Balestre is tempted to believe that the force of infection varies according to the virulence of the disease and that vaccination is not so efficacious when the disease prevalent is of the worst type. This may explain why a few persons who were revaccinated nevertheless contracted small-pox. It is true that they only suffered slightly but had the disease prevalent been of a milder character it is probable that they would not have suffered at all. Whatever may be the value of this conjecture, Dr. Balestre, as chief of the Bureau d'Hygiène, has had the best opportunity of judging and therefore I need make no apology for giving his opinion.

I can only find record of six cases of small-pox occurring among the members of the British and American colony at Nice. Some of these cases were, however, very characteristic. Thus in one large household the servants and others were revaccinated with the exception of two brothers. Shortly afterwards one of these brothers contracted small-pox; the other hastened to be vaccinated. Together with all the other members of the household he has escaped from the infection. Another and a particularly dramatic case relates to a lady who was a Christian Scientist. As such she was much opposed to vaccination and had persuaded a young gentleman not to be vaccinated. Hearing of this a lady remarked to her that she hoped that no evil would result from her action. Within a week of this warning the Christian Scientist died from small-pox. The young gentleman, her convert, thereupon once more changed his opinion and is now to be congratulated on having been successfully vaccinated. The third case was that of an old gentleman who lived so isolated a life in his villa, only going out in his own carriage, that he thought he was quite safe. He would have been better protected by vaccination, for he contracted small-pox in spite of his isolation. Altogether, of the six British and American visitors who contracted small-pox two died and none of them had been revaccinated.

One more incident may be mentioned as illustrating the efficacy of revaccination. There is at Nice an almshouse which contains 350 inmates. They were all revaccinated except half a dozen bedridden and aged persons. None of the latter were under 70 years of age and it was not thought necessary that they should be revaccinated. Nevertheless, one of these patients—he was 80 years old—contracted small-pox. This was the only case that occurred among the 350 occupants of the almshouse In face of this experience age is no longer accepted as an excuse and many very aged persons have now been successfully revaccinated.

Undoubtedly of the winter resorts Nice has suffered most from the present visitation of small-pox but there have been cases in nearly all the other towns and even in one of the very best hotels at Monte Carlo. With proper methods and facilities for isolation such occurrences need not have caused alarm. It is not as if small-pox had prevailed only on the Riviera. The reverse is the case, and the Riviera has only suffered from the reflex influence of what is occurring in many other parts of Europe. But until a proper isolation service is organised throughout the Riviera the health resorts will continue to suffer from what are sometimes unjustifiable panics and often exaggerated alarms.

Nice, April 26th.

THE GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

THE thirty-first Congress of the German Surgical Association met in Berlin on April 2nd, Professor **KOCHER** (Berne, Switzerland) being in the chair. The great hall of Langenbeck House was overcrowded, the number of the members having increased from 130 in 1872 to nearly 1300 in 1902, of whom 659 were present, so that many had to find accommodation in the galleries. A remarkable fact was the relatively large proportion of foreign members, especially Dutch, Scandinavian, and Russian. France was represented by Dr. Doyen who spoke several times during the congress, and Great Britain was represented by Mr. W. Arbuthnot Lane. Professor Kocher in his inaugural address mentioned the members of the association who had died during last year, making especial reference to Staff Surgeon-General Dr. von Coler, to Professor Julius Wolff, well known as an orthopædist, to Dr. Schuchardt, to Dr. Langenbuch, and to Sir William Mac Cormac. The association then unanimously agreed to the election as honorary members of the following gentlemen, whose names were proposed by the committee: Professor von Bergmann and Professor König of Berlin, Professor Guyon of Paris, Professor William Macewen of Glasgow, Professor Keen of Philadelphia, and Professor Durante of Rome.

Military Surgery.

The first meeting was devoted to a discussion on the dressing of wounds on the battle-field, especially in the light of the experience gained during the present war in South Africa.

Professor **VON BRUNS** (Tübingen) said that from a bacteriological point of view a bullet-wound must be regarded as infected, for bacteria were present everywhere During the early years of the antiseptic era military surgeons in the Turco-Russian war tried to apply the principle of Lister's method even on the battle-field by carrying out thorough disinfection, drainage, &c. It was the merit of Professor von Bergmann, then in the service of Russia, to have shown that this was practically a failure and that uncomplicated gunshot wounds had a marked tendency to run an aseptic course if they were only covered with an antiseptic dressing to the exclusion of any other procedure. This was still more the case at the present time when the small-calibre bullet produced wounds with a very small aperture of entrance. These principles were also followed in the South African war, the wounds being merely covered with a dressing, and this being done on the British side as early as possible and previously to the removal of the patient from the place where he fell. Professor von Bruns insisted especially on the importance of the latter precaution, as the removal of a wounded man even for a short distance without an adequate dressing was likely to have the worst possible consequences. The early dressing of the wounded on the place where they were found during a battle was a great advantage to them and was, of course, very dangerous to the military surgeon, who had to work sometimes under the fire of the enemy. Professor von Bruns stated that the members of the Royal Army Medical Corps were often to be seen attending to the wounded in positions exposed to the fire of the Boers. Alluding to Count Bülow's words in the German Parliament he said that the Royal Army Medical Corps had thus proved, like the other corps of the army, that its members knew how to die. Under an early and simple dressing the wounds dried up and healed without suppuration A crust was formed when a powder like dermatol or xeroform was put on the wound, but impermeable material, such as caoutchouc tissue, protective silk, and the like, were to be avoided because they hindered the wounds from drying Instead of the powder a dermatol paste might also be used, but bandages were sometimes rather difficult to apply on the battlefield and might be replaced by caoutchouc plaster Fractures of bones must be immobilised previously to the removal of the wounded man It was not only the first dressing but also the first removal which, according to the late Professor Volkmann, decided the man's fate.

In the discussion Dr. BERTELSMANN (Hamburg), who had served with the Boers at the siege of Mafeking, said that he had seen 52 wounds heal without suppuration. This took place although the hygienic conditions in the Boer camps were far from being satisfactory and the transport and other arrangements were quite unsuitable for their purpose In his opinion the good results were obtained because the wounds were scarcely touched by the finger or by an instrument, he only applied some gauze and fixed it by adhesive plaster. Perhaps it was due to the dryness of the South African atmosphere that the wounds healed well under a crust of dried blood.

Professor KÜTTNER (Tübingen), who had been with the German Red Cross Ambulance in the South African war, as well as in the Turco Greek war and in the China expedition, was of opinion that climatic conditions had but little influence on wounds, as he had obtained the same results in countries far removed from one another, provided that the aseptic and conservative method was used and the wounds were touched as little as possible. In this way the wounds produced by the modern rifle when uncomplicated healed very well and much better than did those inflicted by the bullets of the large-bore rifles formerly used. Of all his bullet wounds only 12 per cent. suppurated and of the shell wounds 40 per cent.

Dr HILDEBRANDT, one of he medical officers of the German Red Cross Ambulance with the Boers, spoke on the treatment of abdominal wounds There was at present a marked tendency to abstain from laparotomy in these cases because they were believed to have the best chance of recovery when they were left alone, but this was in Dr Hildebrandt's opinion erroneous, for the mortality was still at the rate of 70 per cent. Men who after two or three days had come to the field hospitals without complications generally recovered without operation, but when perforation of the intestines had led to peritonitis operation at that stage was nearly always unavailing If, therefore, perforation of the intestines were known to exist laparotomy and suture of the intestine might be performed at once, even at the dressing station of the field ambulance at the front; notwithstanding the contrary opinion of other military surgeons, and especially of the late Sir William Mac Cormac, he thought that these operations were justifiable.

Professor TRENDELENBURG (Leipsic) showed a patient whose heart had been entered by a bullet and who had been conveyed to the hospital in a state of severe shock but without hæmorrhage into the pericardial or pleural cavity It was a striking spectacle when by means of the Roentgen rays the bullet was seen moving freely within the ventricle; at present the bullet was adherent to the cardiac walls and only moved in unison with the cardiac movements. The patient was now in good health and he complained of nothing

Treatment of Fractures

Dr. NÖLKER (Heidelberg) recommended the suture of the fragments in certain cases, namely, in compound fractures, in fractures of both bones of the same limb—for instance, the tibia and fibula—and in fractures where the displacement of the fragments rendered exact apposition impossible. The dangers of suture after the injury were not very great, especially when only one bone was broken, in bones covered by thick layers of soft tissue, such as the femur, or in the neighbourhood of joints, the operation was more complicated and therefore not without risks. Sutured bones healed somewhat slowly because the development of callus was not assisted as in other cases by the mutual friction of the fragments.

Mr ARBUTHNOT LANE gave an account of about 150 fractures in which the fragments had been sutured by him. He recommended the use of silver wire.

An animated discussion took place with respect to the methods to be followed, the time of operation, and the material to be used Some surgeons recommended that the fragments should be secured with nails or screws

Professor SCHEDE (Hamburg) used ivory pegs which were left in the wound

Professor SCHLANGE (Hanover) uttered a warning against operating without proper indications In the majority of cases fractures did not require operation but united under treatment by extension and fixation, which must continue to be the normal procedure. Suture was, however, sometimes indispensable, as in the so-called spiral fractures, in fractures of the tibia, and in fractures in the neighbourhood of the joints Professor Schlange had obtained good results with aluminium-bronze wire.

(*To be continued.*)

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

An Epidemic of Dengue Fever in Rangoon.—A Petition from the Bombay Medical Union.—The Plague Epidemic

IT is reported that after an absence of about 30 years dengue fever has appeared in Rangoon and has spread rapidly The disease is very contagious, several cases occurring in the same house. It is said to have been prevalent of late in Penang and Singapore, so that it has probably been brought from the Straits

The Bombay Medical Union has submitted a petition to the Viceroy in which it is urged that whereas the Government has in the past refused to appoint Indian medical men to the public service unless they had passed a special competitive test, several medical officers brought out for plague duty have now been posted to the Indian Medical Service without competitive examination; the Bombay Medical Union prays that Government will consider the claims of graduates of Indian universities and of other natives to appointments in the Indian Medical Service and will also increase the number of civil surgeoncies allotted to civil assistant surgeons This is the old question of admitting native medical men without going through the prescribed competitive examination in England. After all, very few of the European plague officers have accepted the commissions offered so that the commissions must be looked upon more as rewards for services rendered rather than as any intention of altering the conditions upon which medical men can enter the service It is generally acknowledged in the service that it would be very undesirable to relax the conditions now existing except in very special circumstances.

The last returns of plague deaths in India show that the disease is still spreading There were 26,108 deaths in the week ending March 22nd, as against 25,655 for the previous seven days. The Punjab shows the chief increase—16,829 deaths having been there recorded. In the Bombay Presidency as well as in the Bengal Presidency there was a decline and so also in the Madras Presidency There were more deaths (932) in Kashmir and also in Karachi city (74) Returns issued later show that the diminution in Calcutta (420) was only temporary—the last week showing a rise again to 550 deaths. Notwithstanding the special precautions to keep plague out of Simla the disease is approaching closer and closer and it will probably be only a short time before the native quarters become invaded. In Bombay city the advance of the outbreak has apparently made a halt as the deaths recorded from plague were only eight more than in the preceding week. The general mortality of this city is very high, the total deaths for the week ending March 27th being 1676, with a rate of 112 30 per mille. As there is very little cholera or small pox or other epidemic disease in Bombay the high mortality suggests that there must be more plague deaths than are accounted for This, however, has been the statistical history since the plague first appeared in 1896.

April 3rd

The Plague Epidemic.—Medical Reform Before the Universities Commission

The high plague mortality throughout India continues. This week there have been registered 23,226 deaths, as against 23,836 during the previous seven days There has been an increase in Bombay city (957 against 816), in Karachi (128 against 70), in Calcutta (689 against 550), and in Kashmir (262 against 216); but a decline in the Madras Presidency (93 against 125), in Bengal (1256 against 1777), and in the Punjab (14,871 against 16,675). The great development in the last province has probably reached its height and the outbreak will now decline. The mortality in Bombay city is still on the up grade, as 1902 deaths—a rate of 127·45—were recorded for the week ending April 2nd. As the plague mortality is returned at 999 this leaves 903 deaths to be accounted for. These figures are about 300 in excess of the normal. Calcutta city has more than double its usual mortality but the excess is accounted for by the Plague Department, and except for plague the mortality would not be excessive. Almost every week we read of extension of the disease to fresh districts. It is now spreading among the Hill States.

The subject of medical reform in India has been brought before the Universities Commission now sitting in Calcutta. It is complained that the medical chairs are filled solely by members of the Indian Medical Service and that consequently the field of choice is contracted. As a consequence the teachers are not always the best available and the college professors who act as consultants for their respective Presidencies are not always highly proficient. Further, the change of professors, or the change of subjects which one professor has successively to take up, prevents the proper study of any one subject. It is suggested, therefore, that these chairs should be thrown open as is done in Great Britain. It was also complained that there was so little incentive for original research and it was suggested that regular medical research ought to be a part of the work of the university.

During the absence on six months leave of Mr. J. Nield Cook the duties of medical officer of Calcutta will be carried on by Dr. T. Frederick Pearse who has acted previously in the same capacity.

April 10th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Lying-in Charity.

THE Birmingham Lying-in Charity dates far back into the pre-antiseptic era. Some 40 years ago, owing to the mortality among the in-patients, the building used as the hospital was given up and the work of the charity was limited to the attendance upon patients in their own homes. The annual report, which was read before a meeting of the governors on April 15th, showed that during the past year 925 cases had been attended without the death of a mother and the charity was stated to be doing a valuable work unobtrusively and economically. The report of the Medical Committee drew attention to the necessity of important changes being made in the administration of the charity. It pointed out that the time has come for the extension of the area of usefulness of the charity and it emphasised the desirability of providing a central home in which not only serious cases, or those requiring operative treatment, could be admitted but where also nurses could be trained under suitable superintendence and effective teaching could be given in the knowledge and practice of midwifery. The report was favourably received and adopted; it is hoped, therefore, that extensive additions will be made in this valuable department of the charity.

The Small-pox Epidemic.

The public mind is far from easy upon the question of the spread of small-pox in our midst. At present there does not appear to be sufficient ground for apprehension on account of the number of cases arising. The Health Committee is actively isolating suspected and infected patients. At this time there are 10 cases in the isolation hospital and every precaution is taken to obtain early notification and removal. Individual cases occurring in neighbouring towns add to the fear that the epidemic may be insidiously spreading, patients—generally of the tramp class—having been located at Walsall and Tamworth. Meanwhile the effect is to induce a large number of people to be revaccinated as a safeguard against infection.

The Spread of Diphtheria.

An association known as the Birmingham Sanitary Council appointed a deputation which waited upon the Health Committee of the Town Council on April 23rd to set forth its views upon this subject. It was pointed out that Birmingham does not provide special isolation wards for diphtheria patients or for patients in whom that disease is complicating others and that many large towns were already in possession of suitable accommodation for such cases The chairman of the Health Committee promised that the question should receive consideration, but he stated that the committee had its hands full at present and that the tax upon its hospital accommodation was very severe. It should be borne in mind that although there are no diphtheria wards the Health Committee is doing what it can in other directions to check the spread of the disease. For instance, an arrangement has been made with the bacteriological department of the University to conduct examinations of the sputa of patients supposed to be suffering from this disease as a means of diagnosis. Recently also similar arrangements have been concluded for re-examination so as to give an assurance of recovery and freedom from the disease. So well has this been carried out that at many of the principal schools a pupil after suffering from diphtheria is not allowed to return until a certificate is produced stating that a bacteriological examination shows that he is absolutely free from the disease.

The First Horse Ambulance.

The first horse ambulance ordered by the corporation for the use of the city arrived on April 18th. Internally the fittings consist of two removeable stretchers supported one above the other. There is a space for an attendant and the lower stretcher has an adjustment for raising or lowering one end in order that the injured person may have the minimum of discomfort when the vehicle is ascending or descending a hill. A supply of splints for fractures is provided in racks at the sides and the usual surgical dressings are contained in boxes placed in the front of the van. As compared with present appliances this is a great improvement. No doubt others will be placed in various positions in the city, thus providing a very efficient aid to meet emergencies.

April 29th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Delamere Sanatorium: Annual Report of the Consumption Hospital.

THE number of applications for admission to the Delamere Sanatorium, which is in connexion with the Consumption Hospital, during the past year far exceeded the accommodation and the committee had to refuse admission to many applicants who would probably have benefited by treatment at the sanatorium. The actual cost of building and furnishing the sanatorium was £15,295. In addition to the main building four bungalows to accommodate 16 patients were erected and furnished, as well as shelters and seats in different parts of the grounds. £2800 were received during the year as special donations to the sanatorium. Now that the sanatorium was in full working order the committee was considering the re-construction of the Mount Pleasant Hospital in accordance with the resolution adopted at the annual meeting on March 27th, 1899. The number of in-door patients treated at the Consumption Hospital on Mount Pleasant during the year was 218. In the out-door department there were 1984, whilst the total number of attendances reached 16,291. Out of 47 cases treated at the sanatorium there had been only one death, whilst 74 per cent. of the cases had been cured and 20 per cent. showed no improvement. Mr. Charles Threlfall had subscribed £1000 for the endowment of a bed at the sanatorium. Sir William Tate had also given £500 for the same purpose, together with an annual subscription of £21.

New Appointment for Major Ronald Ross, F.R.S., late I.M.S.

Major Ronald Ross, the Walter Myers lecturer at the Liverpool School of Tropical Medicine, has accepted an appointment at the Jenner Institute of Preventive Medicine in London. Major Ross's departure from Liverpool will be regretted much by his numerous friends. His name always will be associated with the expeditions despatched to the West Coast of Africa by the Liverpool School of Tropical Medicine in connexion with the investigation of malaria and the mosquito theory.

The Proposed Liverpool University.

On April 25th the finance committee of the city council passed a resolution recommending the council to present a petition to the King in council praying for the granting of a charter for the foundation of a university for Liverpool £157,000 have been already subscribed towards the £330,000 required for endowments in aid of the proposed university

The New Local Fellows of the Royal College of Physicians of London

Dr James Barr, honorary physician to the Liverpool Royal Infirmary, and Dr A. F S Grünbaum have been elected Fellows of the Royal College of Physicians of London.

Donations to Local Charities

By the terms of the will of the late Mr James Barrow of Waterloo the Liverpool Royal Infirmary and the David Lewis Northern Hospital each receive £500 , and the Royal Southern Hospital, the Stanley Hospital, the Bootle Borough Hospital, the Children's Infirmary, and the convalescent home at Woolton, each receive £250 —The honorary treasurer of the Bootle Borough Hospital has received from the trustees of the late Miss Olivia Atherton a cheque for £500 for the endowment fund of the hospital The Liverpool Country Hospital for the Chronic Diseases of Children also receives £1000 by the will of the late Miss Olivia Atherton.

April 29th

NORTHERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENT)

University of Durham.

A CONVOCATION of the University of Durham was held on April 26th in the Library of the College of Medicine, Newcastle upon Tyne The Warden of the University, Dean Kitchin, presided. The principal matter of interest in the proceedings to medical men was the conferring of the degree of Doctor of Civil Law upon Sir William Selby Church, Bart., President of the Royal College of Physicians of London, and upon Professor Thomas Annandale Regius Professor of Clinical Surgery in the University of Edinburgh

Annual Report of the Newcastle upon Tyne Royal Infirmary

The 151st report of the Newcastle Royal Infirmary has just been published and it shows that the amount of work done by this excellent institution continues to increase. The number of patients admitted during the year was 4559, being an increase of 301 on the number for the previous year while the number of out-patients and casuals amounted to 43,381, making 47,940 in all. The total ordinary income for the year amounted to £13,544 4*s* 9*d* , which included no less a sum than £5530 11*s* 7*d*. subscribed by the working men, while the expenditure for the year was £17,505 4*s* 3*d*. 3258 operations were performed during the year , of those, 111 were for appendicitis with 17 deaths and 184 were for the radical cure of hernia with only two deaths. The report says 'It is with a profound feeling of satisfaction that the committee report that at last the work of building the new infirmary has commenced," but the feeling of public satisfaction will be even more profound when they have to report that the work of building has been completed

Death of Charles P G Crichton, M.B , B Ch. Glasg , of Chester le Street.

The death took place on April 28th, at Chester le-Street, Durham, of Dr Crichton, one of the assistants of Dr W H. Renton. The deceased, who was not quite 30 years of age, took a chill about a week ago which developed into pneumonia, to which he succumbed He came from Glasgow and he showed such skill and tact in his profession that in the few months he was at Chester le-Street he gathered round him a considerable circle of friends. He was known and respected as one of the hardest workers among professional men in the district The deceased was unmarried

Health of South Shields

Dr J J Boyd, medical officer of health of South Shields in his annual report for 1901 points out that the high birth rate which has characterised the borough for many years is still maintained. Last year it was 36 8 per 1000, as compared with 28·5 for England and Wales. The death rate was rather high, being 20·6 per 1000 as compared with 16·9 for England and Wales. Infantile mortality was heavy , out of every 1000 children born 169 died before reaching the age of one year This was mainly due to an epidemic of infantile diarrhœa. Dealing with zymotic diseases Dr Boyd points out that there were no cases of small pox in South Shields during last year, although several have occurred since Scarlet fever, however, prevailed in epidemic form, 1283 cases being notified and 59 deaths being registered. Tuberculosis was responsible for 231 deaths Not much so far has been done with a view to diminish the ravages of this disease, although a beginning has been made. Whenever a death from phthisis now occurs a letter is sent to the occupier of the premises, *pointing out the infectious character of the disease* and that the infection becomes attached to all articles used by the patient and to the rooms in which he has been living and the importance of thorough disinfection. The corporation, it is explained will supply suitable disinfectants, and will send for all carpets, hangings, &c., which will be disinfected by the corporation disinfector The next step, Dr Boyd says, would be to adopt some system of notification of cases and to take some practical action against the habit of indiscriminate spitting

Newcastle-on Tyne April 29th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Refuse Destructors

ALTHOUGH Cardiff has been foremost among South Wales towns in other sanitary improvements it has been strangely laggard in the matter of the disposal of refuse. In the adjoining town of Barry a refuse destructor has been installed nearly two years and even in the Rhondda Valley there has been one at work for nearly a year This latter differs materially from the ordinary form of destructor and is known as Mason's gasifier It is provided with an iron chimney only 40 feet high and there are absolutely no offensive fumes given off. For more than six years members of the Cardiff Corporation have been examining and reporting upon destructors of various types in other towns and a recommendation has now been made to erect two destructors of eight cells each capable of dealing with 1200 tons of refuse weekly at an estimated cost of £61,500 At the present time there are 1800 tons collected in the town each week and *this is all deposited in various* tips on the outskirts of the borough. The types of destructor recommended for erection are those of Messrs. Meldrums and of Messrs Hughes and Sterling

Pauperism in Cardiff

At the meeting of the Cardiff Board of Guardians, held on April 26th the Poor law inspector of the Local Government Board (Mr F T Bircham) gave some interesting comparative statistics with reference to the extent and cost of pauperism in the Cardiff Union. During the past 10 years he said that the population of England and Wales has increased 12 per cent. and the number of paupers 8 per cent., but the rate of pauperism has decreased 19 per cent. while there has been an increase in expenditure of 22 per cent. In the Cardiff Union during the same period the population has increased 31 per cent., the number of paupers 54 per cent. and in the rate of pauperism there has been an increase *of 10 per cent., with an increased* expenditure of 54 per cent. This increase in the expenditure is due to more adequate remuneration to the officers, to increased accommodation for the inmates, and to improvements in the nursing arrangements, as well as to increased amounts given in outdoor relief Mr Bircham emphasised the importance of paying very particular attention to every application for outdoor relief, for which purpose alone the Cardiff Board of Guardians distributes £400 weekly

Small-pox

There has been a recrudescence of the epidemic of small pox in Swansea where there are now in the hospital 10 cases of the disease Hitherto the patients have come from a restricted area but the last was from a more remote district. At Aberdare there is one case of small pox and this patient has infected a collier in the Rhondda Valley There has only been one case of small pox in the latter district during the past 10 years. *In the Pontypridd Union*, which includes the Rhondda, there are very few unvaccinated children but only a small percentage of the inhabitants are protected by revaccination.

Housing of the Poor in Bristol

In 1891 the average number of persons per house in Bristol was six and although in 1901 this average was found to be only 5·6 it is probable that the reduction was due more to the extension of the city boundaries than to any very marked improvement in the crowded parts of the town. Although there are in Bristol no very large unhealthy areas there are still many courts and insanitary dwellings which must prejudicially affect the health of the inhabitants and it is to these that the Committee for Promoting the Better Housing of the Poor turns its attention. The annual meeting of the committee was held on April 25th when the President, Mr. Lewis Fry, commented favourably upon the work accomplished during the past year. Mr. Fry deprecated the adoption by municipal authorities of extensive housing schemes as likely to stifle private enterprise and he advocated greater facilities for taking working men rapidly to and from their work. It appears that many of the insanitary dwellings which the committee desire to see abolished are built in groups of four or eight upon land which was formerly the garden of a house facing the street and accessible only through the street-door of that house. As the surrounding property is often very valuable it is almost impossible to clear an area and the houses can only be dealt with effectually piecemeal.

Death of Alfred Richards Smith, M.D., L.R.C.S. Edin.

Through the death on April 20th of Dr. A. R. Smith the medical profession in Hereford has lost one of its oldest and most valued members. Dr. Smith was born in Hereford in the year 1833 and received his early education at the Cathedral School, afterwards proceeding to Edinburgh University, where in 1858 he obtained the gold medal in anatomy and took the M.D. degree in 1861, being admitted a Licentiate of the Royal College of Surgeons of Edinburgh in the same year. Shortly after qualifying he began practice in Hereford and in 1872 was elected on the staff of the Herefordshire Infirmary. At the time of his death he was consulting physician to that institution and held a similar position in connexion with the Herefordshire Dispensary. During the past few years he had gradually dropped out of practice except in the capacity of consultant. Although of a retiring disposition and by no means self-assertive there is no doubt that the high character of Dr. Smith and his strict observance of the dictates of medical etiquette have left their mark upon professional life in Hereford. He was a musician of considerable ability and frequently acted as organist at one of the city churches. He leaves a widow and one daughter.

A Warning to "Conscientious Objectors" to Vaccination.

At the Cheltenham police-court on April 17th three defaulters were summoned under the Vaccination Act. Evidence showed that they had previously satisfied the magistrates of their conscientious objection to vaccination but had refused to pay the fee of 1*s.* 6*d.* due for each certificate, and consequently did not receive the certificates within the required seven days. For the defence it was contended that the defendants had acted under a *bonâ-fide* misapprehension of the magistrates' power to order the payment of this fee and they asked the bench to exercise their discretion and now grant the exemption. To this course the magistrates assented, though intimating that the action must not be taken as a precedent now that the law was established.

Queen Victoria Jubilee Convalescent Home, Bristol.

The second annual report of this institution which has just been issued shows that 1015 patients were admitted during 1901; of these, 12 were returned to their homes as unsuitable cases, 35 were discharged unimproved, and the remaining 968 derived considerable benefit from their stay at the home. The financial statement was satisfactory and showed that the total expenditure for the year amounted to £2299 and that a favourable balance of £39 remained.

April 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Prevention of Consumption in Ulster.

AN interesting letter from the honorary secretary of the Ulster Branch of the National Association for the Prevention of Consumption appeared in the *Irish Times* of April 29th, in which it was shown that although the mortality from consumption in Ulster and Leinster is higher than that in any other districts in the United Kingdom—the death-rate being three times as high as in high parts of England—no steps have been taken to lessen the prevalence of the disease. The letter describes the measures adopted for this purpose on the Continent, in the United States, and in many English towns, such as Liverpool and Manchester, and contrasts the scientific precautions which have succeeded in New York in lowering the death-rate from consumption during the last five years by 35 per cent. with the deplorable apathy in this regard which still prevails in Ulster.

The Case of Small-pox in Belfast.

The Belfast Poor-law Guardians having protested in reference to a man with small-pox being sent from the jail (in which there was a good infirmary), where there were 500 inhabitants, to the workhouse, where there were 3500 inmates, the Secretary of the Local Government Board has replied enclosing a letter from the General Prisons Board, Dublin Castle, to the effect that the prisoner's release from prison took place on March 13th, and that as he was then suffering from small-pox it would obviously have been improper to allow him to return home. It turns out that this is hardly a full and accurate statement, as the man was arrested in Glasgow on Feb. 26th on a charge of bigamy, and conveyed to Belfast, arriving there on the morning of the 28th. On that date he was brought before the court and remanded to jail until March 6th, when he was again remanded for a week. On the 13th he was unable to attend the court and on that day he was ordered by the Lord Lieutenant to be removed from Belfast Jail to hospital, as he was suffering from small-pox. The guardians have decided to let the Local Government Board know the real facts of the case and they will decline in future to receive such a case, there being ample accommodation, in their opinion, in the jail infirmary, or the patient can be sent to the wooden isolation huts to be provided by the Public Health Committee of the Corporation at their new fever hospital at Purdysburn, near Belfast.

The Mater Infirmorum Hospital, Belfast.

From the financial statement of this hospital for the year ended Oct. 31st, 1901, it appears that a sum of £4000 has been received from various sources for defraying current expenses and the excess of expenditure over income for the year amounts only to £300, a small deficit indicating the great care exercised in the disbursement of the funds. The last Saturday in May is fixed as the day for the hospital collection in aid of the funds of the Mater Infirmorum Hospital.

Milk Prosecutions.

The adjourned cases of prosecution of Belfast dairymen for having sold milk deficient in fat were before the police-court on April 21st. The city analyst had certified that there was a deficiency of 13·3 per cent. of normal fats; but after hearing the evidence, the resident magistrate dismissed the prosecution on the ground that there was no evidence that there had been any abstraction of fats, the evidence being that the milk was sold just as it had come from the cows. By an order of the Agriculture and Technical Education Department for Ireland, dated August 2nd, 1901, it is provided that where a sample of milk is found deficient in fats there is left upon the dairymen the onus of proving that the milk is genuine. The importance of this magisterial decision is that it is in antagonism to the theory that a standard can be set upon which to judge whether milk is or is not genuine. The evidence showed that the amount of fats and solids which milk contains may vary according to the weather, there being less fat and more solids in cold severe weather than in mild warm weather. In cold weather more fat is consumed to maintain animal heat than in warm weather and so there is less fat in the milk. The milk standard, it would therefore seem, ought to vary according to the state of the thermometer and in a variable climate like Ireland it is difficult to imagine the thermometer setting a standard to anything. In any further prosecutions evidence as to the chemical composition of the milk will be of little avail.

April 29th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Radium as a Means of Sight for the Blind.

AT the meeting of the Academy of Medicine held on April 15th M. Javal showed the meeting that radium, the metal discovered by M. Curie, possesses the singular quality of continuously emitting rays of a kind similar to kathodal rays or the rays of Roentgen. M. Giesel has found out that compounds of radium produce a perception of light in the eye even when a screen is interposed between the eye and the radium compound The screen may be of metal and the whole of the visual field appears full of light. The same sensation of light is felt if a glass tube containing a few centigrammes of radium chloride be pressed against the temple. M. Javal and M. Curie have made some experiments with radium in blind persons. If the retina be healthy they experience a sensation of light exactly comparable to that felt by a "sighted" person. In a patient who was completely blind owing to infantile purulent ophthalmia which had made the corneæ quite opaque the light emitted by the radium was distinctly seen. If, then, this patient could have his corneæ made transparent he would have good vision.

New Privileges of the Nursing Staff of the Hospitals

M. Mourier, the Director of the Assistance Publique, has given his adhesion to a proposition laid before the Municipal council by M. Ransom. The proposal is that there should be erected as soon as possible on land belonging to the Assistance Publique a sanatorium of 50 beds for the reception of such nurses, both male and female, who have become infected by tuberculosis during their attendance on the sick. M. Mourier, for his part, said that the Assistance would do everything in its power to carry out the scheme with a due regard both for the interests of the nurses and for the public interests of the Assistance. The Municipal Council has furthermore decided to set aside a small plot of land in the Eastern Cemetery for the interment of those nurses who may die from diseases contracted while nursing the sick. In this way the names of victims to professional duty will be kept in remembrance, as are those of firemen and other municipal workers.

Obituary.

Dr. le Rendu has just died at the age of 58 years from cancer of the stomach. He was a pupil of Potain and had been physician to the hospitals, an *agrégé* professor at the faculty of medicine, a member of the Academy of Medicine, and a Chevalier of the Legion of Honour. He leaves behind him a great reputation as a clinician and a practitioner of the highest honour He wrote several books on diseases of the heart and of the liver and since 1890 had been general secretary to the Hospitals Medical Society.—The death is announced of M. Filhol, professor of Comparative Anatomy at the Museum. He was 60 years of age and was formerly a professor in the provinces. In 1895 he succeeded to the chair of G. Pouchet at the Museum. He was a Member of the Academy of Medicine and of the Institute (the Academy of Sciences).

Dr. Doyen.

The widespread notice which was taken of the operation for separating Radica and Doodica has given rise to many attacks upon Dr. Doyen. These culminated when Dr. Legrain publicly asserted that Dr. Doyen had allowed kinematograph films of the operation in question to be exhibited in an acrobat's booth and an enormous poster announcing that this was the fact to be exhibited outside the booth. Dr. Doyen thereupon sent his seconds to Dr. Legrain. After the seconds of the two medical men had conferred it came out that Dr. Legrain had made a mistake. The poster actually was fixed to the booth but it was simply to draw the public. Inside there was no kinematograph show nor anything else coming from Dr Doyen. There were, however, two large wax figures supposed to be Radica and Doodica. Dr Legrain therefore wrote an apology to Dr. Doyen which has been published in the journals.

April 29th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Eyesight of School Children.

DR. ADOLF STEIGER, a well-known ophthalmologist, has just published a full account of the examinations of children's eyesight which he has made at the public schools of Zürich for the last eight years (1894 to 1901) His observations show a defective state of the eyesight in 19 1 per cent. of 19,947 children examined. The percentages of the different diseases of the eye were as follows: hypermetropia, 1·2; myopia, 0·9; astigmatism, 8·6; cramp of the muscle of accommodation, 1·4; strabismus and amblyopia, each 1; maculæ corneæ, 1·3; and various other defects, 1·5. In 2 per cent. of the cases examination was not possible owing to the behaviour of the children (fright, crying, &c.). Dr. Steiger found that an exact ophthalmometric examination of eyes with defective vision was an absolute necessity as it led directly to the discovery of the high percentage of astigmatism which was generally overlooked in the older statistics. The usual primary examination (with a rectilineal figure of the shape E turned in four different positions and not with letters) is now conducted by one of the official town physicians who have the superintendence over all the hygienic affairs of the town pending the appointment of a medical man (*Schularzt*) who is to devote his time exclusively to matters of school hygiene. It is most necessary that these examinations should be made by a medical man and not by the various schoolmasters. 25 per cent. of all the school-children had deficient vision or were doubtful cases and they were sent to Dr. Steiger for special examination one by one accompanied by one of the parents In this way Dr. Steiger was in a position to give the necessary instructions to the parents and then he sent an official report to the schoolmasters in order to enable them to treat the patients appropriately. He supplied detailed written instructions with regard to the special attention to be paid to each child, such as the distance of the child's seat from the window or from the black board, the use of spectacles, &c. This report has to be added by the schoolmaster or his successor to the official report on the non-attendance of individual children and in this way there is a certainty that the schoolmaster will always remember the instructions given. No doubt this will have practical results. Dr Steiger merely informs the parents of the defective state of their children's eyes, makes his diagnosis, gives his advice, and refers the patients to the ophthalmologist or the polyclinic of the university. I must mention that the children of rich and poor almost alike attend these schools which cannot be compared with the board schools in England as at least 90 per cent. of all the children of all classes attend these gratuitous State schools where the best of instruction can be obtained It may, in fact, be said that we are suffering from the effects of over-education rather than otherwise Examinations of the organs of hearing are also officially conducted by aural surgeons. Such observations not only have a scientific import but will no doubt prove useful to the schoolmasters and beneficial to the children

Preliminary Education of University Students.

Students in Switzerland have up to the present time been able to enter the universities after having been six years at a public school and having had six and a half years of college education; they are then about 19 years of age. Greek used to be obligatory but may be replaced by a modern language. German and French are absolutely necessary, but the student can choose a minimum of two other languages among Hebrew, Greek, English, and Italian. This system has so far proved very satisfactory, securing a proper classical education and yet having regard to the fact that the study of modern languages is more and more desirable every year. The Federal authorities, however, have suddenly proposed quite a new plan without consulting the proper authorities in exact opposition to the philological opinions obtained. They propose that the college education should be of two kinds or systems—the one strictly classical, with obligatory Greek and Latin, and the other merely "humanistic," in which these languages would be replaced by modern languages. The prospect of students without any knowledge of Latin and Greek being admitted to a university has caused no small stir in the medical profession, and an unofficial poll has been taken for the purpose of ascertaining the state of opinion on the subject, with the result that 1470 medical men in Switzerland answered the questions put to them, and the vast majority—namely, 1302—expressed the view that the present system of classical education is desirable. It is, therefore, to be hoped that these opinions will take the form of an official protest by our new Aerzte Kammer, a committee which is elected by all the medical societies in Switzerland and is empowered to confer with the Government on matters of import to the medical world.

Zürich, April 25th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Plague in Egypt in Recent Times.

MANY readers of THE LANCET will remember that plague appeared in Alexandria in April, 1899, and lasted until October, causing 46 deaths out of a total of 96 cases. During that summer two patients who had travelled from Alexandria were discovered at Damanhour, a town one hour's distance by train from Alexandria, but with this exception the disease did not spread outside Alexandria. A second outbreak took place in 1900, when 150 cases occurred, divided between Alexandria where plague existed from April until November and Port Said where the disease began in in April and was stamped out by energetic means in July. There was in addition one case at Damietta which was obviously imported from Port Said. A third recurrence began in April, 1901, which has smouldered gently on in various places ever since. Now that the disease has existed in the country for 12 months it is interesting to recapitulate the various sanitary bulletins which have been accurately published every day by the Sanitary Department. It appears that 382 cases have occurred during the year out of the whole population of 10,000,000 persons. Of these 223 have died, 112 of them dying under treatment in the various Government infectious hospitals, while the remaining 111 have been found dead by the sanitary authorities in their homes. In Alexandria there have been 41 cases, including 24 among Europeans and 17 among natives. At Port Said 21 cases have occurred, comprising seven among Europeans and 14 among Egyptians. At Zagazig the numbers reached the maximum of 67 cases, of which only four were among Europeans. At Tantah there have been 42 cases, including two among Europeans, and at Mit Camr there have been 17 cases, of which three were among Europeans. It must be remembered that the Europeans attacked have invariably belonged to the poorest classes, who lead lives as unhealthy as do the natives and who work with the natives bare-footed, or almost bare-footed. It is also interesting to note that not a single one of the 111 deaths outside the hospital occurred among Europeans. In the following towns and villages not a single European has been attacked: at Kom el Nour in the Dakahlieh province there have been 23 cases, of which seven are still under treatment; at Ziftah seven cases; at Abusir also seven cases in the Gharbieh province; and at Benha in the Galioubieh province there have been 10 cases. Plague has attacked Upper Egypt this winter for the first time for nearly 60 years, for there have been five cases at Minieh and 22 at Deshneh (Keneh). Quite lately a small outbreak has been discovered at Korashieh, a little village to which the infection was carried in February from Tantah to some nomadic Bedouins grouped about the village. Some of their huts were destroyed at the time, but the original case was not recognised as plague, and therefore no special plague precautions were taken. This is an accident which may occur at any time in the outlying districts, though of course all the country doctors have been carefully warned to be on the look-out for the disease. The record for the past week tells something of the usual sanitary measures which have been taken in the places where the disease is present. 20,019 rooms have been disinfected, 8229 rooms have been whitewashed, 14 sacks of clothing have been disinfected, while 958 sacks of rubbish from the interiors of suspected houses have been destroyed. In addition to this quiet work which the sanitary authorities are carrying on every day about 600 rats are killed and burnt each week. The whole world seems to be getting used to hearing of plague in their midst, and there has been very little talk about it in Egypt, and absolutely no alarm among Europeans or natives.

The Cairo Season.

The tourists are hurrying away to Europe as fast as they can after a very successful and healthy season. About 8000 of them have visited Cairo since November, no less than 800 having come in one batch from New York in the *Celtic*. For the last two winters influenza has been almost absent from Egypt though there have been a few sporadic cases among the residents As regards typhoid fever I have only been able to hear of six cases among the visitors, one of which ended fatally. It is impossible to say where in these six cases the disease was contracted but it is believed that at least two of the patients caught it from drinking water on the steamers which brought them to Egypt. Modern travellers fondly imagine that on a well-appointed steamer they get distilled water to drink, but as a matter of fact most ships take in their water-supply without any regard to cleanliness from ports where the water-supply is known to be bad, such as, among others, Marseilles and Alexandria. Most steamers then filter it through antiquated filters which are probably useless. This is a sanitary question which needs investigation badly.

Cairo, April 14th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Graduation at the Army Medical School.

THE Army Medical School at Washington, D.C., which opened on Nov. 4th, 1901, closed its fifth session on April 4th, 1902, with its graduation exercises in the lecture-hall of the National Museum. Colonel W. H. Forwood, the president of the faculty, explained fully the course of study just completed by the class and announced the name of Assistant-Surgeon James M. Phalen as the member who had received the highest marks, entitling him to the Hoff Memorial Medal. The distinction of honour graduates was won by Assistant-Surgeons Conrad E. Koerper, Roderick P. O'Connor, and Robert U. Patterson, who had passed more than 90 per cent.; the majority of the students had made high percentages and none had fallen below the required rate, 70 per cent. The Secretary for War handed to each of the members of the class the diploma of the school, in the order of his rank in the army, and then the formal address of the occasion was delivered by the Surgeon-General. He emphasised the importance of preventive medicine in military practice and said that the important function of the Army Medical School was to familiarise the student officers with all that was known on this subject, to fit them to give expert advice on all matters relative to the prevention of disease in the ranks of the army serving under various conditions. The subject had become especially important since the Philippines had come into the possession of the United States, as the soldiers were now exposed to various infectious diseases which were either very rare or quite unknown in their own country. Almost every military post now offered facilities for bacteriological and chemical experiment and the members of this class would, it was expected, make the most of their opportunities, not only for the purpose of diagnosis in the patients' interest and of prophylaxis for the benefit of the command to which they belonged, but in the broader field of profit to scientific medicine and humanity in general.

An Experimental Hospital School.

An experiment as to the effect of certain foods upon the physical and mental development of children is now being conducted at the Chicago Hospital School for Nervous and Delicate Children. The main purpose of the research is to formulate if possible a dietary for children of from five to 15 years of age. Foods are prepared according to certain prescribed recipes, and the children are permitted to eat sparingly or generously as they themselves may choose. All foods are analysed before cooking, and later each child is served with carefully weighed portions best suited to his individual tastes, need, and capacity; the uneaten portion is weighed, so as to ascertain accurately the amount of food consumed. Each day the urine and fæces are carefully examined by medical men and the accompanying mental and physical phenomena are carefully watched and daily recorded to show the deviation from the normal. Special teachers and trained nurses make these observations. This school was founded two years ago and it serves as a pathological laboratory for the Chicago University, the only university that has a working pathological laboratory of this sort.

Deaths by Lightning in the United States.

Mr. Alfred J. Henry, professor of meteorology of the Weather Bureau of the United States Department of Agriculture, has published a bulletin relating to this subject. The number of persons killed by lightning during 1900 was 713; of this number 291 were killed in the open, 158 in houses, 57 under trees, and 56 in barns; the circumstances concerning the death of the remaining number are not known. To this may be added the number injured, which was 973. Professor Henry prepared a paper some time since on the relative frequency of fatalities by lightning in the several States and territories. He then recorded the statistics for a period of three years but thought best not to draw conclusions from them owing to the length of the time covered. In his recent bulletin he states that the number of fatalities must depend partly upon the frequency of the lightning strokes per unit area, also upon the density of the population and the character of the thunderstorms which traverse the region. Thunderstorms occurred with considerable frequency in that part of the United States east of the one-hundredth meridian, excepting a strip along the northern border. West of this section, not including the Rocky Mountains, the frequency of storms steadily diminished, practically reaching zero directly on the Pacific Coast. The largest number of fatalities occurred in the Middle Atlantic States; the Ohio Valley and Tennessee ranked second, and the Middle and Upper Mississippi Valleys filled the third place. During the years 1896-1900 the greatest number of deaths from lightning occurring in any one State were in Pennsylvania, 186; in Ohio, 135; and in Indiana, Illinois, and New York, 124 each. The greatest fatality from any one stroke occurred in Chicago, when 11 persons crowded together in a zinc-lined hut were killed instantly by one bolt.

Advancing the Educational Qualification of Medical Students.

Admission to the first-year class of the College of Physicians and Surgeons, New York City, has been thrown open to any student who complies with the minimum requirements for a medical student's certificate, as defined by the laws of the State of New York. A certificate is issued by the regents to any student applicant who presents 48 academic "counts" chosen from any subjects of secondary school study. The law provides that a student who has obtained 36 of these "counts" may enter upon the study of medicine, having one year in which to make good the remaining "counts." On and after September, 1903, no student will be admitted who has not obtained a medical student's certificate in one of two ways. He must have successfully completed at least one full year's course of study at some college or scientific school in the United States, or have pursued an equivalent course of study at some European institution, the question of the equivalence being determined by the regents of the University of the State of New York. The alternative is presented to the student of passing an entrance examination in June of any year held by the College Entrance Examination Board, or in September of any year held by the Committee on Entrance Examinations of Columbia University, or in part by both of these, provided only that if a portion of the examination be taken in June of any year the entire examination must be completed not later than in September of the following year.

Temperance Instruction in the Public Schools.

The national superintendents of schools in Chicago last year reported that the department of superintendence agrees cordially with the special advocates of the temperance cause in holding that everything that public instruction can do in the battle against intemperance ought to be done and that both physiology and hygiene should be so taught as to leave in the minds of children and youths as adequate and proper a knowledge of the effects of alcoholic drinks, stimulants, and narcotics on the human system as possible. Since the last meeting of this department there has been considerable discussion of the question as to whether alcohol under any conditions is properly to be defined as an article of food. Medical authorities are quoted in support of both sides of this question but no authority has been found to maintain that alcohol is a food in the ordinary sense of that term. The question of the supposed food value of alcohol is a technical one for medical experts to determine and not one which need concern the man or woman who is engaged in the work of public instruction of children and youth. For them it is enough to know that its use as a beverage may be injurious and that all authorities agree in deprecating the formation of the drinking habit.

Mr. Henry Merwin Shrady, son of Dr. George F. Shrady, editor of the *New York Medical Record*, has gained the first award in the competition of models which recently took place in Washington for the purpose of selecting a statue of General Grant to be placed in that city.

April 18th.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the second examination of the Board at the quarterly meeting of the examiners in the subjects indicated:—

Anatomy and Physiology.—Hugh William Acton, Middlesex Hospital; James Elrick Adler and Charles Sydney Archer, London Hospital; Frederic Charles Joseph Baker, St. Mary's Hospital; William Girling Ball, St. Bartholomew's Hospital; Ernest Charles Page Barnes, London Hospital; Hugh George William Beckett, St. Mary's Hospital; Samuel Lander Benton, University College, London; Albert Ogier Bisson, University of Lausanne, Switzerland; Albert Edward Blackburn, Yorkshire College, Leeds; Richard Osmond Bodman, University College, Bristol; John Taylor Bowker, Owens College, Manchester; Rowland Alessandro Bowling and Robert Henry Bott, St. Bartholomew's Hospital; Stanley Bott, London Hospital; James Rynd Briscoe, B.A. Camb., Cambridge University; John Bryan, London Hospital; Arthur Hill Burnett, Royal Colleges of Physicians and Surgeons, Edinburgh; John Graham Castellain, B.A. Cantab., St. George's Hospital; Charles Barett Deane Butcher and William Rex Collingridge, St. Bartholomew's Hospital; Vivyan Colmer, London Hospital; David Kirkpatrick Coutts and Reginald John Hands Cox, St. Thomas's Hospital; Arthur Douglas Crofts, Guy's Hospital; Claude Harold Cross, St. Bartholomew's Hospital; Frederick Spencer Davies, St. Thomas's Hospital; Langford George Davies, B.A. Cantab., Guy's Hospital; Percival Alfred Dingle, St. Bartholomew's Hospital; Alfred Dinnis, Charing Cross Hospital; Mohammed Omar Dollie, University College, London; Christopher Elliott, St. Bartholomew's Hospital; Trevor Evans, London Hospital; Harold William Farebrother, Charing Cross Hospital; George Edward Ferguson, St. Mary's Hospital; George Finch, Yorkshire College, Leeds; George William Morgan Fletcher, University College, Bristol; John Freeman, B.A. Oxon., Oxford University; Colin James Galbraith and Alexander Harold Gifford, King's College Hospital; Leonard Gray and John Purser Griffin, St. Bartholomew's Hospital; George Hamilton, Guy's Hospital; James Clarence Ledeatt Hingston, Middlesex Hospital; Edward Coomber Hobbs and Herbert Stanley Hollis, St. Mary's Hospital; Alfred Wyatt Hooker, St. Thomas's Hospital; Walter Goldie Howarth, B.A. Cantab., Cambridge University and King's College Hospital; James Bonnell Howell, University College, Cardiff; Richard Rossiter Huxtable, Charing Cross Hospital; Francis Samuel Jones, University College, Liverpool; Frederick Harold Lennox Jones, Guy's Hospital; George Francis Jones, University College, London; Khursedji Nasserwanji Karanjia, Grant Medical College, Bombay; James Reginald Kemp, St. Bartholomew's Hospital; Charles Frederic Kernot, London Hospital; George Johnson Langley, St. Thomas's Hospital; Arthur Edward Leapingwell and Farquhar Celynin Lloyd, St. Mary's Hospital; William Alfred Thomas Lloyd, London Hospital; Walter St. Claire McClure, Firth College, Sheffield; James Eustace Radclyffe McDonagh, St. Bartholomew's Hospital; Donald Grey MacGill, Owens College, Manchester; Clarence Basil McNeile, Middlesex Hospital; Conwy Llewellyn Morgan, St. Thomas's Hospital; Donald Macrae and John Findon Murphy, London Hospital; John Orrett Musson, Guy's Hospital; Reginald Cavan Neil, University College, London; Lionel Edward Close Norbury, St. Thomas's Hospital; Arthur Boniface O'Brien, Guy's Hospital; Geoffrey Ratcliffe Plaister, London Hospital; Vining Gedny, Joseph Paul, and Wilfred Hill Powell, St. Mary's Hospital; John Edward Prentis and William Percy Purdon, Guy's Hospital; Arthur George Laurence Reade, Charing Cross Hospital; Philip Alfred Reckless, Firth College, Sheffield; Max Balzar Reichwald, St. Bartholomew's Hospital; Vivian Ernest Ridewood, B.A. Lond., London Hospital; Henry Charles Samuel, University College, London; James Donald Sinclair, Edinburgh School of Medicine; Alfred Alexander Smith, Charing Cross Hospital; Armstrong Smith, Middlesex Hospital; Charles Maberley Stevenson, Cambridge University and Guy's Hospital; Thomas Stordy and Harold Foster Strickland, Charing Cross Hospital; James Herbert Sutcliffe, Yorkshire College, Leeds; Richard James Campbell Thompson, St. Thomas's Hospital; James Aubrey Torrens, St. George's Hospital; Harold Sugden Vivian, Middlesex Hospital; Harold Rosser Styleman Walford, St George's Hospital; John Wallace, B.A. Oxon., Oxford University and St. Thomas's Hospital; John Warburton, Owens College, Manchester; Howard Francis Warner, Prelim. Sci., M.B. Lond., London Hospital; Walter Welchman, Prelim. Sci., M.B. Lond., Guy's Hospital; John Allen Robertson Wells, St. Thomas's Hospital; Stanley Martin Wells, Guy's Hospital; Charles Francis Orr White, B.A. Cantab., Cambridge University; Clifford Sidney White, University College, London; Ralph Osmond Williams, Guy's Hospital; William Wynne Williams, King's College Hospital; William Sugden Williamson, Yorkshire College, Leeds; David Wilson, Prelim. Sci. Lond., St. Thomas's Hospital; Murray Richard Osmond Wilson, University College, Bristol; Harold Douglas Wyatt, Guy's Hospital.

Anatomy only.—John William Wynne Hogan, Madras Medical College and St. Bartholomew's Hospital.

UNIVERSITY OF DURHAM.—At the third examination for the Degree of Bachelor in Medicine held in April the following candidates satisfied the examiners:—

Second-class Honours.—Reginald Bigg, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital.

Pass List.—Frederick Durnford Atkins, St. Thomas's Hospital; Frederick George Armstrong, College of Medicine, Newcastle-upon-Tyne; John Arthur Bell, St. Bartholomew's Hospital; Harold Linton Currie, College of Medicine, Newcastle-upon-Tyne; Margaret Douglas French, London School of Medicine for Women

William Gibbons and Alfred Herbert Heslop, College of Medicine, Newcastle-upon-Tyne: Walter Haward, St. Thomas's Hospital; Thomas Charles Hunter, College of Medicine, Newcastle-upon-Tyne; William Hughes, Edinburgh School of Medicine; William Henry Peacock and William John Phillips, B.Sc., College of Medicine, Newcastle-upon-Tyne; Donald Murray Ross, St. Thomas's Hospital; Mary Raw, Constance Charlotte Robertson, David Rees Roberts, Fred Stoker, and Andrew Smith, College of Medicine, Newcastle-upon-Tyne; Thomas Young Simpson, M.R.C.S., L.R.C.P., London Hospital; John Malcolm Shaw, College of Medicine, Newcastle-upon-Tyne; Otho Boyle Travers, Guy's Hospital; and William Frank Wilson, College of Medicine, Newcastle-upon-Tyne.

University of Cambridge.—At a congregation held on April 24th the following medical degrees were conferred:—

Doctor of Medicine.—H. B. Roderick, Emmanuel; A. C. Jordan, Sidney-Sussex.

Bachelor of Medicine.—F. H. M. A. Beckett, Selwyn Hostel.

University of Edinburgh.—The following is the official pass-list at the recent professional examinations for degrees in medicine and surgery:—

First Professional Examination.—Mukhtar Ahmed, B.A., R. G. A. Bagnall, E. H. Black, C. E. Blair, George Blair, I. W. Brebner, S. T. Champtaloup (with distinction), W. I. M. Clark, Agnes M. Cowan, F. S. Cumming, Richard B. Davidson, A. M. Dick, M. G. Dill, A. M. Drennan (with distinction), Robert Duncan, James Dundas, E. W. Dyer, S. S. Dykes, Mary S. Finlayson, C. N. Finn, M. S. Fraser, W. G. Frohlich, G. F. Gallagher, W. J. Geale, Laurence Gibson, G. A. Gordon, M. C. R. Grahame, Joseph Green, J. C. Grieve, G. F. Grogan, George Gunn, Mary D. Hancock, A. J. Harper, A. S. Hendrie, H. S. A. Hogg, F. O. Inglis, R. F. Johnson, H. C. Johnston, W. L. Johnston, R. Lloyd Jones, Alexander M'Donald, D. F. Mackenzie, John B. Mackenzie, I. R. Macleod, George M'Mullan, A. C. B. M'Murtrie, W. J. MacNab, A. S. Mactavish, J. N. M'Turk, David Mann, G. M. Melville, Hugh Millar, F. C. Mills, B.A., John Morris, Janet M. Murray, J. K. Murray, R. H. Nolan, Ethel A. Olchard, J. S. Orwin, A. S. Paterson, H. B. Porteous, C. A. Purnell, G. Y. Richardson, W. H. Riddell, W. R. Ridley, W. G. Rivers, R. M. Robb, W. G. Robertson, Frank Ross, Alexander Sandison, James Scott, T. H. Scott, H. L. Sells, H. G. Smith, A. G. V. van Someren, H. V. Taylor, W. A. A. Taylor, J. A. R. Thompson, Annie D. Urquhart, V. S. Vallathan, B.A., Philip Vickerman, R. H. Walton, Andrew Wight, W. E. R. Williams, and J. T. D. Young.

Second Professional Examination.—R. G. W. Adams, E. A. Aylward, J. W. H. Babington, J. M. Barkley, R. B. Barnetson, Benjamin Baty, W. P. Beattie, Douglas Bell, L. H. I. Bell, A. R. Berrie, J. M. Beyers, A. S. L. Biggart, F. T. Bowerbank, David Brown (with distinction), T. B. Carlyle, V. T. Carruthers, Mildred M. L. Cathels, J. W. Cathles, G. S. Clark, M.A., A. G. Coullie, James Craw, W. B. Cullen, George Cunningham, W. H. Cusack, J. M. Darling, J. R. Dobbin, C. E. Dumanoire, T. H. Easton, N. C. Fischer, J. M. R. Flamet, N. C. Forsyth, R. H. Fothergill, Louis Fourie, A. N. Fraser, W. J. Fraser, Laurence Gavin, N. J. H. Gavin, H. M. Gillespie, A. G. Glass, M.A., William Godfrey, J. M. Graham, W. W. Greer, John Grieve, P. A. Harry, Ephraim Henderson, M.A. (with distinction), A. W. Hogg, Jean S. Hogg, R. B. Hole, G. S. Husband, K. U. A. Inniss, Ada Jackson, William Jarvis, S. A. Johnston, J. H. H. Joubert, John Kirk, G. F. S. Landok, S. W. S. Leary, A. J. Lewis, James Lochhead, M.A. (with distinction), J. B. Lockerbie, A. D. M'Callum, John MacDonald, J. P. M'Gowan, M.A., H. R. Macintyre, R. J. Mackessack, Amy M. Mackintosh, D. P. Marais, Aimée E. Mills, M.A., B.Sc., L. S. Milne, T. B. Mouat, W. M. Mumby, D. S. Murray, Claude O'Flaherty, Archibald Oliver, C. D. O'Neal, E. G. S. Orbell, Garfield Ormrod, Florence M. S. Price, H. S. Reid, Margaret H. Robertson, Shiela M. Ross, C. S. Ryles, F. R. Sinton, L. H. Skene, C. J. Smith, G. M. C. Smith, W. A. Wilson Smith, R. A. L. van Someren, Patrick Steele, Hugh A. Stewart, A. C. Strain, K. A. Moody Stuart, Annie F. Theobalds, H. M. Thompson, Rose C. Townend, G. H. Usher, F. L. de Verteuil, R. W. L. Wallace, D. C. Welsh, D. P. D. Wilkie, F. A. Wille, W. B. Wishart, C. H. Wright and Margaret C. Young.

Third Professional Examination.—R. T. G. Aickin, Daniel Allison, J. A. Anderson, W. W. Anderson, F. L. Atkinson, Agnes Balfour, C. M. Begg, A. W. Beveridge, T. C. Blackwell, John Brennan, Edith C. Brown, J. E. M. Brown, G. L. Brunton, Agnes Buchanan, Harry Caird, T. P. Caverhill, R. A. Chambers (with distinction), Katherine J. S. Clark, Elizabeth L. Colby, C. H. Craig, R. W. Craig, C. S. Crichton, D. M'K. Crooks, D. Halliday Croom, F. D. Crosthwaite, W. B. A. K. Cullen, Arthur Dangerfield, J. M. Darling, H. S. Davidson, James Davidson, W. H. Davison, D. E. Derry, A. C. Devereux, J. M. Dewar, James Donaldson, M.A., A. M. Dryden (with distinction), Alice M. Ebden, G. J. Earle, John Findlay, H. N. Fletcher, John Fortune, C. R. Gibson (with distinction), F. H. Gibson, J. D. Giles, James Girdwood, J. M. Glasse, Alexander Gray, M.A., Elizabeth C. Gunn, A. Mabel Gurney, A. A. Hall, M.A., C. R. F. Hartley (with distinction), G. W. Harty, George Henderson, A. E. Hodgson, A. F. Hughes, J. P. P. Inglis, J. M. Johnston, R. W. Johnstone, J. H. Jones, J. H. Kay, J. W. Keay, Ivan C. Keir, E. A. King, J. M. Kirkness, L. A. H. Lack, F. T. C. Linton, M.A., C. D. Lochrane, Isabella Logie, J. M. Lovett, Alexander Lundie, Henry MacCormac, J. R. M'Gregor, N. D. Mackay, T. A. MacKenzie, Violet C. M'Laren, William MacLaren, J. J. M'Millen, J. B. M'Neill, I. M. Macrae, H. C. Martin, R. H. Martin, P. W. Mason, A. G. M. Middleton, A. S. Millard, G. H. S. Milln, W. S. Milne, C. R. P. Mitchell, G. I. Moriarty, C. H. Muller, H. L. Munro, D. M'K. Newton (with distinction), Thomas Nicol, W. H. Nutt, D. D. Paton, M.A., Thomas Peebles, J. A. Pottinger, Julius L. Pringle, W. L. Pritchard, William Readman, Eva A. Robertson, W. Sibbald Robertson, Amy Robinson, L. C. Robinson, J. A. Ross, Mabel Ross, J. A. Roux, N. C. Rutherford, D. G. Addison Scott, D. J. Scott, J. E. Scott, M.A., W. M. Selby, G. H. Skinner, J. H. Smith, S. W. Smith, E. W. Smyth, Eva M. Snowball, Effie Stuart, John Tait, J. E. Taylor, T. T. Thomson, G. C. Trotter, E. A. Turpin, Robert Veitch, J. A. L. Wallace, W. R. S. Watkins, G. J. Wentzel, Leonard West, R. M. Manwaring White, C. H. Wright, B.A., W. D. Wright (with distinction), and G. W. Young.

Third Professional Examination (New Regulations—Pathology only).—Samuel Burns, M.A.

Conjoint Board of the Royal Colleges of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow.—At the April meetings held in Glasgow the following candidates passed their respective examinations:—

First examination (five years' course).—Fred. Miller Murray, Glasgow; Frederick Barnes Elwood, Belfast; Andrew Ford Garrand, Glasgow; John Wm. Nelson Roberts, Wales; Frederic James Breakell, Preston; Evan Alan S. Shaw, Callao; and Edward Francis Nyhan, Dunmanway.

First examination (four years' course).—John Stothart Farries, Dumfriesshire; Alexander Jack, Co. Antrim; and George Munro MacLeod, Edinburgh.

Second examination (five years' course).—George Hart, Parkhead; Charles Chaves, Bombay; Archibald Frank Spinks, Partick; Alexander Robb M'Intyre MacIlraith, Cathcart; William Wallace Dempster, Dublin; Samuel Robert Scott, Co. Down; Edward Ernest Murphy, Co. Cork; Evelyn Morris Franklin, Co. Cork; and Frederick Wm. March, Bradford.

Second examination (four years' course).—Adam Ardill, Co. Tipperary; and Joseph Edmund Mullan, Coleraine.

Third examination.—Alexander Allan, Dennistoun (with distinction); Robert Septimus Walker, Sunderland; Reginald Norman Macdonald, Buenos Ayres; William Robert Addison Coates, York; Harry Armstrong, West Hartlepool; John Bertram L. S. Scott, Manchester; Dennis Woodley Purkis, Cambridge; Lizzie Denny, Reading; and William Douglas Cockburn, Catrine.

Final examination (and admitted Licentiates of the three Colleges).—Henry Leighton Jones, New South Wales; Thomas Weir M'Cubbin, Glasgow; William Thomson, Glasgow; Edwin Norman de Vere Dawson, W. Kensington; Henry Solomon, Manchester; Stanley Lister G. D. Maclaine, Uddingston; Charles Vaughan Craster, Stevenage, Herts; William Henry Duncan, Maryhill; Hugh Williams, Talysarn, Wales; Terence Aloysius Welch, Dodington, Whitchurch, Salop; and Patrick Carroll, Kildonery, Co. Cork.

Foreign University Intelligence.—*Berlin:* Dr. E. Opitz has been recognised as *privat-docent* of Gynæcology, Dr. M. Ficker as *privat-docent* of Hygiene, Dr. Richard Henneberg as *privat-docent* of Neurology and Psychiatry, and Dr. K. Kaisering as *privat-docent* of Physiological Anatomy.—*Budapest:* Dr. Leo Liebermann has been promoted to the chair of Hygiene in succession to the late Dr. von Fodor.—*Jena:* Dr. H. Eggeling of Strasburg has been recognised as *privat-docent* of Anatomy.—*Lille:* Dr. Carlier has been appointed to the chair of External Pathology.—*Lyons:* Dr. Jaboulay has been appointed to the chair of Clinical Surgery.—*Naples:* Dr. C. Grossi has been recognised as *privat-docent* of Medical Pathology and Dr. Ceraso as *privat-docent* of Otology.—*Pavia:* Dr. G. Masnata of Palermo has been recognised as *privat-docent* of Operative Medicine.—*Philadelphia Polyclinic:* Dr. Geo. C. Stout has been appointed to the chair of Otology, in succession to Dr. Alex. Randall, resigned.—*Pisa:* Dr. Carlo Fedeli, Extraordinary Professor, has been promoted to the Ordinary Professorship of Medical Pathology; Dr. Baldi has been promoted to the Ordinary Professorship of Materia Medica and Pharmacology.—*Prague (Bohemian University):* Dr. R. Kimla has been recognised as *privat-docent* of Pathological Anatomy.—*Turin:* Dr. O. Modica has been recognised as *privat-docent* of Forensic Medicine.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced:—Dr. Adolf Jarisch, Extraordinary Professor of Dermatology and formerly assistant to Professor Hebra in Vienna. His age was 52 years.—Dr. Heinrich Lahs, Extraordinary Professor of Gynæcology in the University of Marburg.—Dr. Crouzat, Professor of Clinical Midwifery in Toulouse.—Dr. Moritz Kaposi, Professor of Dermatology in the University of Vienna, at the age of 65 years. He was assistant to Professor Hebra and ultimately succeeded him. His publications on Dermatology are numerous and well known.—Dr. J. T. Metcalfe, formerly Professor of Medicine in the New York College of Physicians and Surgeons.—Dr. C. H. Burnett, Professor of Otology in Philadelphia.—Dr. Münde, Professor of Gynæcology in New York.—Dr. Christian Fenger, Professor of Surgery in the Rush Medical College, Chicago.—Dr. Bouqué, Professor of Surgical Pathology in the University of Ghent.—Dr. J. Lazarevich, formerly Professor of Midwifery, Gynæcology, and Children's Diseases in the University of Kharkoff. He died at St. Petersburg, aged 72 years.—Professor Ivan Balinski, formerly Professor of

Mental Diseases in the Medico-Chirurgical Academy of St. Petersburg.—Dr. G. Inzani, formerly Professor of Pathological Anatomy in the University of Parma.—Dr. Mott Moore, a well-known surgeon of Buffalo.—Dr. W. W. Johnston, formerly Professor of Medicine in the Columbian University, Washington.—Dr. Cushing, Lecturer on Gynæcology in Long Island Hospital, Brooklyn.—Dr. George M. Warner, Professor of Materia Medica and Therapeutics in the Louisville Medical College.—Dr. Josef Schöbl, Professor of Ophthalmology in the Bohemian University, Prague.—Dr. Robert, a Barcelona physician.—Dr. Bruzelius, formerly Professor of Pathology and Therapeutics in the Stockholm Medical School.

CHILDREN'S FRESH AIR MISSION.—The annual meeting of the Children's Fresh Air Mission was held in the great hall of the Charterhouse on April 29th, when the Master of the Charterhouse, the Rev. Dr. Haig Brown, presided. The report stated that last year 3293 children from very poor districts of London, chiefly Clerkenwell, St. Luke's, and Holborn, had been sent to the country for a week or more at a total cost of £2126. The parents themselves had contributed £464. The Bishop of Bristol, who proposed the adoption of the report, said that this mission, by giving children a taste of rural life, tended to help a movement which was absolutely necessary—a dispersion of London's overcrowded population into the country.

BARROW HOSPITAL.—Judge Parry's report concerning charges made against the management of the North Lonsdale Hospital was read at a meeting of the hospital council on April 16th. He found that the statements made to the guardians about a patient named Owens by Dr. D. H. Anderson were incorrect in fact. "Owens made statements to Dr. Anderson which the latter repeated in good faith," and "the hospital management did only what was correct" in the case. He stated also that the cases of delay in being seen by the house surgeon seemed to have been unavoidable "and there was no evidence that any of them had sustained injury by delay." As to two complaints of treatment, Mr. W. P. Montgomery of the Manchester Infirmary, the surgical assessor, reported that the treatment was correct. The honorary staff of the hospital considered that, except on comparatively rare occasions, there was no occasion for two house surgeons and the judge stated that Mr. Montgomery concurred with them, but he thought it advisable that the council should consider the matter. In the two cases referred to he stated that a night nurse had been reprimanded and that no blame attached to the council or house surgeon. In the second case there was a claim for wrong treatment by the house surgeon of which there was no evidence and the council "most unwisely" paid the man £15. In conclusion, the judge suggested that the council meetings should be held weekly instead of monthly and that the yearly accounts should be set out in greater detail. He said that "in his opinion the hospital is in every way efficient and the results of the treatment most creditable to the staff."

THE ROYAL INSTITUTION.—X Rays and Localisation formed the subject of the Friday evening discourse delivered at the Royal Institution on April 25th by Mr. J. Mackenzie Davidson. In speaking of the photographic use of the rays he said that the definition of a photograph taken with them depended on the relation of the cathode and the anti-cathode in the vacuum tube. The rays originated at the point where the cathode stream met a solid—namely, at the anti-cathode, but the anti-cathode did not stop all the stream, part of which passed on till it encountered the glass walls of the tube, when there was a further production of x rays, although of a less powerful quality. The rays therefore radiated from a comparatively large surface and the sharpness of the shadows was interfered with, but better definition could be obtained when the circumferential rays were intercepted by surrounding the tube with a compound of lead which could be scraped away at the point where it was desired that the rays should emerge. There were considerable differences between the effects produced on sensitive photographic surfaces by the x rays and by ordinary light. If the hand was laid upon a pile of six ordinary sensitive films the x rays would give a picture on each of them, the distinction between that on the uppermost and on the undermost film being very slight, and several such negatives might sometimes be combined when a positive was to be taken. If a plate was given a short exposure to ordinary light before a picture was taken on it with x rays no special effect was produced beyond some fogging of the plate but if the short exposure to ordinary light followed the taking of the x-ray picture the developed photograph was reversed. This curious phenomenon had been studied not only in this country but also by Professor Nephir in America. Mr. Davidson showed this experiment. The figure of a crown cut out in a flat piece of thin lead supported on a sheet of cardboard was laid on a sensitive plate contained in a light-proof envelope and an exposure of two minutes to the x rays was given. The plate was then completely uncovered and exposed to the ordinary illumination of the room for five minutes, after which it was developed and the figure of the crown was seen to be black on a light background. The method of photographing metallic objects embedded in the human body was also shown, as well as the "cross-thread localiser" for ascertaining the depth of penetration.

VACCINATION GRANT.—Mr. T. Messenger, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has received the vaccination grant as public vaccinator for Bowness district of the Wigton Union, Kirkbride, near Carlisle.

LITERARY INTELLIGENCE.—Messrs. Longman are about to issue a new work by Dr. G. V. Poore, entitled "The Earth in Relation to Contagia." This volume will include the Milroy Lectures of 1899, together with papers on the Sanitation of Camps, on the Disposal of Slop-water, and on Milk in Relation to Disease.

FRENCH HOSPITAL DINNER.—The thirty-fourth annual dinner in aid of the funds of the French Hospital in Shaftesbury-avenue took place on April 26th at the Hotel Cecil, the French Ambassador, M. Paul Cambon, being in the chair, supported by the Lord Mayor, the Belgian Minister (Baron Whetnall), the Swiss Minister (M. Bourcart), the Servian Minister, and other members of the diplomatic and consular services. The Chairman, in proposing the toast of the evening, mentioned in terms of regret that the hospital had lost a warm friend and devoted officer in the person of the late Sir William Mac Cormac, Bart., K.C.B., K.C.V.O., who was for so many years honorary surgeon to the hospital. He spoke highly of the services rendered by Mr. Edmund Owen and Dr. George Ogilvie, and he said that it was his pleasure for the fourth time to sing the praises of Dr. Vintras whose two children—the hospital and the convalescent hospital at Brighton—were now well on their feet. He added that the French Government had made a donation of 100,000 francs to the funds which he hoped would largely benefit by the fêtes which were shortly to be held at Earl's Court under the patronage of the Prince and Princess of Wales, thus enabling them to clear off their debts and to place the institution on a firmer basis. The musical programme, which was deferred until after the toast-list had been exhausted, comprised songs by Madame Hélène Palacek, Signor Umberto Salvi, Miss Florence Venning, and Mr. G. Hodgson, under the direction of Chevalier Tito Mattei.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, APRIL 24TH.

Medical Provision in the Scottish Highlands.

MR. WEIR asked the Lord Advocate if he would state the number of parochial medical officers in each of the six crofting counties who did not possess the public health diploma required under the Public Health Act, 1897, and if he would state why the Local Government Board for Scotland continued to confirm the appointment of medical officers in Highland crofting counties regardless of the conditions imposed by statute.—The LORD ADVOCATE replied: The Secretary for Scotland is informed by the Local Government Board that the figures are as follows: Argyll County, 23 local medical officers, of whom three possess the statutory qualification; Inverness County, 10 local medical officers, of whom one possesses the statutory qualification; Ross and Cromarty, 11 local medical officers, of whom two possess the statutory qualification; Sutherland County, no local medical officers; Caithness County, no local medical officers; Orkney and Shetland, three local medical officers, none of whom possess the statutory qualification. The medical officers who do not possess the public health diploma were appointed prior to the coming into operation of the Public Health (Scotland) Act, 1897 and consequently do not require to possess the qualification. The Local Government Board does not recognise new appointments of medical officers who do not possess the statutory qualification.

Poor-law Nursing in Ireland.

DR. E. C THOMPSON asked the Chief Secretary to the Lord Lieutenant of Ireland if he was aware of the dissatisfaction which existed in Ireland with the qualifications required by the Local Government Board for district hospital nurses; and if he would appoint a small independent committee to consider the question.—Mr. WYNDHAM replied that he was prepared to consider the advisability of appointing such a committee, though he could not pledge himself to do so. The reforms which had been instituted by the Local Government Board had produced very satisfactory results and he would not like to do anything which would prejudice the work of the Board in this connexion.

The Conscientious Objector.

Two questions were addressed to the Home Secretary with regard to the action of magistrates at Beccles and Grimstone in refusing certificates of exemption to applicants who declared that they had conscientious objection to vaccination and in each case Mr. RITCHIE said that he had no power to interfere.

FRIDAY, APRIL 25TH.

Medical Officers of Health.

On the motion of Sir FRANCIS POWELL a Bill was introduced and read a first time "to amend the law relating to the qualification and tenure of office of medical officers of health and inspectors and to make further provisions relating to superannuation allowances for such officers and inspectors, and for other purposes."

MONDAY, APRIL 28TH.

Ophthalmia and Ringworm in Poor-law Institutions.

Mr. FLOWER asked the President of the Local Government Board if he could state the number of children at present suffering from ophthalmia and ringworm respectively in metropolitan Poor-law schools and institutions.—Mr. LONG replied: According to the latest information in my possession the number of children suffering from ophthalmia and ringworm respectively was 413 and 325 in metropolitan Poor-law schools and 351 and 294 in metropolitan workhouses and infirmaries.

TUESDAY, APRIL 29TH.

London Water Charges.

Mr. WEIR asked the President of the Local Government Board whether he was aware that the West Middlesex Water Company had quite recently raised its charges to consumers, and seeing that a Bill for dealing with the London water-supply was now before Parliament would he state whether any other metropolitan water companies had also raised their charges since the introduction of that Bill, and, if so, would he give their names.—Mr. LONG replied: I am informed that from Christmas last the company referred to has reduced the rebate which since 1894 it has allowed on water charges from 10 per cent. to 5 per cent. The alteration is stated to have been rendered necessary owing to the payment which the company has to make to the City Chamberlain under its Act of 1894 and to increased rates and charges for labour and materials. Notice of the alteration was sent to the local authorities in the district on Nov. 1st and an explanation is printed on all the application papers. I am not aware whether any other of the metropolitan water companies have recently raised their charges.

Sickness on Board a Training-ship.

Mr. ARNOLD-FORSTER, in reply to a question by Mr. KEARLEY, said that there had been a considerable amount of sickness among the boys on board the training ship *Impregnable* at Devonport. There had been an epidemic of scarlet fever in a mild form but he was glad to say that it was on the decline. In February last, in view of the presence of scarlet fever, a rigid inspection of the ship was made by the Inspector-General of Plymouth Hospital who reported that the sanitary conditions were in every way satisfactory and that disinfection was being carried out in a very efficient manner. The last case of scarlet fever occurred on April 21st, and in view of the decline in the number of cases and of the rigorous measures which had been taken to disinfect the ship it was hoped that the disease might have been stamped out. Should this prove not to be the case further measures would be taken for the protection of the health of the boys.

Disease in the Island of St. Kitts.

Mr. PIRIE asked the Secretary of State for the Colonies if the inhabitants of St. Kitts had petitioned that prisoners of war should be confined there and if the Governor had supported that petition; and could he state if prisoners were confined there and if troops had been sent there to guard them; was he aware, according to the report issued from the London School of Tropical Medicine, that every third person in the island was suffering from filariasis which was an early stage of elephantiasis; and would this matter receive his attention in coming to any decision on the matter.—Mr. CHAMBERLAIN, in reply, said: Some leading residents in St. Kitts have suggested that Boer prisoners might suitably be sent to that island, but the Governor has not endorsed the request and no prisoners or troops have been sent nor is there any present intention of sending them.

Cremation Bill.

The Grand Committee on Law met to-day for the consideration of the Cremation Bill, a measure designed to enable burial authorities to establish crematoria and to provide for the proper regulation of the burning of human remains In Clause 4 an amendment was made requiring the site as well as the plans of a projected crematorium to be approved by the Local Government Board. As Clause 5 came before the Committee it proposed that no crematorium should be constructed nearer to any dwelling-house than 200 yards except with the consent in writing of the owner, lessee, and occupier of the house, and Mr. H. D. GREENE moved to add to this the words, "nor within 50 yards of any public path or way nor in the consecrated part of the burial-ground of any burial authority." After some discussion the Committee accepted this addition to the clause. Clause 7 directs the Home Secretary to make regulations prescribing in what cases and under what conditions the burning of human remains may take place.—On the motion of Mr. GREENE words were inserted in this clause requiring the Home Secretary to make regulations as to the disposition or interment of the ashes.—Mr. JACOBY raised the question of the danger of poisoning cases escaping detection, and Mr. JESSE COLLINGS, speaking as the representative of the Home Office, assured the hon. Member that in framing the regulations the department would keep this matter in view and require every possible precaution to be taken.—On the motion of Mr. GREENE a new clause was inserted to secure that the incumbent of an ecclesiastical parish shall not, with respect to his parishioners or persons dying in his parish, be under any obligation to perform a funeral service before, at, or after the cremation of their remains.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number*

BOND, F. T., M.D. Lond., has been re-appointed Medical Officer o Health to the Tetbury Urban District Council.

BROUGH, DANIEL, M.B., C.M. Edin., L.R.C.P. Lond., M.R C.S., has been appointed Deputy Medical Officer of Health for the Borough of Devonport.

BROWN, H., M.B., Ch.B. Vict., has been appointed Resident Obstetric Officer to the General Infirmary, Leeds.

BROWNE, A. E N., L.R.C.P. & S. Edin., has been appointed Acting Visiting Surgeon, *pro tem.*, to the Gaol at Wagga Wagga, N.S.W.

CLARKSON, W., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health to the Morpeth District Council.

DODGSON, H., M.B., Ch B. Edin., has been appointed Senior Assistant Medical Officer to the Cumberland and Westmorland Asylum.

ELDER, J. B., M B., Ch.B. Aberd., has been appointed Junior Assistant Medical Officer to the Cumberland and Westmorland Asylum.

GAMBLE, M. F., L.R.C.S. Edin., has been appointed Medical Superintendent, *pro tem.*, of the Ballarat Lunatic Asylum, Victoria, N S.W.

HEARNE, W. W., M.B. Vict., has been appointed Public Vaccinator, *pro tem.*, for the North-Eastern Vaccination District of Victoria. N.S.W.

HINGSTON, CHARLES ALBERT, M D., B.Sc. Lond., M.R.C.S., has been appointed Honorary Physician to the Crownhill Convalescent Home, near Plymouth.

HONMAN, ANDREW, M R.C.S., has been appointed Certifying Medical Practitioner for the purposes of the Factories and Shop Acts at Williamstown, Victoria, N.S.W.

JONES, HERBERT, L.R.C.S. Irel., L.S.A., has been appointed Medical Officer of Health for the Bromyard Urban District.

LAIRD, ANDREW J., M.D., D.P.H., Assistant Medical Officer of Health for the County of Lanark, has been appointed Medical Officer of Health for the Borough of Crewe.

LEMARCHAND, ARTHUR WHARTON, L.R.C P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the North Devon Infirmary, Barnstaple, vice Dr. Mark Jackson, resigned.

LYNCH, PETER, L.R.C.P., L.R.C.S. Edin., has been appointed Certifying Medical Practitioner for the purposes of the Factory and Shop Acts at Carlton, Victoria, N.S.W.

MELLAND, CHARLES HERBERT, M.D. Lond., M.R C.P., has been appointed Honorary Physician to the Ancoats Hospital, Manchester.

MUIR, W. C. C., M.B. Glasg., has been appointed Medical Officer of Health for the Shire of Alberton, Victoria, N.S.W.

MULLEN W. L., M.D. Melb., has been appointed Medical Superintendent *pro tem.*, to the Yarra Bend Lunatic Asylum, Victoria, N.S.W.

PARK, J. S., L.R.C.P. Lond., has been appointed Officer of Health for the Shire of Cranbourne, Victoria, N.S.W

PEIPERS, F., M.D. Berl., has been appointed Officer of Health for the Shire of Korong, Victoria, N.S.W.

STEVENSON, ROBERT, M.D., has been appointed Medical Officer of Health to the Bootle Postal District.

TIPPETT, SYDNEY G., M.B. Lond., has been appointed Assistant Surgeon to St. Bartholomew's Hospital, Chatham.

TURNER, A. F., L.R.C P , L.R.C.S. Edin., has been re-appointed Medical Officer of Health to the Tewkesbury Corporation.

WALLACE, J. SIM, M.D., D.Sc., L.D.S. Eng., has been appointed Honorary Dental Surgeon to the West End Hospital for Diseases of the Nervous System.

WILLIAMSON, R. T., M.D., F.R.C.P. Lond., has been appointed Honorary Assistant Physician to the Manchester Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Resident Surgical Officer. Salary £100 per annum, with apartments, board, and attendance.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Edmund-street.—Surgeon.

BRADFORD ROYAL INFIRMARY.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and residence.

CANCER HOSPITAL, Fulham-road, S.W.—Junior House Surgeon. Salary at rate of £70 per annum, with board and residence.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Registrar. Honorarium of 20 guineas per annum.

CORNWALL ROYAL INFIRMARY.—House Surgeon (unmarried). Salary £100, increasing, with board and apartments.

DUDLEY, THE GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

FISHERTON ASYLUM, Salisbury.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Senior Clinical Assistant.

HOSPITAL FOR WOMEN, Soho-square.—Clinical Assistantships.

KENT COUNTY ASYLUM, Barming Heath, Maidstone.—Fourth Assistant Medical Officer and Pathologist, unmarried. Salary £175 per annum, rising to £200, with quarters, attendance, &c.

Kincardine, Ross-shire, Parish Council.—Resident Medical Officer. Salary £72 10s. as Medical Officer and £5 per annum as Vaccinator, with lunacy fees in addition.

Kings Norton and Northfield Urban District Council and Infectious Diseases Hospital.—Medical Officer of Health and Medical Superintendent. Combined salary £500 per annum.

Liverpool, David Lewis Northern Hospital.—Assistant House Surgeon. Salary £70 per annum, with board and residence.

Liverpool Stanley Hospital.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing; also Third House Surgeon. Salary £70 per annum, with board, residence, and washing.

Miller Hospital and Royal Kent Dispensary, Greenwich-road, S.E.—Junior Resident Medical Officer. Salary £80 per annum, with board, attendance, and washing, and prospect of re-election as Senior (salary £100).

Norfolk and Norwich Hospital.—Assistant House Surgeon for six months. Honorarium £20, with board, lodging, and washing.

North-West London Hospital, Kentish Town-road.—Resident Medical Officer. Also Assistant Resident Medical Officer, each for six months. Salary at rate of £50 per annum, with board, residence, and washing.

Royal Albert Hospital, Devonport.—Resident Medical Officer. Salary £110 per annum, with board and lodgings.

St. Giles, Camberwell Workhouse, Constance-road, East Dulwich.—Locum Tenens for the Medical Officer for four weeks. £4 4s. per week, with board and residence.

St. Mary's Hospital, Paddington.—Surgeon-in-Charge of Out-patients.

Seamen's Hospital Society, Greenwich.—Surgeon; also Honorary Anæsthetist.

Suffolk General Hospital.—House Surgeon. Salary £100 a year, with board, lodging, and washing.

Tottenham Hospital.—House Surgeon. Salary £50 per annum, with board, residence, and laundry.

Tunbridge Wells General Hospital.—House Surgeon, unmarried. Salary £125 per annum, with board, apartments, and attendance.

Wandsworth and Clapham Union, Home for Aged and Infirm, Church-lane, Tooting.—Assistant Medical Officer, unmarried. Salary £100 per annum, rising to £120, with apartments, board, and lodging.

Western General Dispensary, Marylebone-road, N.W.—Second House Surgeon, unmarried. Salary £80 a year, with board, residence, and laundry.

West Riding Asylum, Wakefield.—Pathologist and Assistant Medical Officer. *Salary £140, rising to £160, with apartments, board,* washing, and attendance.

Weymouth and Melcombe Regis Urban District Council.—Medical Officer of Health. Salary £300 per annum.

Wigan Infirmary.—Junior House Surgeon. Salary £80 per year, with apartments and rations.

Worcester General Infirmary.—House Physician, unmarried. Salary £70 per annum, with board, residence, and washing.

Births, Marriages, and Deaths.

BIRTHS.

Buzzard.—On April 28th, at Grosvenor-street, W., the wife of E. Farquhar Buzzard, M.B. Oxon., M.R.C.P. Lond., of a son.

Jackson.—On April 24th, at Carntyne, Hexham, Northumberland, the wife of John A. Jackson, M.D. Glasg., of a son.

Lemon.—On April 28th, at Burnt Ash-road, Lee, Kent, the wife of Edward Henry Lemon, M.R.C.S., L.R.C.P. Lond., of a son.

Rubel.—On the 18th inst., at the Red House, River, Dover, the wife of J. L. Rubel, M.R.C.S., of a daughter.

MARRIAGES.

Bothwell—Stumke.—On Thursday, March 27th, at Bulawayo, by the Rev. J. G. Aldridge, George Granville Bothwell, M.B., C.M. University Aberdeen, eldest son of the late G. G. Bothwell, M.R.C.S., L.R.C.P., of Topsham, Devonshire, England, to Stella, eldest daughter of Charles August Stumke, of Uitenhage, Cape Colony.

Carre—Montgomerie-Fleming.— On April 23rd, at St. Mary's Episcopal Church, Glasgow, Henry Carre, L.R.C.P., L.R.C.S. Irel., to Elisabeth Tennent, eldest daughter of the late J. B. Montgomerie Fleming, of Kelvinside.

Cobbledick—Whitton.—On April 24th, at St. Luke's Church, W. Hampstead, London, N.W., by the Rev. J. Salwey, Arthur Stanbury Cobbledick, M.D., B.S. Lond., M.R.C.S., L.R.C.P. Eng., second son of John Osborn Cobbledick, of Lyndhurst, Clifton, Bristol, to Jessie, the fourth daughter of William Whitton, of Springfield, Stradbally, Queen's co., Ireland.

Felce—Fenemore.—On April 24th, at Widcombe Church, Bath, Stamford Grant Felce, M.A., M.D., B.C. Cantab., to Edith, daughter of the late John Fenemore, of Alcester.

Lewis—Symes-Thompson.—On April 22nd, at St. George's, Hanover-square, Ernest B. Lewis, M.D. Brux., to Lilian, elder daughter of Dr. E. Symes-Thompson.

DEATHS.

Christy.—On the 27th inst., at 21, Princes-chambers, Hanover-square, W., William Beresford Chambers Christy, M.D., late R.N., aged 77 years. Colonial papers please copy.

Finley.—On April 27th, at West Malvern, John Edward McKelvie, the son of Harry Finley, M.D. Lond., aged 13 weeks.

Gerard.—On April 8th, at Perth, of acute phthisis, John Gerard, M.A., M.D. Aberd., M.R.C.P. Lond.

Kirby.—On the 4th March, at his residence, Cerne Abbas, Bournemouth, Edmund A. Kirby, M.D., in his 78th year, dearly loved and deeply mourned.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE "Y" FUND.

Surgeon-General H. S. Muir begs to acknowledge, with thanks, donations towards the "Y" Fund from Lord Rothschild, Sir William H. Broadbent, Bart., K.C.V.O., Sir Thomas Smith, Bart., K.C.V.O., Surgeon-General and Mrs. J. B. Hamilton, Colonel and Mrs. Clibborn, Mrs. Percy D. Cox, Mrs. Munkittrick, Mrs. Charters Symonds, "A Lady" (through Lieutenant-Colonel Drake-Brockman), Mr. Howard Marsh, Sir James R. D. McGrigor, Bart., Mr. E. A. Bliss, Dr. J. E. Squire, Surgeon-Lieutenant J. J. Crean (retired), Lieutenant-Colonel J. H. Reynolds, V.C., A.M.S. (retired), Lieutenant-Colonel W. Babtie, C.M.G., V.C., R.A.M.C., Lieutenant-Colonel J. Anderson, R.A.M.C., Lieutenant-Colonel Emerson, R.A.M.C., and Major W. B. Leishman. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of The Lancet desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 28, Kensington-gardens-terrace, Hyde Park, London, W.

THE PREHISTORIC REMAINS RECENTLY ACQUIRED BY THE BRITISH MUSEUM.

To the Editors of The Lancet.

Sirs,—In an interesting letter under the above heading in The Lancet of April 26th, p. 1223, Mr. N. Stevenson gives several points worthy of notice; one especially may be enlarged upon. He says: "The dried body is shown just as it was found lying on its left side, with its thighs doubled up under it, in an exact model *of the grave, with all its neolithic flint instruments, &c., in situ.*" There can be no doubt that originally the body was placed *in the sitting posture as is so often found in prehistoric* burial-places, but had lost that position from gravitation. Many bodies were even tied into that doubled-up posture and buried sitting. In other words, in the same position as the human body is in the uterus or womb until within a short time before birth. May we not, then, infer that prehistoric man placed his deceased brother in the tomb or second womb in that same position ready for the second birth or resurrection and credit them with a religious belief, further substantiated by the implements, &c., found entombed with them?

I am, Sirs, yours faithfully,

April 29th, 1902. R. Henslowe Wellington.

A REVOLVING SHELTER FOR PHTHISICAL AND OTHER CASES.

Sanitation writes:—"Could you obtain for me through the medium of the correspondence column of The Lancet information as to the best class of 'revolving shelter' for phthisical and other cases, with a reference to any existing shelters of this class in English sanatoriums?" Our correspondent is in charge of a highly important public institution and we shall be obliged to anyone who can give him the information that he seeks.

MAXIMA DEBETUR MORTUIS REVERENTIA.

We have all heard of the American ladies whose sense of modesty was such that they clothed the legs of their tables and chairs in nether garments. The following occurrence at one of the great London hospitals is illustrative of feeling every whit as nice. A cold storage chamber was being constructed in connexion with the post-mortem room and the secretary of the hospital, on going to see how the work was getting on, found that the chamber was being fitted with double doors—and those of small size—instead of one large door. He made inquiries as to the reason for this deviation from the original plan, when the chief carpenter, who was superintending the work, replied: "Oh, sir, we are putting in double doors and a wooden partition in order to keep the sexes apart"!

FOREIGN MEDICAL LITERATURE.

To the Editors of The Lancet.

Sirs,—Could any of your readers give me the names of the leading German and Austrian medical weeklies and monthlies—those corresponding to The Lancet and the *American Journal of the Medical Sciences*? Who are the leading medical booksellers of Berlin and Vienna?

I am, Sirs, yours faithfully,

April 28th, 1902. Northern Reader.

ACUTE LUMBAGO.

To the Editors of The Lancet.

Sirs,—I beg to bring before your readers a treatment which I have adopted in this common disease and which I have no hesitation in saying will give relief quicker than the usual belladonna liniments or plasters. The patient is put in bed and is surrounded with blankets. The bowels are cleared out by giving a saline purge, followed by a mixture of salicylate of soda, bicarbonate of potassium, and wine of colchicum. Then a compress is made by taking a piece of mackintosh

18 by 10 inches, to this being fixed two layers of flannel 16 by 8 inches; these are stitched to a broad flannel bandage, or, what is better, the compress is fastened to the inner surface of a pair of pants, the pad having been soaked in a strong solution of salicylate of soda (one drachm to one ounce). This is kept applied to the lumbar region. Next an indiarubber bottle filled with boiling water is placed against the loins. From personal experience I can recommend this treatment to any of my medical brethren should they unfortunately suffer from this very painful complaint.—I am, Sirs, yours faithfully,

April 29th, 1902. M.D.

P.S.—The diet should consist of milk and milk puddings, with plenty of lithia water to drink.

THE ETIOLOGY OF BALDNESS.

MANY are the causes of baldness. In THE LANCET of April 5th, p. 983, we drew attention to some recent suggestions issued by the New York Board of Health as to greater precautions against septic infection in the appliances used by hairdressers. Dr. A. R. Reynolds, Commissioner of Health of Chicago, has expressed in the *Chicago Tribune* his doubt of the importance of microbic infection in causing baldness and he lays stress on the harmful effect on the hair produced by the pressure of the ordinary hat. There is much to be said in favour of this theory, for the pressure of the hat on the scalp is often shown by the redness produced. Yet few dermatologists will admit that such pressure is the sole or even the chief cause. Baldness frequently extends backwards beyond the line of pressure of the hat, and nowhere does the margin exactly coincide with the edge of the hat. Before hats were worn baldness existed. To quote only one instance, Julius Cæsar is said to have been very bald, and he certainly did not wear a hat. Nevertheless anything that interferes with the nutrition of the scalp must favour the action of harmful micro-organisms, and therefore tightly-fitting hard hats will certainly hasten the loss of the hair of the head.

FILTHY ADVERTISEMENTS.

To the Editors of THE LANCET.

SIRS,—A long time back I sent you some papers and pamphlets I received from some filthy beast advertising in the *Weekly Times and Echo*. Someone, I do not know whom, has sent me another copy of the same paper in which I see the same advertisement still appearing. I send it on to you. I know you have done a vast amount of good in stopping many papers from advertising such abominations, and it is to be hoped that before long it will be punishable for them to do so.

I am, Sirs, yours faithfully,

Denman Island, B.C., Canada, April 9th, 1902. G. D. B.

TO THE MARRIED,

and THOSE INTENDING to MARRY of Both Sexes.

Read carefully my new book, which treats Every Branch of this Delicate Question of Large Families, with a check as commended by an eminent London Physician. Send Postal at once Order for 1s. 6d., with address plainly written, to Mr. WILTON DOUSE, Science Demonstrator, 7, The Chase, Nottingham.

A New Edition, in sealed packet, for 1s. 6d.

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W. NASH, A.M.S.

THE following subscriptions have been received since the last notification:—

	£	s.	d.
Lieutenant and Quartermaster J. Gillman ...	0	5	0
Captain F. E. Gunter, R.A.M.C.	0	10	0
Lieutenant-Colonel J. R. N. Yourdi, R.A.M.C.	1	1	0
Surgeon-General C. MacD. Cuffe, C.B. ...	0	10	0
Major J. Girvin, R.A.M.C.	0	10	0
Major C. R. Bartlett, R.A.M.C.	1	0	0
Colonel W. H. Macnamara, C.B., C.M.G., R.A.M.C.	2	2	0
Lieutenant-Colonel T. R. J. Lucas, C.B., R.A.M.C.	1	1	0
Lieutenant-Colonel R. I. D. Hackett, R.A.M.C.	1	1	0
Previously acknowledged in THE LANCET	68	13	6
Total	£78	13	6

MEDICINE IN ANTIQUITY.

IN a recent volume of the Berlin classical journal *Hermes*, a learned German, Herr Wellmann, has been giving some notes upon the History of Medicine in Antiquity, and with Teutonic fervour has suggested as fully ascertained facts the following statements with regard to certain medical authors which we give, shortly summarising Herr Wellmann's views, for what they are worth. Speaking of Athenæus, who it will be remembered gives an account of being present at a Roman banquet with Galen as another of the guests, he says: "The medical citations in his book I. to III. are derived from some critic of Hippocrates, which critic flourished before Varro but subsequently to Hikesius, as his views upon wine and water indicate. This must have been Heraclides of Tarentum, whose 'Symposium' was a compilation of rules for eating and drinking."

Chrysippus, the pupil of Eudoxus, whose books, now lost, are frequently quoted by Galen, speaks of curing the spitting of blood by binding the limbs to prevent inflammation. This shows that he knew Praxagoras's theory that the veins contained the blood, the arteries only air. Chrysippus's information as to the observation of fever by means of the pulse is also from Praxagoras. Herr Wellmann says that Chrysippus flourished therefore about 300 B.C., but that is the date which British scholars previously assigned to him. His famous pupil, Erasistratus, was physician at the Court of the Ptolemies. He was supposed to have been previously at the Syrian Court of Seleucus Nicator and there cured the young Antiochus, but Herr Wellmann shows that it was his father Cleombrotus who achieved this. Another German writer, Dr. von Oefele, has now for many years devoted much time to the study of the medical knowledge of the ancient Babylonians, Assyrians, and Egyptians. The vastly improved interpretations of the languages and writings of these peoples have now made such an undertaking more profitable than it could have been a quarter of a century ago. The result of Dr. von Oefele's investigations in the Asiatic kingdoms is incorporated in the first volume of Neuburger's and Pagel's "Handbuch der Geschichte der Medizin," where many cuneiform prescriptions and medical matters are dealt with. He has also fully described one branch of Egyptian medicine in the fourth volume of the "Archives de Parasitologie." It is well known what an important place among diseases those due to parasites occupy in Egypt and they appear to have been equally prevalent in ancient times.

INCONTINENCE OF URINE.

To the Editors of THE LANCET.

SIRS,—I recently saw in THE LANCET a prescription recommended for incontinence of urine consisting of benzoate of soda, &c. Being in charge of the "incontinent" hut here I tried it on all my "incontinent" patients for some time without the slightest effect. A discussion took place among medical officers here concerning the strength of liquor opii sedativus, some quoting Martindale and Westcott, ninth edition, in favour of its being the same strength as tinctura opii—e.g.: "Extract of opium ...... is of same strength as tincture of opium ...... Resembles Battley's liq. opii sedativus." On the other hand, "Squire" says that it is "say 50 per cent." stronger than tinctura opii. Which is correct? I am, Sirs, yours faithfully,

CIVIL SURGEON.

Connaught Hospital, Aldershot, April 29th, 1902.

*** Liquor opii sedativus is Battley's solution. The liquid extract of opium and the tincture of opium are, according to the latest edition of the British Pharmacopœia, of the same strength as regards morphine—i.e., they should contain 0·75 of a gramme of morphine in 100 cubic centimetres. Probably when "Martindale" says "resembles," it is implied that Battley's solution is made from extract of opium instead of opium and with water instead of spirit in the same way as the liquid extract of opium is made.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—Could you or any of your readers inform me whether there is any hospital or sanatorium (by preference in the Midlands) where a working-man could be immediately taken in for open-air treatment for phthisis? His employers would be willing to pay a guinea a week (if necessary perhaps a little more) for maintenance.

I am, Sirs, yours faithfully,

O. F. FROHWEIN.

48, Lichfield-street, Burton-on-Trent, April 29th, 1902.

THE ROENTGEN RAYS IN CANCER.

To the Editors of THE LANCET.

SIRS,—I should be glad if you or any of your readers could give me any information as regards institutions where the effect of Roentgen rays has been tried in cases of cancer unfitted for operation and the addresses and terms of such institutions.

I am, Sirs, yours faithfully,

April 28th, 1902. M.R.C.S.

◆

Justice.—The members of the club in question are not persons who ought to obtain their medical attendance at such a price as 1*d*. per week or less. Grocers, publicans, butchers, naval pensioners, &c., should be able to pay their medical man properly and their presence on the lists of this amalgamation forms a good argument for the institution of a wage-limit. In answer to the particular questions: 1. It does not seem to us to matter whether the committee which has written so ignorantly and contemptuously concerning the medical profession considers itself badly treated or not. 2. The medical men would be justified in resigning their posts and in endeavouring to prevent other medical men from accepting them. We shall be happy to second their endeavours. 3. The salaries quoted are the usual ones. They are calculated at the lowest rate and account for the "ambition of young medical practitioners" to cut themselves free from such lay organisations.

M.R.C.S., L.R.C.P.—We do not think that the druggist's proceeding can be construed as an infringement of the Medical Act.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Torquay Times, Midland Express, Aberdeen Free Press, Weekly Free Press (Aberdeen), Bristol Mercury, Madras Journal, Reading Mercury, Mining Journal, Hertfordshire*

Mercury, Local Government Chronicle, Sanitary Record, Nuneaton Chronicle, Derbyshire Courier, Surrey Advertiser, Local Government Journal, Carpenter and Builder, Rotherham Express, Liverpool Daily Post, Sunday Times, Journal of Tropical Medicine, Westminster Gazette, Knowledge, Broad Arrow, &c.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 1, 1902.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
April 25	30·04	N.	...	115	69	47	49	53	Foggy
" 26	29·84	E.	...	95	56	45	45	48	Overcast
" 27	29·92	E.	...	115	57	47	45	47	Cloudy
" 28	30·09	E.	...	104	56	46	42	48	Cloudy
" 29	30·19	E.	...	80	53	38	42	46	Cloudy
" 30	30·00	S.W.	...	88	58	44	46	48	Cloudy
May 1	29·67	N.W.	0·01	102	56	48	47	51	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (7th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.)

HURSDAY (8th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

RIDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.). West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

ATURDAY (10th).—Royal Free (9 A.M. and 2 P.M.), London (2 P.M.) Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (6th).—PATHOLOGICAL SOCIETY OF LONDON (Middlesex Hospital, W.).—8 P.M. Laboratory Meeting. Dr. Klein: A New Pathogenic Bacterium.—Mr. T. J. Bokenham: The Action of High Frequency Currents on Bacteria.—Mr. A. G. R. Foulerton and Dr. A. M. Kellas: The Action of High Frequency Currents on Bacteria.—Dr. A. P. Voelcker: A Case of Aneurysm of the Heart.—Dr. C. Thomson: A Case in which a Hat-pin remained embedded in the Heart during Life.—Mr L. Milburn: An Epidemic simulating Tuberculosis in Guinea pigs.—Mr. N. B. Harman: A Method of Demonstrating the Track of Bullet Wounds of the Brain.—Dr. Seligmann: The Inhibitory Action on Bacteria of the Fluid from Charcot Joints.—Mr. H. J. Curtis: Specimens showing the Results of Experimental Yeast Infection.

WEDNESDAY (7th).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Mr. A. Doran, Dr. McCann, Dr. R. Vincent, and others. Paper:—Dr. J. S. Fairbairn: Five Specimens of Fibroid Tumour of the Ovary, with Observations on their Pathological Anatomy.

THURSDAY (8th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Prof. A. Smith, Dr. H. Macnaughton-Jones and others. Paper:—Dr. B. Fenwick: Fifty Laparotomies.

HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Discussion on the Early Diagnosis of Specific Fevers (opened by Dr. Sidney P. Phillips).

FRIDAY (9th).—ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND (Charing Cross Hospital Medical School).—4.30 P.M. Papers by Dr. J. M. H. MacLeod and Dr. M. Tims. Preparations by Dr. A. Keith, Dr. C. Addison, Mr. B. J. A. Moynihan, and Mr. F. W. Jones.

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. W. G. Spencer: Congenital Diffuse Lymphangioma terminating in Lympho-sarcoma in a Child aged four years.—Mr. G. Turner: Sarcoma of the Ankle Joint.—Mr. C. B. Lockwood: Sarcoma of the Synovial Membrane.—Dr. W. Ewart and Dr. I. Owen: A Case illustrating the Clinical Features of "Horizontal" Dilatation of the Left Auricle.—Dr. I. Owen: "Horizontal" Dilatation of the Left Auricle.—Dr. W. Ewart: A Note on Palpable Systolic Intercostal Pulsation in a Case of Mitral Stenosis, with Dilatation and Thrombosis of the Left Auricle.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (5th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. F. Payne: Clinique. (Skin.)

TUESDAY (6th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. T. Williams: Clinique. (Medical.)

WEDNESDAY (7th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson, jun.: Clinique. (Surgical.)

THURSDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Green: Cases in the Wards. (Post-Graduate Course.)

FRIDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Gunn: Clinique. (Eye.)

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A Baillie Lecture

ON

THE SEED AND THE SOIL.

Delivered at St. George's Hospital on Feb. 3rd, 1902,

BY W. HOWSHIP DICKINSON, M.D. CANTAB., F.R.C.P. LOND.,

HONORARY FELLOW OF GONVILLE AND CAIUS COLLEGE, CAMBRIDGE; CONSULTING PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

"Behold, the sower went forth to sow; and as he sowed, some seeds fell by the way side, and the birds came and devoured them: and others fell upon the rocky places, where they had not much earth: and straightway they sprang up, because they had no deepness of earth: and when the sun was risen, they were scorched: and because they had no root, they withered away. And others fell upon the thorns; and the thorns grew up, and choked them: and others fell upon the good ground, and yielded fruit, some a hundredfold, some sixty, some thirty."—MATTHEW xiii. 3.

GENTLEMEN,—The pathology of the present day is above all things bacteriological. It inclines to attribute all diseases with which bacteria have been associated simply and singly to a bacterial origin, confidently assumes that where microbes have not yet been found they will be, and sanguinely trusts that when found they will submit to control with a tractability in the future which our experience of the past gives us no great warrant to expect. I read the other day in THE LANCET of a bacillus of fatigue and should hear without astonishment of bacilli of political or theological bias impelling their bearers to toryism or radicalism, scepticism or credulity.

One of the greatest discoveries of the past century, I may even say of all time if greatness be measured by utility, is connected with the recognition of micro-organisms, their exclusion by cleanliness and destruction by antiseptics. But it must be allowed that antiseptic surgery is more successful than is antiseptic medicine; the two are on very different footings: one has to do chiefly with suppuration, in the first instance at least a question of reachable surface; the other has to do with disease which is out of reach before it comes to our knowledge and has entrenched itself in the deep organs or found a harbour in the blood itself. One is chiefly concerned with the streptococcus and staphylococcus, comparatively simple sources of mischief, the other with bacilli of various kinds and complicated relations with disease.

Encouraged as we must be by the results of antiseptic surgery, we must approach with wary steps the very dissimilar problems which medicine presents. To these my text chiefly applies. I would venture to beg my hearers not to be so eager to secure what is new that they lose what has been acquired in the past. In grasping the new pathology of microbes and bacilli let us not quite ignore the ascertained facts of old time with regard to heredity, tissue and diathesis. It is for the purpose of recalling some of the old truths, none the less true because they are out of fashion, that I address you to-day.

Bacilli may be the roots, or rather the seeds, of much, if not of all, evil. It seems to us that we should get on better without them. But let us not be too sure of that; some sorts have uses that we know of; others may have uses that we do not know of. They take their part in the scheme of creation, though to us it may be a mischievous one.

"From Nature's chain whatever link you strike,
Tenth, or ten thousandth, breaks the chain alike."

As to the bacilli of disease, we from the human point of view cannot but regard them with disapproval. Our soul's sincere desire must be to get rid of them. But, unfortunately, like other enemies, they are not very amenable to frontal attack. They are more readily influenced by indirect than direct methods, by means which without bearing immediately on the bacillus render its abode unattractive or untenable.

We may learn much from the vegetable kingdom. The distribution of plants, within the range of the seed, is regulated by the local conditions which the seed meets with—soil, moisture, temperature, light, and what not. Of course, there is no growth without the seed. *Omne vivum ex ovo* holds good now as in the time of Harvey. But the seed may be indiscriminately and widely spread; within certain wide boundaries it may often be said to be ubiquitous, so that the whole question of distribution turns not upon the seed but the soil, not upon the germ but its reception. Why do oaks and beeches grow in the fat levels of the New Forest, the ash and the thorn where the land is hilly and poor, and sycamores about the wind-swept homesteads of Cornwall? Not because the seed was, in the first instance, placed there more than elsewhere, but being placed there, as elsewhere, it found conditions to suit it. This is the whole story of the whereabouts of plants; the supreme law of the vegetable kingdom. The seed will fructify where it is satisfied with its entertainment and perish where it is not. For this reason, and not because the seed is conveyed there more than elsewhere, stonecrop, moss, and lichen gather on their appropriate roofs and rocks and the ivy on mouldering walls. Thus ferns multiply in their variety in one district and not in another. Ferns flourish with warmth and moisture and assure us by their presence of these qualities in the atmosphere. Maidenhair has its chosen localities in shady caves and crannies where the necessary conditions are combined, and may be so far from any other growths of the same sort that we can but wonder whence the seed was derived. Passing from natural beauty to what is repulsive we learn a similar lesson from the degraded nettle with its associations of squalor and filth. The seed may be everywhere in a country district but the weed will be found especially where human excrement has been deposited.

Examples of the paramount influence of soil or nidus in the determination of vegetable and animal life are never absent from our eyes. Take the domestic cheese. Why does one cheese breed green mould, another mites, and a third maggots? It may be that the three are kept in the same larder, exposed to the same external influences, and sown with the same seeds of animal and vegetable decay. Yet in the Stilton will gather green mould, in a fat cheese maggots, and in a lean one mites. The difference is in the cheeses themselves, not in what they have been sown with. The germs are common to all; those only will germinate which like their situation. So it is when the soil is the human body. Germs, be they vegetable or animal, are continually on the wing or in the swim; they swarm around us on every side; and if we knew how many and of what sorts are continually besprinkling us with the seeds of disease we should live in continued dread of being assassinated by these minute enemies. It is probable that no one who has lived in London has failed to give lodgement to the organism of typhoid fever, though he may have escaped its effects, and so with many other diseases. So it must be presumed to be with most of the infectious disorders which are common in ordinary life. Why is it, then, that we are not all infected with everything?

Relapsing fever may supply an illustration. This disease is occasioned by a special bacterium, the spirillum, which finds admission into the blood, presumably always by way of contagion. Yet it is intimately associated with starvation, insomuch that its accepted synonym is famine fever. The disorder is not directly caused by starvation but by the spirillum which is descended from its own kind. The want of food does not directly engender the microbe but fits the body for its entertainment. Given the suitable state of body, the appropriate germ will find it out though to our imagination completely out of reach. Our exemption rests not so much on the absence of the bacillus as on the absence of the conditions which it requires. Our forefathers did not fail to notice the connexion between depression and febrile disorders which is exemplified by remittent fever and possibly applies also in some degree to typhus fever. Says Addison, in the *Tatler*: "Physicians observe that the poorest and most dispirited blood is most subject to fevers."

Limiting the dissemination of the morbific germs by isolation is at best an imperfect measure. Our salvation largely depends on our insusceptibility, though, of course, we sometimes have to thank the feebleness or attenuation of the poison which reaches us. The human body can deal with a certain amount of the seeds of disease without becoming diseased. There is such a process as phagocytosis, in virtue of which the white corpuscles play the part of the birds and devour the seeds. There is such a condition as immunity even when the poison is active and concentrated, a state which may be either congenital or acquired, which is very real however imperfectly understood, by reason of